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VERTIGO FROM THE STANDPOINT OF THE GENERAL PRACTITIONER AND THE OTOLOGIST.*

BY EDWARD BRADFORD DENCH, M. D.,

New York.

Vertigo is a symptom of so much importance, and one for which the general practitioner is so frequently consulted, that it seems not unwise to bring the subject of aural vertigo before a body of general clinicians, such as compose this society.

As the end organ of the complex mechanism controlling the equilibrium of the body, is situated in the semicircular canals, all cases of vertigo must, in their broadest sense, be considered as aural vertigo, inasmuch as they represent an involvement either of the ear itself or of some portion of the auditory nerve trunk or of its central or cortical filaments. Without making this paper so technical as to render it uninteresting to a body of general practitioners of medicine, I hope to show by a few clinical examples how varied the lesions referable to the auditory apparatus may be which may account for the single symptom of vertigo.

We may classify our cases as follows:

1. Cases due to a chronic nonsuppurative inflammation of the middle ear.
2. Cases due to a residual suppurative inflammation of the middle ear.
3. Cases due to aural suppuration.
4. Cases due to involvement of the auditory nerve trunk, as the result either of a specific inflammation involving the nerve trunk, or due to a degeneration of the end organ of the auditory nerve as the result of some middle ear inflammation or of some general diathetic condition.

It should be borne in mind that when any portion of the auditory apparatus, either of the middle ear, the labyrinth, or the nerve trunk, is in a pathological condition, any slight stimulus, particularly an increase in the blood pressure,—may be sufficient to bring on an attack of vertigo. It is easy to understand, with the labyrinth in a normal condition, that increased blood pressure may cause no vertiginous symptoms. On the other hand, given a labyrinth in a state of superexcitability, either from some lesion of the middle ear, or from a labyrinthine lesion, any increase in the blood pressure may cause an increase in labyrinthine pressure sufficient to produce an attack of vertigo. The many cases of vertigo, seen by the general practitioner, attributable to increased arterial tension, are very frequently dependent upon some preexisting condition, either in the middle ear, the labyrinth, the auditory nerve trunk, or the central distribution of its vestibular branch, and the increased blood pressure simply represents an exciting cause for the development of the symptom of vertigo.

A clearer conception of the subject can perhaps be obtained by returning to the classification already given.

1st. Cases due to chronic nonsuppurative inflammation of the middle ear.

Two cases which have come under my observation will sufficiently illustrate this point.

CASE I. Man, fifty-six years of age, who, for the past six years, had suffered from tinnitus in the right ear, followed by vertigo, with a tendency to fall backward. The vertiginous attacks gradually increased in frequency until, at the time I first saw the patient, he was suffering an attack almost every day, and had had as many as two attacks in a period of twenty-four hours. He was practically incapacitated for business, and was obliged to go about with an attendant. Earlier attacks had been attended with vomiting; in the later attacks, however, vomiting had not occurred. The patient, upon examination, showed decided impairment of hearing in the right ear, due to a chronic nonsuppurative otitis media. Bone conduction was lost on the affected side and was diminished on the opposite side Jumping forward and backward, with eyes closed, the patient fell toward the affected side. Rotation tests showed both labyrinths slightly hyperesthetic, the affected labyrinth being less irritable than the healthy labyrinth. Blood pressure 170, pulse 87. The patient had been given moderate doses of mixed bromides internally, apparently without effect He was placed upon local treatment, consisting of catheter inflation, with the introduction of three drops of a two per cent. solution of pilocarpine into the right tympanic cavity through the Eustachian catheter. The vertigo became less severe after the first few treatments, and at the present time he has had no vertigo for two months. The hearing upon the affected side has gradually improved, demonstrating clearly that the vertiginous attacks were due to the chronic nonsuppurative otitis media. The administration of bromides was gradually diminished until the patient is now taking none.

CASE II. A second case, in this category, was that of a patient who came under my observation eight years ago, suffering from a beginning chronic nonsuppurative otitis media, involving the right ear. In spite of local treatment, the hearing gradually diminished. In 1903, the electrical reactions of the auditory nerve showed increased irritability of the nerve trunk. From 1903 until 1906 he had occasional vertiginous attacks, for which he was given pilocarpine internally. The pilocarpine seemed to cause some amelioration of the attacks, but, on the whole, the disease continued to progress until the attacks were so severe as to entirely incapacitate the patient. He was seen by an eminent neurologist, a member of this society, who agreed with me that the attacks were entirely due to progressive sclerotic changes within the middle ear and labyrinth. In 1908, the malleus and incus were removed.

*Read before the New York Clinical Society, November 24, 1911.

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under cocaine, and an attempt was made to mobilize the stapes. The stapes could not be mobilized, but the vestibule was entered by means of a small knife, and a certain amount of labyrinthine fluid evacuated. Very severe vertigo followed the operation, but this vertigo gradually disappeared, and the patient has had no severe attack of vertigo since the operation. He still takes small doses of pilocarpine internally, and is also taking small doses of bromide of potassium once daily. The patient fears the attacks so greatly that, although all internal medication is given in such small doses as to produce no effect, the patient declines to stop his internal medication.

The two cases reported above are fair examples of cases of aural vertigo, due to a chronic nonsuppurative otitis media, one relieved by operation, and one relieved by local treatment.

The second class of cases which I mentioned were those due to a residual, suppurative process within the tympanic cavity. One of these cases was practically cured by a division of the adhesions about the stapes, and the other was greatly relieved by treatment directed to the middle ear, together with the administration of spirit of nitroglycerin in full doses. In this case, high arterial tension always accompanied the attacks, and it was my belief that the middle ear lesion was simply a predisposing cause to the vertigo. Whenever the blood pressure became continuously high, the patient suffered from vertiginous symptoms. Local treatment of the middle ear held the predisposing cause in abeyance, but whenever the arterial tension became excessive, it was necessary to reduce this to prevent further vertiginous attacks.

Under the third heading, two cases of suppurative otitis media, one acute and the other chronic, will be sufficient to illustrate the vertigo which occurs in cases of this character.

Case III. One case was that of a man, aged sixty-five years, who, two weeks before I saw him, had an attack of grippe, followed by acute otitis upon the right side. The aural suppuration failed to clear up under local treatment, and about six weeks after the primary attack, a mastoid operation was performed. The patient did well for a month when, upon rising in the morning he experienced severe vertigo, followed by nausea and vomiting and some elevation of temperature. There was nystagmus both toward the affected and unaffected side at this time. The acute symptoms gradually subsided, but slight vertigo remained, and about two months after the attack, the radical operation was performed upon the right ear, revealing a fistula in the horizontal semicircular canal. This fistula was enlarged and labyrinth drainage instituted by making a counteropening into the cochlea. From this time on the patient made a perfect recovery.

This case represents an acute invasion of the labyrinth by a suppurative inflammation. Fortunately for the patient, the labyrinthine lesion remained rather circumscribed, and free drainage of the labyrinth relieved all the symptoms.

It might here be stated, that operation in cases of this character, should always be deferred until the acute symptoms have subsided, unless there are signs of a diffuse suppurative labyrinthitis as evidenced by high temperature. In these cases immediate operation should be performed. Early operation, in cases of circumscribed suppurative labyrinthitis, is contraindicated, because if the case is operated in, the process may become diffuse, while, in the very large majority of cases, Nature establishes a boundary line, and the condition can be relieved by operative interference later, with comparatively little danger.

Under the condition of chronic suppuration, the following history is instructive:

Case IV. The patient was a man, thirty-eight years old, who was totally deaf in the right ear as the result of the discharge of a revolver close to the ear in early life. The ear had never discharged. The left ear had been discharging intermittently since childhood. Three weeks before he came under observation, he became suddenly dizzy and almost entirely deaf in the left ear. The hearing improved somewhat after this attack, until four days before I saw the patient, when he again had a dizzy attack, and became almost absolutely deaf upon the left side. When I saw the patient he could hear the loud voice at a distance of two inches from the left ear. The right ear was absolutely deaf. Turning tests showed the left labyrinth slightly less irritable than the right. Galvanic tests showed the left labyrinth more irritable than the right. Bone conduction on the left side was normal, and there was only slight reduction of the upper tone limit. These facts tended to show that the vertigo, together with the impairment in hearing, were due to a perilabyrinthine inflammation, that is, the labyrinth was normal, as shown by functional tests. The patient, however, was perfectly deaf, and had vertiginous attacks. Had the labyrinth been the seat of an organic lesion, there would have been some evidence of this, either on the rotation test, or there would have been lowering of the upper tone limit and absence of bone conduction. The inflammation, however, in the soft bone surrounding the labyrinth, would fully explain this sequence of symptoms. It was not impossible, however, that there might be a localized labyrinthitis, and the patient was advised to submit to the radical operation, with the understanding that it might be necessary to open the labyrinth, in which case the hearing might be entirely destroyed. As the ear was practically useless in the condition in which the patient first presented himself he consented to operation. No fistulous opening into the labyrinth was found, the radical operation was performed, and primary grafting employed. Six weeks after the radical operation the ear was dry and the hearing had improved so that the voice was heard at nine feet. At the present time the patient hears the moderate whisper at twenty-three feet, and has had no vertigo since the operation. This is a case fairly illustrative of the condition known as "perilabyrinthitis."

These cases of perilabyrinthitis are of the utmost importance, and it is especially essential, in cases of this kind, that an accurate diagnosis be made. In the case already reported, if the labyrinth operation had been performed, the hearing would either have been absolutely destroyed or would have been greatly impaired. In this particular instance, as the ear operated upon was the sole organ of hearing which the patient possessed—the other having been destroyed by traumatism—it was particularly important to preserve the hearing in this ear, if possible. I believe that the proportion of cases in which perilabyrinthitis is the cause of profound deafness, may be comparatively larger than we have been led to believe, and, in the absence of symptoms, which make an immediate labyrinth operation imperative, I believe it wise to assume that the symptoms are due to an inflammation of the perilabyrinthine structures, and also believe it is wise to operate with this view in mind, rather than to perform an immediate operation upon the labyrinth. Of course, if at the time of operation, an acute purulent labyrinthitis is demonstrable upon inspection—that is, if there is pus exuding either from one of the semicircular canals or from the oval or round window, the advisibility of then obliterating the labyrinth must be carefully considered. It must be remembered, however, that a certain number of cases of circumscribed labyrinthitis may give rise to symptoms of considerable gravity. It is also impossible to determine, in many cases, at the time of

operation, whether the entire labyrinth is involved, or whether the case is one of a circumscribed inflammation. Free drainage of the affected areas, in circumscribed labyrinthitis, often effects a cure. In the absence, therefore, of general constitutional symptoms, such as high temperature, persistent vertigo, vomiting, and headache, that is, symptoms which would lead one to suppose that danger of involvement of the subdural space in the inflammatory process, was imminent—I am inclined to advise a conservative operation. Careful observation of the cases will ordinarily enable the surgeon to perform the complete labyrinth operation, as a secondary procedure, early enough to prevent an involvement of the meninges. By adopting this plan, the function of the organ may be preserved in many cases, where an immediate, complete labyrinth operation, would result in its total destruction.

Considering cases in the fourth category—that is, those due to involvement of the auditory nerve trunk, either as the result of specific inflammation or following degeneration of the end organ of the auditory nerve as the result of a previous middle ear condition, two cases may be cited:

Case V. The first case in this category was undoubtedly due to specific disease as the history shows. The patient was a physician, single, forty-two years of age, with a specific history. Four weeks before he came under observation he became suddenly hard of hearing in both ears, the impairment of hearing being more marked upon the left side. The patient also complained of a feeling of stuffiness in both ears, vertigo, and a general feeling of instability as far as his equilibrium was concerned. Equilibrium tests showed a tendency to deviate to the right in walking, either forward or backward,with the eyes closed There was also some spontaneous nystagmus to the left or affected side. Rotation tests showed both labyrinths sluggish. An examination of the middle ear showed increased bone conduction on each side; the upper and lower tone limits were normal. The patient had had some antisyphilitic medication at the hands of his regular practitioner, consisting of hypodermic injections of arsenate of mercury. The middle ear condition would not explain the symptoms. The patient was then put upon potassium iodide, in gradually increasing doses. The hearing improved somewhat and the vertiginous symptoms diminished, but the improvement was not satisfactory until the patient was given salicylate of mercury, in large doses, hypodermatically, the iodide of potassium being temporarily discontinued. From the time that the mercury was given, the improvement of the patient became marked, and three and a half months from the time he first came under observation, the nystagmus had disappeared, there was no disturbance of equilibrium, and the hearing for the whisper was normal.

In this case we had to deal undoubtedly with a syphilitic inflammation, either of the auditory nerve trunk itself or of the meninges in the immediate neighborhood of the internal auditory meatus. The complete recovery of the patient confirms the correctness of the diagnosis. I have to thank my colleague, Doctor Fordyce, for successfully carrying out the internal medication in this case.

Case VI. A second case of involvement of the auditory nerve trunk was that of a man aged forty-two years, referred to me by Doctor Bailey, of this society. This patient gave the following history: Four years before he came under my observation, he became suddenly deaf upon the right side. The impairment of hearing was accompanied by considerable headache, vertigo, and vomiting. When I saw the patient there was slight deviation toward the right side, both in walking and jumping. The hearing upon the right side was greatly impaired, but not absolutely lost. There was slight impairment of hearing upon the left side. There was no spontaneous nystagmus: both labyrinths reacted normally to the turning test. There was slight hyperesthesia of both labyrinths to the electric current. The patient complained mostly of the severe tinnitus, the vertigo here being a comparatively insignificant symptom. The patient was kept under observation for a number of months. Owing to the severity of the tinnitus, and the effect which it seemed to be having upon the patient's general health, the operation of dividing the auditory nerve at its emergence from the base of the brain, was taken into consideration. The danger of the operation was fully explained to the patient, but his condition was so wretched, that both Doctor Bailey and myself decided it would be advisable to submit him to the risk of operation, rather than fail to give him relief from this very distressing symptom. The operation was accordingly performed, and the patient was absolutely relieved for a number of months. The uncertainty in gait has practically entirely disappeared. There was some slight return of the tinnitus several months after the operation, but the patient's condition is infinitely better than before the division of the nerve.

These cases which I have enumerated will, I think, serve to illustrate the various types of vertigo which present themselves to the otologist. The general practitioner is ordinarily consulted in these cases, simply for the disturbance in equilibrium, and it is extremely natural that he should attribute the symptom to some visceral disturbance, such as intestinal toxemia, nephritis, cardiac disease, arteriosclerosis, syphilitic infection, etc.

The point which I wish to bring out in this paper is that, in the very large proportion of cases where we can exclude specific disease or a neoplasm at the base of the brain, involving the auditory nerve trunk, a vertigo is, in the very large majority of cases, due to some underlying disease of the middle ear or labyrinth. There are numerous patients who suffer from chronic nephritis or from chronic cardiac disease or from arteriosclerosis or intestinal toxemia, and who do not have attacks of vertigo. In these cases examination will ordinarily reveal both the middle and internal ear to be in a normal condition. Given, however, some slight abnormality in either the conducting or perceptive auditory mechanism, and these same conditions may produce vertigo, and this symptom may be so severe as to overshadow, to a large extent, all the other symptoms of which the patient complains.

In treating cases of this character, both factors must be considered. Treatment of the ear alone is frequently unsatisfactory, and yet, in many cases, treatment directed to the general constitutional condition is equally unsatisfactory, provided the aural lesion is unrecognized. This is very well brought out in some of the examples given in the early part of the paper, in which general medication was without avail until the aural lesion was recognized and treated. Some of these patients, in whom an aural lesion is combined with high arterial tension, may be kept fairly comfortable by medication directed to the arteriosclerosis. Such medication, however, frequently fails to relieve the patient unless the aural condition is also treated.

Those cases due to a suppurative inflammation either of the labyrinth itself, or to perilabyrinthine inflammation, naturally fall entirely within the domain of the otologist, and can be relieved only by prompt surgical interference. Ordinarily, in these cases, the aural lesion is so well marked as to be recognizable at once. The clinician, however, should always remember that, in any case attended with aural suppuration, the appearance of a vertigo

is a symptom of grave importance, and one which may demand immediate surgical interference for its relief.

Regarding cases of labyrinthine inflammation, either primary or secondary to a chronic nonsuppurative inflammation of the middle ear, relief is very frequently obtained by the internal administration of pilocarpine, in small doses, the dose being gradually increased until a mild physiological effect of the drug is obtained. In this way, labyrinthine pressure is reduced, and as a result of this reduction in labyrinthine pressure, the vertiginous attacks cease. Babinski, a number of years ago, advised lumbar punctnre in intractable cases of vertigo, in which aural symptoms were present. A number of successful cases of this kind have been quite recently reported. While lumbar puncture is a comparatively simple procedure, an occasional death following this slight operation shows that its performance is not entirely devoid of risk.

I belief it is safer, therefore, to exhaust every method of treatment of the ear itself, before resorting to this operation which, although simple to perform, is sometimes followed by fatal results. It would seem that surgical measures directed toward the middle ear, in cases of middle ear involvement, or the labyrinth itself, in cases of labyrinthine involvement, would be a more logical plan of procedure than to attempt to relieve the labyrinthine pressure by removing a certain amount of the cerebrospinal fluid from the lumbosacral sac.

In closing these remarks, I would not have it understood that all cases of vertigo depend upon an aural lesion. Certain of these cases depend upon some refractive error, are discovered by the ophthalmologist, and are relieved by appropriate treatment. In these cases, however, the ocular symptoms are ordinarily so prominent as to attract the attention of the general practitioner and to cause an immediate search to be made for some ocular lesion.

15 East Fifty-third Street.

HYGIENIC AND ECONOMIC FEATURES OF THE EAST RIVER HOMES FOUNDATION.

By Henry L. Shively, M. D.
New York.

The need of improved city dwellings especially adapted to the requirements of tuberculous families and delicate persons liable to tuberculosis, has been a logical outgrowth of the demonstration in recent years of the good results obtained in sanatoria and the day camp for adults, and in preventoria and open air schools for children. In its broadest aspects tuberculosis is a social disease against which, as is the case with many other widespread infections, the physician who for the most part comes in contact only with the individual patient, is alone incapable of adequately contending. The statesman and lawmaker, the sanitary engineer, the scientist and research worker in his laboratory, the architect who designs our homes and public buildings, the educator, the moralist and religious teacher, the wealthy philanthropist, charitable societies and churches, municipal authorities and health boards, the magazine and newspaper writer, the intelligent patient himself, every good citizen—all must cooperate with the practising physician in the increasingly effective campaign against tuberculosis.

In most civilized countries such scourges as

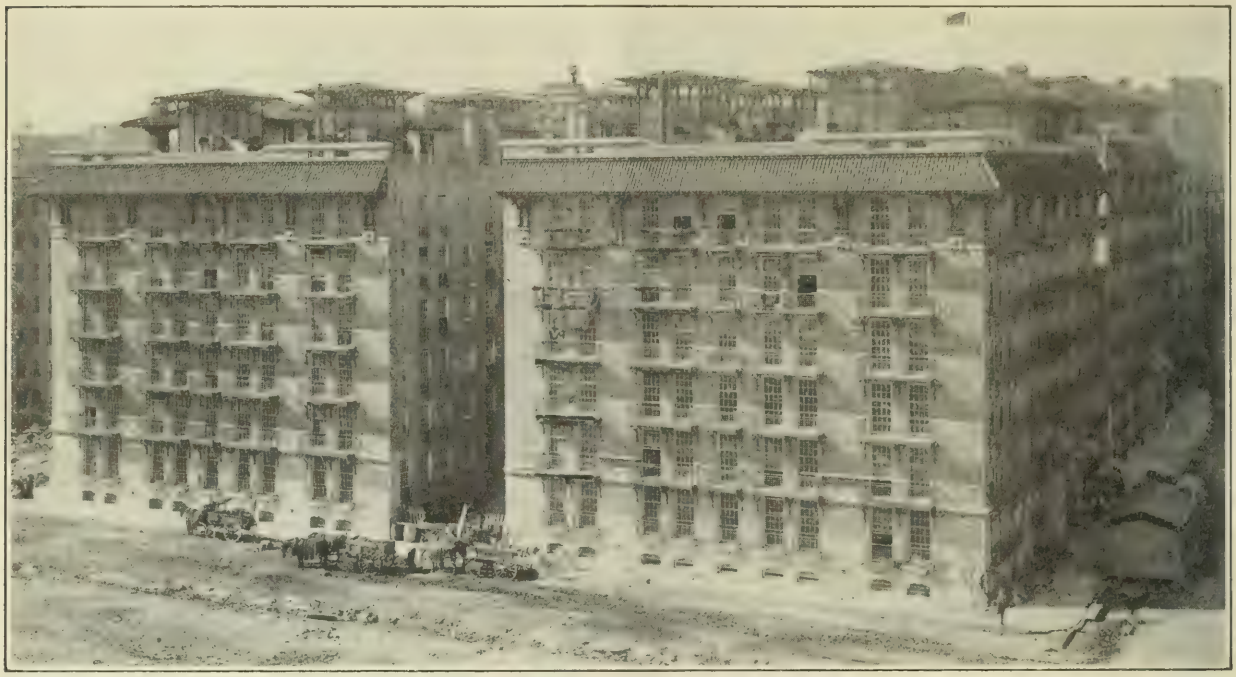


Fig. 1.—View of East River homes facing John Jay Park.

cholera, smallpox, yellow fever, and the Asiatic plague, which formerly decimated entire populations, are now held well in check through the intelligent application of modern principles of sanitation. Only recently has it been realized that typhoid fever is a preventable disease which is a reproach to the community in which it exists, and it is still not generally recognized that numerous other diseases, among them tuberculosis the most formidable of all, are also amenable to control and ultimate suppression if existing knowledge could be sufficiently applied. It is a question only of cost and general enlightenment of the public. It is such considerations as these, with the popular interest in the crusade against tuberculosis, which have led to the erection in the past decade of the numerous sanatoria in this country and in Europe. The results obtained in them show that consumption is curable in its earliest stages in all climates if an abundance of fresh air and sunlight, baths, suitable nourishment, rest, and watchful medical supervision can be obtained. These desiderata, it will be observed, are after all only the elementary conditions of healthful living, good for sick and well alike, and it ought not to be necessary in order to obtain them to send people away from their own homes. Unhappily too, for the enormous number of the tuberculous poor in large cities, the benefits of sanatorium treatment are often unavailable on account of the great cost, the insufficient capacity of existing institutions, and the too brief period of time the patient is permitted to remain in them. For the well to do consumptive a term of sanatorium treatment is ideal, he learns by precept and example how to get well and how to keep well, and upon his return to a well appointed home he can continue to practise the hygienic principles which he has been taught and through which alone the stability of his recovery is rendered probable. For the relatively small number of poor patients, however, for whom sanatorium treatment is possible, the costly lesson learned is of no permanent benefit if upon their discharge from the sanatorium, they are returned to the unfavorable living conditions which generated their disease. Relapse is almost inevitable. There is manifestly also a great economic loss in sanatorium treatment in the rent of the home which usually continues while the patient, at added expense, is receiving institutional care with its necessary interruption of family life. Prolonged absence of the homemaker and a break in domestic ties are unfortunately also often a cause of unhappiness which may invite the disasters incident to the frailty of human nature even in its most sacred relations. It would seem to be not impracticable to bring many of the best features of sanatorium care to the patient in his own home, where at low rentals he may enjoy them as long as is necessary or he may desire.



FIG. 2.—Street façade of East River homes.



FIG. 3.—Staircase showing entrance to apartment.

It has for a number of years been the cherished hope of the writer to be able to assist in the solution of this problem by the erection of a type of building which would obviate the necessity of sending many patients away, and which would provide sanatorium patients with suitable hygienic conditions on their return. Sanatoria, like hospitals, are not only costly to construct, but there is the endless expense of maintenance. The sanatorium dwelling, on the other hand, can be made to carry itself and pay a fair return upon the investment. The practical accomplishment of this design on a large scale and with ample means to provide for the success of the experiment was made possible through the munificent and large hearted philanthropy of Mrs. William K. Vanderbilt, Sr., in her endowment, three years ago, of the East River Homes Foundation. It is believed that this design, which is unique in character, will be wide reaching in its effects in demonstrating the possibilities of the home treatment of suitable cases of tuberculosis, in making more permanent the good results of sanatorium treatment, and in providing the protection of a hygienic home for those who are delicate and anemic, or convalescent from other exhausting diseases and thus especially susceptible to tuberculosis.



Fig. 4.—Entrance to open stair from court showing seat on landing.

The first experiment at all comparable in purpose to the plan adopted by Mrs. Vanderbilt was carried out in a modest way by the Swedish National Antituberculosis Association in 1904 in Stockholm, where in a wooden building not especially erected for the purpose, an attempt was made to keep under medical and hygienic supervision twelve workingmen's families containing one or more adult members with consumption and living with their children who had not yet contracted the disease. The special object of the association was to prevent the development of tuberculosis in these children. After three years it was reported that they continued robust, appeared in every way healthy, and none of them showed signs of tuberculosis—a finding in marked contrast to the well known prevalence of tuberculosis among children in most tuberculous families. Holt, in this country, has recently expressed the opinion that practically all young children living long in intimate relation with consumptives become tuberculous.

The experience of the Swedish Antituberculosis Association has demonstrated what can be done in the important work of prevention by improving home conditions and by instruction in simple hygienic methods.

In any improved multiple dwelling project in New York, the first and most serious obstacle encountered is the vicious limitation of the ordinary twenty or twenty-five foot city lot, which is responsible for so many of the tenement ills from which our population suffers. It is physically and economically impossible to provide adequate light and air and sufficient courts, or to utilize properly the roof spaces on a city plot less than a hundred feet square. For the purpose of Mrs. Vanderbilt's foundation there was fortunately found an eligible site comprising eighteen city lots, or considerably more than four times this minimum area. This site in East Seventy-seventh and Seventy-eighth Streets, adjoining the John Jay Park and commanding a fine view of the islands and waterfront of the East River, with its ever changing panorama of steamers and sailing craft, is in all respects well adapted for the purpose, having unobstructed air and light from all directions, permitting street façades with balconies on three sides, and on the fourth, to the east, adjoining the open playground of a public school. Other advantages of the site are in the character of the neighborhood where social reforms in other directions are being worked out. To the north and south are blocks of model tenements, near by are the Junior League Club House for working girls, the East Side Settlement House, a Carnegie Library, a public school, and a municipal bath house.

As completed and now ready for occupancy, the East River Homes are four large, fireproof buildings which will house 383 families in suites of from two to five rooms. There are seventy-five suites of two rooms, 212 of three rooms, sixty of four rooms, and thirty-six of five rooms. There



Fig. 5.—Roof playground and open loggia.

are ample courts for air and light, to which access is had through passageways extending from street to street designed after the *Durchhäuser* of German and Austrian cities. These open passages insure a free circulation of air in all the courts. Outside staircases in each of the four corners of the

large interior courts afford separate entrance to each suite of rooms, thus securing greater privacy and quiet for the tenant, and eliminating entirely the dark, ill ventilated, malodorous, and disease breeding interior hall and staircase, which are such abominations in the ordinary city tenement. These open stairs are provided with safety treads set in concrete, the steps are graduated in an easy pitch comfortable to ascend, and are protected from rain and snow by louvres of wire glass projecting from each story. The recesses in the angles of the courts in which the stairways are built are lined with white glazed tile and the vaulted arches are of Gustavino construction. At each turn of the stair a seat is let into the iron railing to provide a resting place for children and invalids. It is very noticeable, however, that these stairs in the pure, fresh air are far less fatiguing to ascend than the ordinary, stuffy, interior staircase. The idea is new only in its application to housing for tuberculous families, for the open stair is a feature of domestic architecture long familiar in cities of southern Europe. The Minelli-Contarini Palace in Venice, built in the fifteenth century, has a beautiful outside staircase, and also the well known Château de Blois in France has an ornate open stair which constitutes one of its conspicuous architectural beauties. Thirty-one years ago, Mr. Alfred T. White used the open stair in a modified form in the model tenements built by him in Brooklyn. The construction is indeed an old one, has been well tried out, and is thoroughly practical. It is believed that in the almost subtropical climate of New York City, for eight months of the year, the open stair is peculiarly suitable. As utilized in the East River Homes a larger number of staircases than is usual have been necessary, and it is probably too costly a design to ever permit of its general adoption in commercially designed flats and tenements intended to produce a high rate of income. For the purpose of this foundation, however, to preserve the privacy of each suite of rooms as a unit, to avoid the evils of common hallways, and to secure the maximum of air and light, the additional cost entailed is outweighed by the numerous advantages obtained.

The entire roof area of these sanitary homes is utilized for outdoor life and fresh air treatment. The roofs are fitted with loggias, open and partially enclosed, toilet rooms, and comfortable seats, and upon an upper deck are spaces for open air drying of linen. Flowering plants and shrubbery to make the roofs as attractive as possible will encourage their fullest use by the tenants.

On the façades fronting the park and streets are individual balconies on every floor, communicating with the bedrooms and living rooms by large, triple hung windows extending from ceiling to floor, thus making the balconies continuous with the floor areas and affording opportunity for outdoor sleeping and dining. By having three window sashes

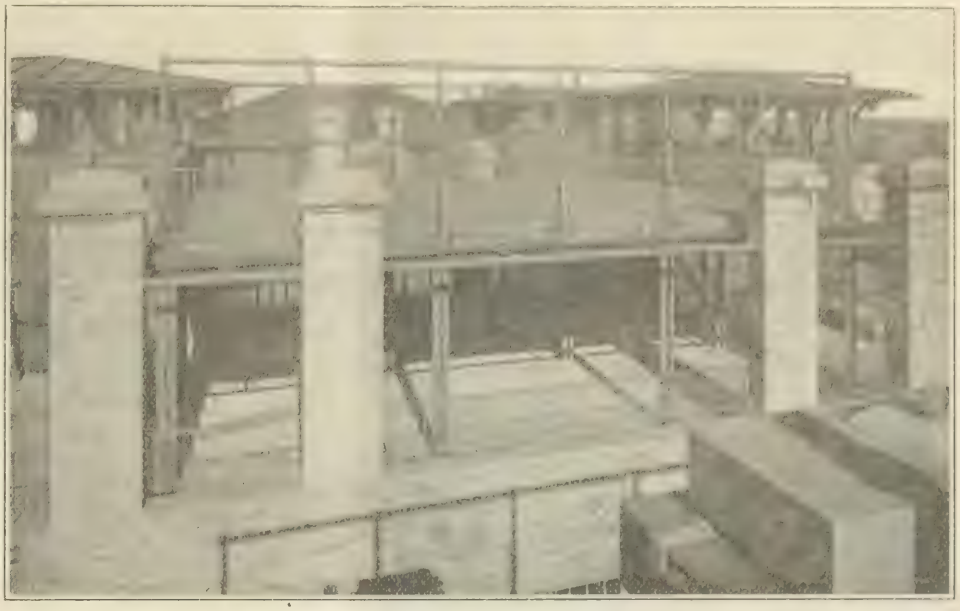


Fig. 6. Sun parlor and deck for open air drying



instead of the two which are usual, it is possible to have open two thirds instead of only half of the entire window space.

The saving in floor area by the abolition of common interior halls has rendered it practicable to make available a larger percentage of space for bedrooms than is usual in the ordinary tenement house. Bedrooms and living rooms are as far as possible situated in the front of the buildings with windows directly on the street. Kitchens and bathrooms are in the rear, but are well lighted by windows on the stairs, large interior courts, and yard between the buildings. The rooms are purposely

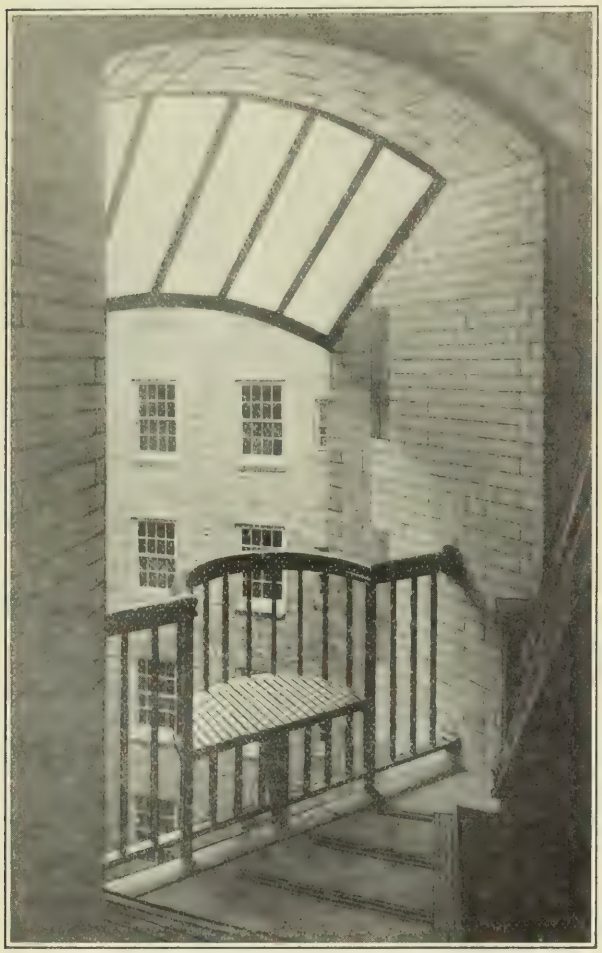


Fig. 8.—Open stairs, protecting louvre, and resting place.

of moderate size to encourage simplicity in living and easy housekeeping.

Each suite of rooms has its own bathroom and hot water supply. The porcelain bath tubs are built into the wall and the tiled floors are brought up to the bottom of the tubs in such a way that dirt and dust cannot collect. In each bathroom there is also a free standing wash basin. The kitchens each contain a gas range, sink, and stationary laundry tubs. Direct drainage for refrigerators and wall receptacles, with outside ventilation, for garbage and waste are provided. Over the gas ranges are hoods communicating with an exhaust flue for carrying off the odors and vapors of cooking. These flues are equipped with electric fans, which produce a continuous aspiration of air from the apartments and thus also serve a most useful purpose in ventilation. The flooring is of monolithic material and coved up on the walls for six inches in such a manner as to avoid angles. The surface is warm and resilient, but of such a character as not to admit the tacking down of carpets. Floor coverings must be rugs, which can be readily taken up for frequent cleansing. The interior finish is simple but attractive, and the walls are painted in soft, pleasing tints with a hard, enamel paint which can be easily washed and wiped down. It is believed throughout that whatever is good, clean, and sanitary in a hospital is equally good in the home.

In the basements are individual storerooms for each family, and there are lockers for baby carriages at the end of an easy incline leading to the street. In each of the basements of the four buildings three spacious laundry rooms with steam dryers are provided. The suites of rooms are heated by hot water from a central system of high pressure boilers, and care will be taken to insure control and regulation to avoid overheating and insufficient humidity of the air which is warmed. The rooms are lighted by electricity, it having been ascertained that electric light can be supplied from a plant in the building at a price to compare favorably with the cost of gas. This is rendered possible by the utilization of the exhaust steam in running the dynamos. In buildings especially constructed for a sanitary object the vitiation of the air by combustion products and the heating effects of illuminating gas are undesirable. Electric lighting is included for the tenant in the rental.

The East River Homes are not designed to be a mere charity, nor to produce income in the ordinary commercial sense. They are a humane and philanthropic investment which, with lower rentals than are asked for inferior accommodations elsewhere, it is expected may yield a sufficient return to encourage the construction of other similar buildings in communities where they are needed. The income of this particular group of houses, however, will be devoted wholly to the promotion of philanthropic objects in accordance with the generous deed of gift creating the trust, one half to be expended forever by the trustees in the warfare against tuberculosis—or until the dawn of that happy day for humanity when tuberculosis will be so far suppressed that further measures directed against it will be unnecessary.

303 Amsterdam Avenue.

PRIMARY DEGENERATION OF THE PYRAMIDAL TRACT.*

By Alfred Gordon, M. D.,

Philadelphia,

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The clinical picture corresponding to a primary degeneration and sclerosis of the pyramidal tracts in the spinal cord was, as is well known, described by Erb in 1875, under the name of spastic spinal paralysis, and in the same year by Charcot, under the name of *tabes spasmodique*. A similar clinical

*Read before the Philadelphia Neurological Society, November 24, 1911.

symptomatology was already mentioned in the third edition of Olivier's (d'Angers) book, published in 1837. This author did not attach a special name to the affection with which he was already familiar from a clinical standpoint. Since Erb and Charcot a number of authors have reported cases in which the symptomatology corresponded to that given by

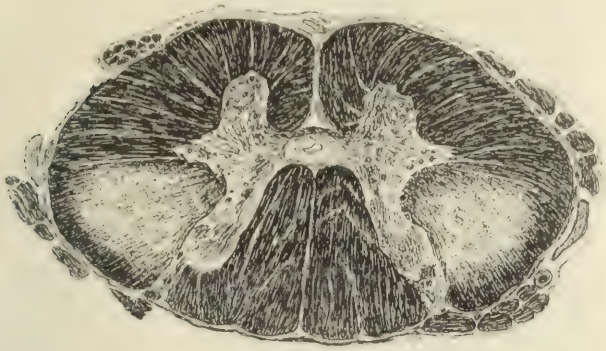


FIG. 1.—Lower cervical segment. Degeneration of the crossed cervical tracts.

these two writers. But as a separate nosological entity the disease could not be considered until anatomical and histological proofs were brought forward. It was necessary, therefore, to find a case in which the pyramidal tract would be involved only in its pathway through the spinal cord, as the clinical manifestations, such as were given by Erb and Charcot, demanded a strict localizaton in the lower half of the cerebrospinal axis. It demanded that the affection begin with a paresis of the lower extremities, which at first does not interfere totally with the patient's walking. Gradually contraction sets in and the difficulty of walking increases to a final disability. The reflexes are exaggerated, ankle clonus is present, and, we now know, the toe phenomenon is also present. The upper extremity may also become involved in the course of the disease. The sphincters and sensations remain intact. The musculature of the affected limbs is not altered and no electrical changes are observed.

The first intimation of primary pathological changes in the lateral columns of the cord without an involvement of the cells of the anterior cornua, we find in the writings of Türck (1856), but, unfortunately, in his communication, there is no mention of the clinical phenomena in his case. A very curious case is reported by Charcot in *Union médicale*, 1865. In a woman who was considered by him to be suffering from hysterical contractures for years, a lateral sclerosis was found, strictly limited to the lateral columns of the cord. Was this organic alteration a mere coincidence of two affections in the same person, or, as Charcot conjectured at the time of observation, that a prolonged and permanent contracture may lead to, or be the result of modifications in the motor roots and in the cord itself. Although the association of contractures with a primary lateral sclerosis in the cord in Charcot's case was evident, nevertheless the case could not be considered as sufficiently instructive in view of the absence of the typical clinical picture.

The first case in which both the clinical and anatomical elements were complete and could be easily explained one by the other, is that of Stofella in 1878 (*Wiener medizinische Wochenschrift*). We find here a primary degeneration of both pyramidal tracts in the dorsal and lumbar segments of the cord and a minimum of alteration in the cervical segment. During life only the lower extremities were involved. No other nervous element was diseased.

The second clinicoanatomical case is that of Morgan, published in the *British Medical Journal* for January, 1881. Here again the pyramidal tract was alone involved in the cord, and the cornua as well as other tracts were intact.

The third case is reported by Jubineau in 1883 (*Thèse de Paris*). The findings are identical with those of the two preceding cases.

In Mader's case, also, published in 1883 (*Wiener medizinische Blätter*, No. 11), there was a distinct degeneration of the pyramidal tracts in the cord and only a few isolated spots in the posterior columns, in which the nerve fibres disappeared and were substituted by neuroglia tissue, but the latter negligible complication was observed only in the cervical segment of the cord.

Minkowski (*Deutsches Archiv für klinische Medizin*, xxxiv, p. 433, 1884), reports a case in which a syphilitic infection was followed a few months later by a progressive diminution of power in the lower extremities, so that shortly the patient presented the picture of Erb-Charcot symptom group. A year later the patient died, and only a degeneration of the lateral columns of the cord was found. However, the lesion involved not only the pyramidal tract, but also the direct cerebellar tract. A few slight changes were found on some (not all) sections in the cells of Clarke's column of the dorsal segment, which changes the author explains as dependent on the alterations in the direct cerebellar tract. No other morbid changes could be traced in the cord, medulla, or brain.

In 1896, Dejerine (*Archives de physiologie normale et pathologique*) reported a case of spastic spinal paralysis in which the maximum of pathological changes was in the crossed pyramidal tract, and slight changes were also noticeable in Goll's columns of the cervical region. This case may be considered almost typical of the disease under discussion.

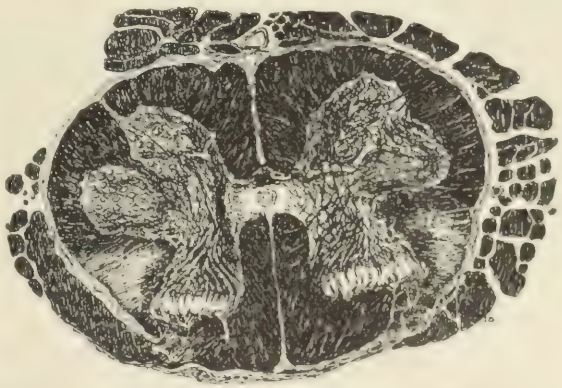


FIG. 2.—Lumbar segment of the spinal cord. Degeneration of the crossed pyramidal tracts.

In 1905, Spiller (*University of Pennsylvania*

Medical Bulletin) published a series of eight cases with pathological findings. Among them two, viz., Cases I and VI, could be considered here, as they almost completely correspond to the clinical picture given originally by Erb and Charcot, and pathologically to the findings of other authors. In his first case he found, however, some slight degenerative changes in the posterior columns and rarefaction in the cells of the anterior horns. In both

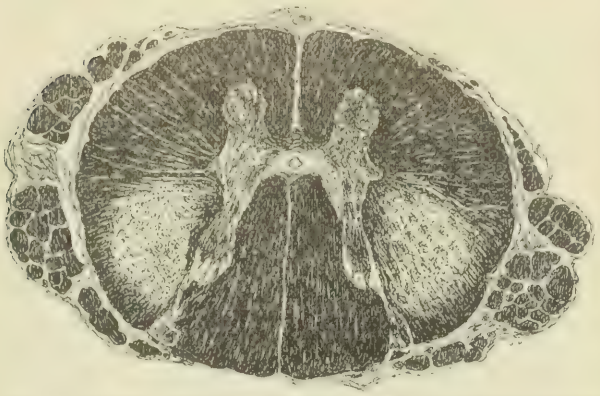


Fig. 3.—Thoracic segment. Degeneration of the crossed pyramidal tracts.

cases the degeneration of the lateral pyramidal tracts extended as far as the medulla and not above the latter.[1]

A close analysis of all the cases reported with anatomical findings shows that in very few of them the lesion was strictly confined to the lateral columns. In the majority the lesion overstepped the boundary, and we find some changes in the posterior columns, although they are all very slight.

The following case, which came under my observation, is a striking example of a primary lateral sclerosis in which the lesion is strictly confined to the crossed pyramidal tract of the spinal cord and which clinically corresponded to the original description of Erb and Charcot:

G. C., thirty-four years old, began to complain of heaviness in the legs at the age of sixteen years. At that time he was working in an ice plant and held that position since the age of twelve. His duties consisted at first of helping in a general way and later of handling large cakes of ice and carrying them from place to place. At all events he was during the day exposed to dampness and moisture. His feet were always wet. As he was very industrious he reported on duty regularly at 7 o'clock in the morning and remained until six in the evening. During four years he never missed a day's work and never took a vacation. His exposure to dampness was therefore very intense. He never was ill prior to the present trouble. The latter began at first with a heavy feeling in his legs, so that he had some difficulty to stand for any length of time or to go upstairs. Soon he complained of excessive fatigue coming on in spells; then again he would not feel tired in the legs for several days. Notwithstanding the great discomfort he kept up his usual work, but noticeably he could not accomplish as much as he used to. Not infrequently he had to quit his work in the middle of the day. For three years the condition remained stationary. Heaviness, rapidly oncoming fatigue, and a very occasional lancinating pain in the knees were the chief symptoms at that time. Soon the gait became somewhat difficult. At the age of twenty-two years he was obliged to carry a cane while walking. He kept his position, but could not accomplish as much as formerly. The condition of the legs grew gradually worse and at the age of twenty-six years he was compelled to give up all physical labor. He then came under my observation.

Upon examination I found him to be a man with a well developed musculature. All vegetative functions were normal. His digestion and sleep were good. All he complained of was a difficulty of walking and heaviness in the legs. He presented the clinical picture of spastic paraplegia moderately developed. There was a certain amount of resistance on passive movements, and the rigidity of the legs became more visible on voluntary movements, especially in walking. He walked with a cane, dragged his legs, scraped the floor. However, the muscular force was about normal. When the patient was told to resist certain passive movements, he did so satisfactorily. Station with open and closed eyes was good. Romberg sign was absent. There was no atrophy in the lower limbs, and the electrical reactions were quantitatively and qualitatively normal.

The patellar tendon reflexes were exaggerated on both sides. Ankle clonus and the Babinski reflex were pronounced on either side. Paradoxical and Oppenheim reflexes were feebly present in both legs. The objective sensibility to all forms, touch, pain, temperament, position, pressure were all normal. The sphincters presented no alteration in their function. In the upper extremities, while there was no evident contracture, yet the biceps and triceps reflexes were markedly exaggerated. Sensations and muscular nutrition were normal. The face and pupillary reactions presented nothing abnormal.

The patient's condition remained practically unaltered for a period of four consecutive years. I saw him during that time at rare intervals, two or three times a year. Gradually the state of muscular rigidity became more and more accentuated and a contracture developed also in the upper extremities. He had great difficulty in handling objects, dressing or undressing himself. The last year of his life he was practically tetraplegic. Although the paralysis

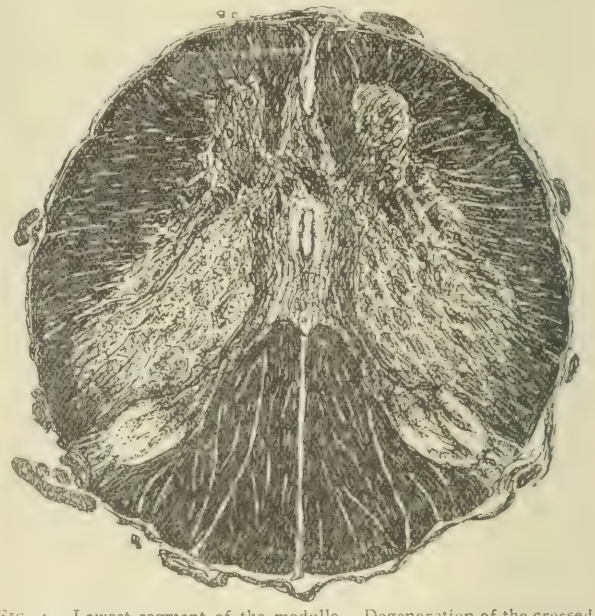


Fig. 4.—Lowest segment of the medulla. Degeneration of the crossed pyramidal tracts and of the decussating fibres.

of the four limbs was not absolutely complete, nevertheless it was sufficiently pronounced to render him an invalid and make him dependent on others.

Six months before he died he developed a profuse diarrhea which lasted two weeks and which was difficult to control. After that he became totally helpless. The rigidity of the limbs became much pronounced. He had to be fed. Pneumonia then developed and the patient died. At no time during the last months of his existence was there any

[1] In *Neurologisches Centralblatt*, No. 18, 1911, E. Tedeschi publishes a case in which the degenerated fibres were found through the entire spinal cord (but not above) in the crossed pyramidal tracts, and rarefaction of fibres in Goll's and direct cerebellar tracts only in the upper segments of the cord.

indication of involvement of the cerebrum or medulla. The respiration and deglutition remained normal. There was no palsy of any cranial nerve. The mentality was throughout his entire illness perfectly normal. The autopsy was made twelve hours after death.

Post mortem findings: Outside of the right pneumonic lung nothing of special interest was noticed macroscopically. The brain, spinal cord, and meninges appeared to be normal. Portions of both motor areas and small cuts of the cervical, thoracic, and lumbar segments of the cord were placed in formalin for examination of cells. The rest of the central nervous system was put in Müller's fluid for several months. The cells were examined by the thionin method; fibres by Weigert, Pal, and Marchi, bloodvessels by ammonia-carmin methods. The meninges and bloodvessels presented no changes—no infiltration, no thickening. The roots were equally normal. The cells in the Rolandic areas, as well as at various levels in cornua of the spinal cord, presented no abnormities as to the inner texture, Nissl's bodies, position of the nucleus, and the outer appearance. Their number was not diminished.

A careful study was made of the white substance in the internal capsule, cerebral peduncles, pons, medulla, and spinal cord. I found a degeneration with a compensatory sclerosis of the crossed pyramidal tracts through the entire cord and confined to the cord. It disappeared in the uppermost part of the cord. No such changes could be traced in the medulla, pons, or internal capsule (figures). The maximum changes were observable in the thoracic region. Above and below the degenerative changes were less pronounced. What is particularly interesting was the total absence of the most minute changes in the posterior columns or in any other portion of the white substance. In the majority of cases reported, as we have seen above, slight or very slight alterations were traced in Goll's columns. The bundles of fibres of the anterior and posterior roots stained with the same methods showed no pathological changes.

The present case, therefore, presents from the clinical standpoint a classical type of Erb-Charcot spastic paraplegia, and from the pathological standpoint an exceptionally clear form of primary sclerosis of the pyramidal tracts. That the condition was primary is evident from the absence of changes in the motor area of the brain or internal capsules, in which cases the degeneration would be secondary, from the absence of any inflammatory focus in the pons, medulla, or spinal cord, from the absence of changes in the cells of the anterior cornua of the cord, which is corroborated also by absence of muscular atrophy. This degeneration could not be explained by changes in the bloodvessels or meninges, because the latter were throughout intact. The reason of the lesion being confined to the cord with its maximum of intensity in the dorsal segment escapes all definite explanation. Syphilis could not be called into account, as in the first place there was no specific infection at the age of sixteen years, when the disease made its first appearance; second, there was no evidence of it in the bloodvessels and meninges, which were found to be normal, whereas in syphilitic affections of the central nervous system these two tissues are predominantly diseased; third, a Wassermann test, made on three different occasions at two months' interval, was invariably negative. However, syphilis may in very exceptional cases produce primary degenerative changes in the white matter without affecting the bloodvessels or the meninges. Minkowski's case (see above) is an illustration of such an occurrence. In his case there was a clear syphilitic infection with primary and secondary manifestations. No such a history was present in our patient at the age of sixteen years.

One may assert that the reason of the cord alone being affected lies in the youth of the patient, as had he lived longer the upper portions of the pyramidal tract would have eventually become affected in the course of the disease. This explanation, I believe, cannot be accepted, as there was ample time for the affection to accomplish its full development. Motor disturbances began to be manifest at the age of sixteen years and kept on progressing until the patient's death at the age of thirty-four. Eighteen years are more than sufficient for a system of fibres to become degenerated if their existence is dependent on certain anatomical elements. Why the lesion is confined to the cord and stops at the lower level of the medulla cannot be explained, I believe, by our present anatomical knowledge.

In search for explanations it may be assumed that some functional disturbance not discoverable by the microscope existed in the cells of the cortical motor area, and produced at a distance degenerative changes in the cord which took years for their complete development. Finally, the very early age (sixteen years) at which the symptoms of a pathological state of the motor tract first made their appearance suggests the possibility of the case being placed in the category of congenital abnormities of development of the central nervous system, otherwise speaking, among the abiotrophies, to which Friedreich's ataxia, heredocerebellar ataxia of Marie, syringomyelia, and perhaps some other affections belong.

The medical history of my patient contains a very significant etiological element which, in my judgment, cannot be ignored, viz., the exposure to cold. It will be recalled that the man began his work as an iceman at the age of twelve years, and, as he was a conscientious and earnest employee, he never neglected his work, spent his entire days in the same cold atmosphere, and never took a vacation. When the paresthesias first sat in, he persisted in his work and, when other disturbances began to develop, he still did not give up his occupation. The influence of the very low temperature and moisture with which his feet were continuously in contact cannot, as I said, be overlooked. Cold has been considered as an etiological factor in other nervous diseases. It is possible that the prolonged and uninterrupted exposure hastened the full development of the morbid process in an abiotrophic spinal cord which my patient possessed.

As a last point of interest, I wish to emphasize the absence of any alteration in the fibres of the direct pyramidal tract. It seems that the point of predilection of the pathological process was only one portion of the motor pathway in the spinal cord. The reason of it is surrounded with great obscurity. Cases of pure spastic paraplegia without additional symptoms, such as disturbance of sensations, of the function of sphincters, or of muscular atrophy, are not very rare, but naturally they are not frequently met with. Very few pathological records of this disease exist in the literature. Some deny its existence in view of a frequent coexistence of degenerative changes in other portions of the white matter beside the pyramidal tract. It is true that in some cases changes were found in Goll's col-

umns or in the direct cerebellar tract or in the cells of the anterior cornua. But all these alterations were so exceedingly slight as to be considered negligible. On the other hand, there are a few cases in which the changes are confined exclusively to the lateral motor tract. The present report is an additional demonstration of such a possibility. The rarity of the affection in its typical form, as pictured by Erb-Charcot, is, in my opinion, an additional proof of the disease belonging to the abiotrophic group.

1430 Pine Street.

THE RELATIVE MERITS OF THE SPA TREATMENT OF HEART TROUBLES AT BAD-NAUHEIM AND IN AMERICA.*

By Louis Faugeres Bishop, A. M., M. D.,

New York,

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The subject of the treatment of heart and circulatory disease at Nauheim and in America is one that is of a good deal of interest because, after years of development, Nauheim has come to stand as the great centre to which heart patients go for spa treatment. We cannot examine this subject without generalizing a bit on the whole subject of resort treatment, or as the English call it, the "spa" treatment of disease.

Every resort where any particular disease is handled always has some special form of treatment that characterizes that place, and that is the elemental idea that occurs to people when they speak of the place for the disease. The least possible consideration will lead to the recognition of the fact, that the elemental treatment in any place where disease is treated is not the whole cause of the improvement of the patient.

In Nauheim the elemental treatment is the carbonated saline bath, and it has gained its reputation, in a great measure, through the use of this bath in conjunction with resistance exercise.

A great many very good observers, among whom I might mention MacKenzie, Huchard, and numerous Americans, have gone to Nauheim and come away in a measure criticising Nauheim as a place to send heart patients, and from the point of view of these men, the criticism was just because they examined the fact that some Nauheim physicians placed all the emphasis on the baths and did not mention the other elements of the cure. The result is that those who have attempted to copy the Nauheim treatment in other parts of the world have taken great pains to copy the chemical composition of the baths—sometimes have copied the mode of administration, and have often neglected to try to copy the other elements of the cure.

We have to acknowledge the fact that people with circulatory disease go to Nauheim from America and come back very much improved. I had fifteen patients last summer in Nauheim, three of them physicians, and they all came back satisfied that their cure had been well worth while, and that they were better.

If it were possible and desirable for us to say to all our patients with heart and bloodvessel disease, "Go to Nauheim, and do as they say, and you will be better," it would be a very simple matter, and the subject would not give us much worry, but we cannot do that. In the first place, it is something like an acknowledgment of failure to send a patient away, and then a great many patients cannot afford to go, or else they cannot afford to go easily. A patient should never be sent to a resort cure if the strain on his purse or the sacrifice of his affairs is such that he will worry all the time. The worry may counteract the benefit of the treatment.

It is up to us to discover how we can imitate the Nauheim cure right here at home. The German word *Kur* sounds very much like the English word, cure, but in Germany when they speak of a patient taking a cure, they do not mean that the patient is undergoing a course of treatment which necessarily leads to the removal of the disease. What the German cure means (and you know in Germany, and in Europe in general, a great many people take a cure every year at some time or another) is a course of treatment and a period spent under changed conditions, by which the patient who is suffering from, or is threatened with some disease is put in the best possible condition. It is quite possible that the disease may be removed, but whether it is or not, if the patient undergoes a course of treatment and a period of life under different conditions which are designed to improve his condition, that is a "cure." The patient has taken a cure, and has taken a successful cure, even though the disease has not been completely removed. This conception of the word cure is very important, and we need to learn it in this country.

The American people need to be taught that every one, certainly persons past middle life, should give up a certain time every year during which they are to be put in the best possible condition. A vacation is supposed to do this, but that is a random sort of thing, and you can do almost anything on a vacation. People quite frequently come back in worse shape from their vacation than when they went away because of unsuitable hygiene—sometimes dissipations, and so on, that they are not able to stand.

In Europe, people combine a vacation with a cure and obtain great benefit, and the fact that this is generally done has led to the great development of cure resorts.

You can call them health resorts; or as the English call them, spas; we often call them springs in America; and Germans call them *Kur* resorts.

Now let us examine for a moment into the nature of the Nauheim cure: That is best illustrated by following a patient going to the place. Take a patient, for instance, a lady who went over on the ship with me. She had had several attacks of cardiac dilatation with dropsy, and was in very bad shape. The first thing that was done to her when she reached Nauheim was to confiscate all the drugs that she had been taking. They took away the

*Read before the Medical Association of the Greater City of New York, November 20, 1911.

digitalis, nitroglycerin, and iodide of sodium, and all ordinary remedies that are used with such a patient. Then she was put on a very plain diet.

At Nauheim they make a great point of the cooking. The vegetables are not cooked in grease —they are all cooked in water. The meat is freshly cooked—no made over dishes allowed, and served in moderate quantities. You get hotel table d'hôte, and you receive quite a number of different dishes, but all plain, and the portion served is fairly small, so that if you eat quite a number of things in small portions, your appetite is satisfied, without eating too great a quantity. All that is important, because the American has often been served in American style from dishes on the table, and from which he helps himself freely, and even if portions are served in hotels, the quantities are very large. The meals at Nauheim are also served very deliberately. There is a long wait between courses, and generally a band playing in the garden, and in good weather the meals are served out of doors. So the meal hour is a more or less pleasant time—more of a diversion—and the patient eats slowly and carefully. In America we take meals too much on the lunch counter style.

Nauheim is such a pleasant place, that even the sickest patients are influenced to go outdoors. They can step right from their hotel outdoors, where there are nice trees and flowers, and the band plays every afternoon. Without realizing it, the patient who has been cooped up in the house finds himself walking quietly outdoors a good part of the time.

There is another thing at Nauheim, and that is that the air is of a character that makes the people sleepy. That and one other element make people sleep very well. The other element is that coffee served in Nauheim is free from caffeine. They serve the caffeine-free coffee in all the hotels, and the patient doesn't realize it, but he is being deprived of an habitual stimulant, and he finds himself very sleepy. So when people first go to Nauheim, on account of the air and the deprivation of caffeine, they sleep a good deal.

Another element that is not to be despised is the moral atmosphere of the place. People do not go to the place unless they have faith in it. When you get 30,000 people to come to a place in a year,—all with the idea of getting benefit, you get an inevitable air of hopefulness. The patients believe that they are going to get well, and the general spirit is that of optimism. The people always speak of their improvement, and seldom of anything going wrong. The organization of the place is so complete that all disagreeable things are kept out of sight. That is due to perfect organization and has something to do with the success of the place. You cannot get so many people together in a place, some of them dangerously ill, without an occasional accident. It is a very important and commendable idea, and is really accomplished in a very remarkable manner. The maintenance of a proper moral atmosphere is very important in the treatment and handling of heart disease, and we should imitate it all we can in our work. The heart patient must be kept optimistic because it conduces to a cure.

I have spoken of the Nauheim treatment, but so far I have not spoken of the essential or elemental part of it, the baths and exercises, but I just want to go over the points of which I have spoken to emphasize them.

1. The removal of all drugs, stimulants, and tobacco from the patient, these drugs only to be restored and put back in the patient's treatment as they are actually needed.

2. The sleep and rest induced by the surroundings and by the removal of caffeine from the coffee, and often by the removal of other drugs which have been keeping the patient awake. You know that heart stimulants are also brain stimulants: Caffeine stimulates the heart and keeps the brain awake; strychnine irritates the brain; and even digitalis in a great many cases has its cerebral symptoms.

3. The food—simple, plain food, slowly eaten in divided portions so that the appetite is satisfied without the patient gorging himself.

4. Outdoor exercise taken in a pleasant way so that the patient is hardly conscious of it.

5. The spirit of hopefulness from which the patient receives great benefit, and the removal of all depressing influences in the way of the contemplation of patients who are not going to get well and so on.

The baths consist essentially of a strong brine bath, with a considerable amount of calcium chloride, and a certain amount of carbonic acid gas. In America persons imitate the carbonic acid gas, and really add more carbonic acid gas than in the baths at Nauheim, and forget all about the salt. It takes a good many pounds of salt to make a bathtub full of water the same strength as the natural bath at Nauheim. In fact, it is almost as well to leave out the carbonic acid gas and have the salt, as to do without the brine.

The patient lies in the bath for a stated period of minutes. The bath is commenced warm, and gradually made cooler and stronger as the course progresses. The bath is taken two or three days in succession, and then the patient has one day without treatment. This is called the rest day, and this is well worth while imitating in the treatment of heart cases, and of a good many other diseases. In the course of treatment a day of intermission is often of value. I remember when I was a student, I had charge of a large consumptive ward, and on holidays, Christmas, New Year's, and so on—I always stopped all the medicines—a day of rest; no codliver oil, and only the medicine needed for comfort. It is a good thing to intermit drugs for a while; most of us do that in the use of iodides.

And at Nauheim patients have one or two days a week when they do not take baths or anything else. It is called the *pausa*. On that day the patients take a rest or vacation—a trip down the Rhine or something else. The next day they take up the regular treatment again. The rest day is a regular institution.

Naturally, I have not described the treatment in all its technical details—that you will get from other sources.

On account of the impossibility of sending all

our serious patients to Nauheim, the question is how well is the treatment imitated in America? And how may we imitate it more successfully?

You know they said of Thomas Arnold, that if you put him under a tree, and gave him a class of pupils to teach, that that would constitute a great educational institution. And it is perfectly true that you can take a man of surpassing genius, and deprive him of all the accompaniments of his profession, and he will get results by his own force of character.

MacKenzie, who wrote the great book on the heart, did all his work in a little Scotch manufacturing town. The village watchmaker made his instruments, and his patients were the same people who had been treated generation after generation by physicians there who had never learned from them; he treated the mill hands in a little Scotch town. MacKenzie had no great laboratory, no university, no associates to work with—nothing but himself and his patients. He worked out the theory of the heart beat and its irregularities in a way which has made the whole world sit up and take notice.

A man who has learned the ultimate principles of the treatment of heart disease and has sufficient strength of mind and enough control, can get just as good results right here in New York city, as can be obtained in Nauheim, but on account of the absence of the natural baths, of the air, of the diet and proper kind of exercise, and the atmosphere of hopefulness, the physician must exercise an iron control over his patient, and he must have implicit faith that he is going to get results. Given these attributes he can cure our heart cases just as well in New York as at Nauheim.

The Nauheim treatment has been attempted in imitation in a good many places in America. Some of them are better and some of them are worse. Everything depends upon the physician and whether he can control the conditions. The trouble with resorts in America is that they are often essentially money making institutions and the medical control is not absolute, or else so many different conditions are treated that the heart patients are not treated according to their needs.

The baths alone, without the regimen, are often not worth taking. In hotels and water cures, they are not under control of people who understand heart disease. Such bath givers often lay out the baths as a specific, and make such great claims for them that the patient thinks as long as he takes the bath, that is all that is necessary. Then they often give the baths stronger than is wise, and the exercises are given too strong because the patient demands his money's worth.

I think we ought to have a place in America that is not too fashionable, and not too much devoted to money making. It ought to be under the control of a man who is devoted to that particular kind of work, and it ought to be within easy reach of New York, so that the patient could be more or less under the control of his own doctor. I have in mind such a place, and if on further trial I find that it fulfills its promise, I will tell you about it.

But it is, on the whole, better for the physician to undertake the treatment without the attempt of getting the assistance of any particular place, and if he will remember that a cure at Nauheim means a period spent under conditions designed to conform to the well being of the patient and that the word does not mean the magic removal of disease, and that diet, exercise, and the removal of all depressing influences and change of scene, are just as an essential part of the treatment as the baths, he can carry out the spirit of the Nauheim treatment with his patients.

The treatment is essentially an art. It is a bringing together of a whole lot of things to a definite end, and is not necessarily founded and conducted on "scientific principles"—if by "scientific principles" we mean "rule of thumb" principles.

The whole subject merits more attention than it has received, and we must not accept as final the word so often heard, that American patients want a prescription and not a regimen—that dieting is next to impossible, and exercise beyond their reach. The successful care of chronic heart conditions can only be through the education and reeducation of the patient. I must acknowledge that this is laborious in the extreme, but I have been more than repaid by results and the appreciation of patients of intelligence; as for the others, they have often considered the cure methods too severe, and resumed the path to cardiac degeneration under palliative treatment.

54 West Fifty-fifth Street.

TREATMENT OF STOMACH DISEASE AT CARLSBAD AND WIESBADEN.*

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The treatment of stomach diseases at Carlsbad and Wiesbaden begins with the ocean voyage from New York and continues until the return to work and worry. There is so much more in taking the treatment at these two world renowned *Kurorts* than drinking the waters that I shall try to portray to you in pictures and words what is included in the cure.

After a pleasant voyage on one of the floating palaces you can reach Carlsbad and Wiesbaden by way of London, Paris, or Berlin in ten days. The Carlsbad express leaves these cities daily during the regular season. We went by Berlin and it is well to stop for a day or two to see how beautiful and clean a big city can be, and to learn how they collect the ashes and garbage at night without fuss and feathers and without strife.

You take the Carlsbad express in the morning, passing through Dresden, and after a most interesting ride of seven and a half hours, admiring the curious houses covered with red tile, the beautiful fields of flowing grain, blue corn flowers and red poppies waving their welcome to the American stranger, you arrive at Carlsbad, the greatest

*Read before the Medical Association of the Greater City of New York, November 20, 1911.

Kurort in the world. The story of Carlsbad begins in the thirteenth century, when Charles IV with his retinue was hunting in that region. Suddenly some of them fell and disappeared into a gorge in a hot boiling spring. The news went

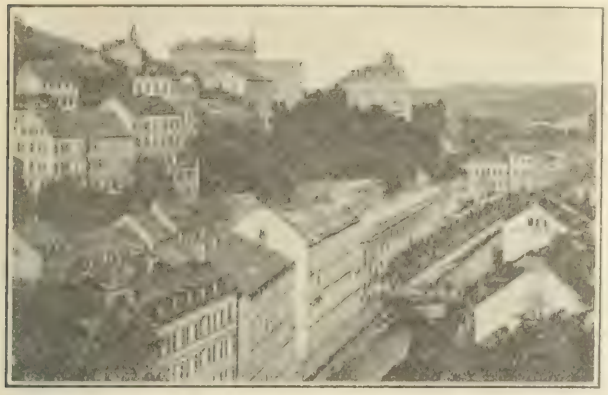


FIG. 1.—Carlsbad, view from the Stephans-promenade.

abroad and Carl IV gave his name to the settlement, and thus we have Carlsbad.

It was a favorite place of Goethe and of Peter the Great, and of many princes and paupers ever since. Carlsbad is in Bohemia, Austria, and lies about 1,200 feet above the level of the sea in a beautiful wooded valley of the Tepl. It has a population of about 15,000 and 150,000 tourists annually, of whom half are taking the cure. There are sixteen hot springs, two of which we shall mention, the Sprudel and the Mühlbrunn. The average temperature during the season, which is from May to September, is about 57° F. There are many hills surrounding Carlsbad and the air is pure and refreshing. It is a most cosmopolitan city. Down in the lower end of the town you could imagine you are in Poland or Rivington street, New York. In the upper section you see the wealthiest and best dressed people in the world, and it reminds you of Paris, Vienna, and New York combined.

There are many institutions for the treatment and cure, among which could be mentioned Strangers'



FIG. 2.—Wiesbaden, Kochbrunnen.

Hospital, opened in 1892 for the exclusive use of health seeking persons not residing in Carlsbad. About 400 persons can be treated there. For the Royal Austrian army there is a Royal Military Hospital, also the Military Hospital of the White Cross. The Emperor Franz Joseph's Jubilee Hospital for poor Jews gives free board and lodging during the *Kur*. Doctor Ritter's dietetic establishment is well known.

There are so many rules and regulations which may become annoying that it is better to get a book on Carlsbad and read it. Be sure to learn the meaning of at least one German word, *Verboten*. For instance, if you should stop at a pension or boarding house and not make any definite arrangements as to the length of your stay you will be charged for the usual time of taking the *Kur* whether you remain or go. So it is better first to go to one of the well known hotels like the Bristol, Savoy, or Pupps, or stop at one in the West End, which is one of the healthiest and coolest parts of Carlsbad and a favorite place of the American and English guests.

The next morning you should consult one of the local physicians, a list of whom with their addresses and hours is posted in every pension or hotel. The consultation fees are about the same as in New York, $10 for the first examination, much less for the remainng visits.

Taking the cure at Carlsbad and Wiesbaden is contraindicated in tuberculosis, valvular diseases of the heart, arteriosclerosis, and all cases of malignant growths.

The following diseases of the stomach, including the intestines, are treated and very much benefited at Carlsbad and Wiesbaden: Chronic catarrh of the stomach and intestines; hyperacidity, abnormal irritation leading to spasms of the cardia or pylorus, atony and dilatation of the stomach, chronic ulcer of the stomach and duodenum, different forms of dyspepsia due to the liver or gallbladder, or stomach, or intestines, chronic constipation, and chronic diarrhea. Cases of achylia gastrica and too little acidity are best treated at Wiesbaden. The treatment consists of drinking the waters, taking the proper baths, dieting, exercise, and rest. Your physician gives you a slip of paper which will remind you of your daily schedule at college. Every hour is accounted for; the spring you shall drink from, the number of glasses of water, kinds of baths to take and the length of time, the diet you should live on, the hours for resting, and time for exercise and sleep. The next morning you will rise at 5.30 o'clock and the most curious procession you have ever seen in your life begins. There may be as many as 15,000 persons forming in different lines at the different springs. There is no class distinction here, the prince and the pauper look alike at the springs. Each one has his cup in hand or tied to a leather strap hanging at his side, waiting his turn, and you march along trying to find out whether the one in front is jaundiced or just a plain Armenian. The members of the orchestra wear high silk hats, and frock coats, and it seems rather a curious sight as they fiddle away your sorrows with songs without words at this early morning hour.

They play some of your favorite tunes, such as *Meet Me at the Fountain* and *Every Little Move*

ment has a Meaning of Its Own, which you think quite appropriate after you have taken the waters a day or two. You stand at the spring which looks like a gushing geyser, waiting your turn. A maiden fair dressed in waterproof garments with the aid of a dipper on a long wooden rod catches the hot spray as it falls, fills your cup, and on you pass, sipping the salt water, or taking it through a tube. You walk around while emptying your glass, which takes at least twenty minutes, and maybe you repeat the dose. Then off you go, hustling and bustling to the bakery shop, select your little bag of rolls or zwieback, go to your favorite coffee house, and eat your breakfast, which will not be very much. You then rest for an hour and go to your bath, which may consist of an ordinary saline bath or hot compress of fango or water, or maybe a carbonic bath. The most popular spring at Carlsbad, and the one to which it owes its existence, is the famous *Sprudel*, and the one from which we get our Carlsbad Sprudel water or salts in this country.

The principal constituents of the Carlsbad water are sodium sulphate, sodium bicarbonate, sodium chloride, and calcium bicarbonate. The temperature of the water, according to the different springs, varies from 162.5° to 95° F. The colder the Carlsbad water, the more aperient the effect. The temperature of the Sprudel is 162.5° F. and of the Muhlbrunn is 116° F. The mode of action of the Carlsbad water upon the stomach and its secretion is a chapter in itself, and too long for description here. It has been proved that the effect of the four weeks' course of the Carlsbad waters in cases of hyperacidity in connection with ulcer and atony that there is a diminution of the hydrochloric secretion up to fifty per cent. The hot Carlsbad water taken in small doses has proved successful in various cases of diarrhea. The effect of the Carlsbad baths are secondary in importance, but they no doubt help toward a cure. The most beneficial in stomach diseases are the hot Sprudel and hot mud baths. There are many bathing houses, but the principal one at Carlsbad is the Kaiserbad, costing a half a million dollars. Drinking the water is free; taking the baths cost about one dollar each, but less if taken in the afternoon. The expenses are paid by tax, which is imposed on those who remain for a week or longer. Physicians and their families are exempt from this tax. No smoking is allowed during drinking the water. The following articles are excluded from the diet while taking the cure: Fresh fruits, salads, acids such as vinegar, lime juice, cheese, canned, dried, or smoked fish, butter, nuts, highly seasoned dishes, sweets, and wine. Giesshubler is a favorite table water. Dinner at one o'clock. Your afternoon is taken up with a stroll through the woods and keeping your eye on the sign which reads *Für Herren*. At night you can go to Pupps, where they get rid of the jaundice of your American bills and you can think you are in New York sitting in Peacock Row in the Waldorf-Astoria. You see more beautiful women and becoming costumes here than at any other watering place in the world. It is like a family reunion of the élite. Taking the cure continues from three to six weeks, and after that you go to some quiet resort and take a *Nachkur*, an after cure, and rest up.

Wiesbaden is in Germany, near Frankfort, and convenient to the Rhine. It is a beautiful shaded city with wide streets, having a population of 90,000 and annual visitors of over 100,000. It is a good place to take the *Kur* in the fall and winter months. All stomach diseases are treated here, but it is best for those cases of low acidity and with rheumatic tendencies. The Kursaal is in a magnificent park. There are twenty-three springs, the principal of which is the Kochbrunnen, the temperature of which is 144° F., and the principal ingredients are sodium chloride and the salts of potassium and lithium. All the hotels are fitted up with baths and the favorite of these for the Americans are the Hotel Rose and Nassauerhof. Wiesbaden was known to the Romans, and is described by Pliny. There is no doubt that many thousands from many lands are improved and cured of stomach diseases by taking the treatment at Carlsbad and Wiesbaden, by learning how to lead the simple life and by communing more with nature.

78 Irving Place.

SARATOGA SPRINGS—HISTORY; ORIGIN; CHEMICAL CONSTITUENTS; GENERAL THERAPEUTIC ACTION.*

By Douglass C. Moriarta, M. D.,
Saratoga Springs, N. Y.

If we are to compare Saratoga Springs as a health resort with the spas of Europe, it is essential that we have accurate information concerning Saratoga and her resources.

Notwithstanding the fact that Saratoga Springs has long enjoyed the distinction of being a great health resort and many people have gone there to drink the waters, it has been done only in a desultory manner. The local medical profession has not given these great natural therapeutical resources the consideration they deserve. In 1883, the late Dr. R. C. McEwen read a paper before the county society, on the value and cures of the Saratoga mineral waters. In 1908, over a quarter of a century later, I read a paper with a similar title before the same society; and, so far as I am informed, nothing has been said or written on this subject by our local profession in the interim.

During the winter of 1908-09, organized effort by the medical men of Saratoga Springs to boom our mineral waters was considered. To help in this effort, and that definite information might be given to the profession concerning the clinical value of these waters, Doctor Comstock and myself decided to imitate the work reported from the European spas, so far as we were able. At present, we can tell you little more than that we have begun, and give you the exact facts concerning the mineral waters at Saratoga; we hope, however, to give you more complete therapeutic information in the near future.

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The springs at Saratoga are all of the saline variety, saturated with carbonic acid gas. The predominating chemical is chloride of sodium, with other ingredients in lesser quantities. According to the predominance of these chemicals, several types of water are recognized—the cathartic, the alkaline, the chalybeate, and the sulphur waters. A remarkable fact concerning these waters is that the quality and quantity of the chemicals they contain have not fluctuated since their early discovery.

The first spring known at Saratoga was the old High Rock, the water of which found its way to the surface, through thirty feet of earth, by the pressure of its own gas. That which is termed the "rock" is merely the accumulation of the numerous alkaline salts deposited upon the soil from the water. At a later period, in developing the springs, excavations were made down to the bed rock, and the point in the fault at which the water escaped was covered with a hopper made tight, on which was placed a tube through which the spring water came to the surface of the earth. This method was abandoned after experimental drilling into the rock, and it was found that the mineral springs could be successfully developed in that way.

The result of the first drilling was the famous Geyser spring. This was about the year 1870. The condition of this drilled spring bore no relation to the fault in the rock, which for so many years it had been thought necessary to follow if mineral water was to be found.

The origin of the springs at Saratoga has been discussed at various times by learned chemists and geologists, often with totally diverse theories. To my mind, the important feature in the discussion is the origin of the carbonic acid gas. This gas is, of course, evolved from the decomposition of the carbonates, either by heat or acid. In the absence of acid, we must conclude that heat is the agent, also that the decomposition of the carbonates occurs in a region remote from the springs, for there is no geological information that there is a furnace immediately under our village.

However, regardless of theory, there is free carbonic acid gas in the water, and it is rational to conclude that water first charged with this gas flows over or through the earth or rocks having carbonates of the alkaline earths exposed; and that they are thus converted into bicarbonates and dissolved and taken up because of the excess of gas in the water. A wonderful feature of these waters is that the chemicals should occur so uniformly. The character of the water is probably determined by the particular chemicals existing in the channels of earth through which, or over which this carbonated water finds its way.

The trouble with our mineral springs at Saratoga began some fifteen years ago, when commercial industries began collecting the gas from the spring waters, condensing it, and shipping it for the market. To meet the demands for the gas, deeper pumping was resorted to, and as the demand continued to increase, larger plants were built and more powerful pumps were installed. Finally, deep water gang pumps were set up, pumping in all 1,000 gallons a minute, continuously night and day, the gas collected, the water wasted. When we state that the natural flow of all the springs at the surface of the earth was originally about twenty-five gallons a minute, it is easy to conclude that the level of the water would be lowered by this exhaustive pumping, making it a physical impossibility for the water to flow at the surface as it had done for years. This result was not quite universal; some areas did not seem to be affected and an occasional drilled well continued to flow.

When it became known that some of the springs had ceased to flow, the conclusion was formed by the laity, and the medical profession as well, that the springs at Saratoga had failed. What really did occur was, as I have stated, that the water was not allowed to accumulate as it originally did, so it could flow at the surface. After the pumps had exhausted the spring water to a depth of many hundred feet, the supply then seemed equal to the quantity pumped.

To the question why the pumping did not affect all the springs alike, the reply must be that certain areas are less affected by it, probably because of impervious walls separating one stratum or area of the earth from another.

The water wasted at these gas plants has been repeatedly analyzed, and the chemicals have been found to exist always in the same relative proportion, though not the same in quantity as in the original analysis; the few grains difference a gallon in the total salts is due, in my opinion, to the lesser quantity of gas in the water when obtained hundreds of feet below the surface of the earth. Naturally, water 500 feet below the earth's surface would not contain the same amount of gas in solution as if the water were flowing at the surface.

These conditions finally became apparent to our citizens, and they realized that our springs were being rendered useless, if not destroyed, so they went to the legislature for relief. A measure termed the antipumping bill was introduced and became a law, the effect of which was to prohibit the pumping of water from these wells to secure the gas. Later, the constitutionality of this law was questioned, and sustained.

At about the same time, another measure became a law, which created a State Reservation of the springs of Saratoga, carrying with it an appropriation of $600,000; to this has since been added $300,000 for the purchase and preservation of the mineral springs of Saratoga. While the entire scheme of the commissioners appointed by the Governor has not been made public, they have purchased a number of the springs and gas plants. Recent analyses of the spring waters made by the commissioners shows, as I have previously mentioned, that they have the same qualities as formerly. This fact should make it possible to restore Saratoga to her old time prosperity. The persistent effort of the local medical profession to disseminate this information must eventuate in restoring the confidence of the public in these waters.

THERAPEUTICAL VALUE.

When considering the therapeutical value of the mineral springs at Saratoga, two essential points should be borne in mind: first, that we are dealing with a composite remedy; and, second, that the re-

sults will be modified, as in the use of other drugs, by the general state of the patient's health.

In the analysis of the springs there is no deviation; therefore a definite amount of water always represents a definite amount of the ingredients in solution, and may be estimated and prescribed accordingly. This point may well be emphasized, for the popular mind believes that these waters possess a miraculous quality, rather than one depending upon definite chemicals.

While each type of water depends of necessity on its ingredients for its action, the clinical results will be modified by the quantity of water, as well as the hour at which it is taken in relation to food. The cathartic waters have a stimulating effect upon the mucous membrane of the stomach and intestines, dissolving the mucus, increasing the natural secretion, and exciting peristalsis. Ordinarily one can secure either a simple evacuation or a purgation, according to the quantity taken, and whether or not the water is followed by hot drinks.

The alkaline waters contain less chloride of sodium and more bicarbonates of the alkalies and the alkaline earths, as analysis shows.

These waters act usually as do the alkaline salts. They will neutralize free acid whenever taken; but if taken for an acid condition of the stomach, they are better taken after food, as Bartholow has so long taught, that when alkalies are taken before meals, they increase the total acids. Brunton and Ringer advocate their administration before meals, believing that they increase the flow of gastric juice and that the carbonic acid present stimulates the mucous membrane and glands of the stomach. The action on the kidneys is to increase the quantity of urine, particularly if taken two or three hours after meals.

The chalybeate or iron waters are of use in anemia and it seems that the bicarbonate of iron is more readily taken up than iron salts generally.

With the genuineness of our mineral waters certified to by the State, there can be no further question concerning their therapeutical value, and now that this basic essential is settled, Saratoga Springs compares favorably with any of the European spas.

The village of Saratoga is ideally situated at the foothills of the Adirondacks, with an elevation of 306 feet above the sea, with an atmosphere that is dry, bracing and uncontaminated, with a sandy soil, and a perfect natural water supply.

Notwithstanding the fact that our village is itself one great natural park, with miles of streets and avenues shaded by most beautiful trees, we have within the year spent a quarter of a million dollars in acquiring two parks, the famous Congress Spring and park and the Canfield park and club house. They are both naturally charming, with lawns, walks, lakes, and fountains, while the Canfield park has also an Italian garden. They afford the visitor a great deal of pleasure as he walks about when drinking the waters. When greater distances are desired, there are a series of routes laid out, showing exact distances. These routes vary from two to six miles and embrace Saratoga Lake, Excelsior Park, Woodlawn Park, the golf grounds, and the Geysers. The Canfield club house is an imposing structure and the interior decorations were made regardless of expense, costing the original owner over half a million dollars. This building is now used as a casino and "cure" house, where visitors may go to read, rest, write, and enjoy the music.

AMUSEMENTS.

Probably there is more to interest the average individual at Saratoga than at almost any other similar place. We have pleasant walks, as described, in the parks and through the village. Then we have beautiful golf links, with a comfortable club house and fine tennis courts. There is Woodlawn park, with its miles of walks and drives and beautiful scenic effects. There are excellent roads through all the outlying country, both for driving and motoring; in fact State roads radiate in every direction. Saratoga Lake with its road houses is but four miles out; the White Sulphur Spring Hotel is ten miles away and may be reached by a charming drive or by steamer on the lake. Twelve miles away one may visit the historical battlefield of Saratoga with its commemorative monument. We have music at the hotels, regular concerts at the casino, with frequent social entertainments to which all are welcome. So much for this side of the question.

Within a short period, our local profession has awakened to the necessity of an individual régime for their patients. They now make a routine practice of taking a complete history before prescribing the waters to drink, the bathing, the diet, exercise, periods of rest, etc. This good work is already bearing fruit. We have a physiological chemist at hand, and the value of his services need not be emphasized, except to those who do their work without such assistance.

The bathing in mineral waters at Saratoga is quite as effective therapeutically as at any foreign spa, judging from the chemicals and gas shown by the analysis of the waters. Nevertheless, it has never taken on the popular or social side at Saratoga, as abroad, because our mineral water bathing facilities are limited and lack the elegance and luxury of appointment of the foreign pavilions. We hope soon, however, to meet the requirements of our fastidious patients, and thus add delight to the efficiency of their treatment.

We have, in addition to our mineral and sulphur bath houses, the Saratoga bath house, where the ordinary Turkish, Russian, and special douche baths are given; here there are always trained attendants to give and direct such mechanical therapeutics as may be prescribed for special cases; and there is also a very large swimming pool. At the Strongs' sanitarium there are similar appliances, and in addition to the Russian and Turkish baths, all kinds of hydrotherapeutics and electrical treatment are given.

In closing, I should suggest that physicians sending patients to Saratoga for their health should emphasize to such patients the necessity of following a regulated régime, for there has been in my patients an almost universal tendency toward excesses in drinking the mineral waters and alcoholic beverages, as well as toward overindulgence in rich and highly seasoned foods.

511 Broadway.

SARATOGA SPRINGS: SPECIFIC CLINICAL INDICATIONS.*

By George Foster Comstock, M. D.,
Saratoga Springs, N. Y.

It is the consensus of our profession that the future of medicine lies along the line of preventive measures and with these ideas in view we are looking to Nature more and more for assistance—we are placing more reliance on fresh air; on proper exercise and good food, on the drinking of waters at the right time and in proper quantities. This is especially true of mineral waters, and not alone are the physicians alive to these facts, but the thinking people, of whom more and more are realizing it.

This is so true that these same thinking people are guarding the mineral springs of the world, and so it happens that the people of this State in appreciation of these facts have said that the mineral springs at Saratoga Springs shall be preserved for their use.

The number of these springs and the manner in which their properties vary, enables the *Kurarzt* to meet many clinical indications, and he can confidently seek therapeutical success here in the virtue of Nature's wholesome forces in the admirable combination of air, exercise, baths, and waters which assist to so great a degree in the increasing of the powers of nutrition and so of resistance of the human organism. It was with this knowledge in mind and with the hope of furthering such a work that a "cure" has been established in Saratoga Springs, where the laboratory side has been given the prominence it justly deserves, for it is through the laboratory findings that we best judge the condition of a patient's metabolism and follow the effect of our régime with accuracy.

The conditions that can be successfully met are many, and principally those of disturbed metabolism. How this is so may be in part deduced from the work of Chittenden and Mendel, from whom I quote in regard to the rôle played by the inorganic salts in metabolism:

> The inorganic constituents of the diet possess a significance in no degree commensurate with their lack of energy yielding qualities. The profound osmotic effects which the inorganic salts of the body fluids are concerned in; the phenomenon of saline diuresis and acceleration of lymph flow; the marked effects on the muscular and nervous structures; and the peculiar antagonistic relations of differentiations such as sodium, potassium, and calcium leave no doubt as to the importance of the inorganic foods in modifying metabolic processes.

The Saratoga Mineral Springs are divided for therapeutical purposes into the alkaline saline group. They vary in strength and some of them contain sufficient iron to be of value medicinally. There are also sulphur springs. To obtain the best results in using the waters it is obvious that no hard and fast rules can be laid down, but it is essential that they should be drunk at the spring itself to get them at the temperature at which the waters leave the earth, and in their freshest state when they are not only more efficacious but more palatable.

A proper discrimination must be made in prescribing the waters, for like any drug they may be exerted for harm as well as good, and it is only in those cases to which an individual water is adapted and properly taken, that we can expect to see the wished for result. Indiscriminate drinking, especially indiscriminate mixing, has done much harm in causing severe headache, loss of appetite, intestinal irritation with diarrhea, and a feeling of general malaise.

It is not possible in the time allotted, to read a lengthy paper describing the numerous conditions in which the Saratoga Springs are indicated, but I do wish to touch upon a few in which especially good results have been obtained.

There is a certain class of patient very familiar to you here in the city—the high pressure business man. He works up to his limit to find himself unable to sleep, easily fatigued, indifferent to his food, and comes to you complaining of attacks of nausea, giddiness, and headache, and of an obstinate constipation. Physical examination reveals little more than a moderately high tension pulse. With this man who so very often passes on to the later stages of arteriosclerosis and its resulting complications, the *Kurarzt* can work a transformation if he is able to secure a proper cooperation.

The patient is placed in the pleasantest of environments and his overeating and overdrinking are replaced by a light rational diet. He takes ten hours' rest instead of six. In combination with these, active catharsis, diuresis, and diaphoresis are obtained by the mineral waters to result in greatly increased elimination and a consequent decrease of the patient's symptoms, for the toxemia of faulty metabolism from which he has been suffering is weeded out as it were, roots and all, and a blood pressure which has hovered around 180 finds its way back to 150 or 140 and often even more near the normal.

Our records show that it is not alone in the early cases of high blood pressure that relief can be obtained by the cure régime, but in many cases of long standing arteriosclerosis with its accompanying unpleasant symptoms. A case will serve as an example.

Case I. Mrs. R., eighty-seven years old, came to us complaining of loss of strength, inability to sleep, nausea, giddiness, headache, shortness of breath, a cough, and occasional moderately severe pains localized over the heart and radiating down the left arm, obstinate constipation, and frequent micturition. Physical examination showed a fairly well nourished woman, well developed, showing marked signs of atheroma. The heart was hypertrophied in the left ventricle. The aortic second sound was ringing and accentuated. In the lungs there was slight dullness at both bases and subcrepitant râles. The abdomen was distended, the liver enlarged and tender. The laboratory findings showed the urine to be straw colored, clear, with a specific gravity of 1.010; albumin traces; sugar, none. Microscopically, an occasional hyaline cast and a few finely granular casts were found; also a few white blood corpuscles. The blood pressure was 210.

Treatment.—The patient had been getting large doses of aconite and nitroglycerin, which were gradually withdrawn and she was placed on a light diet and on the alkaline saline water given as follows:

Strong alkaline saline, two glasses half hour before breakfast; weak alkaline saline, two glasses at 11 a. m.; weak alkaline saline, two glasses at 4 p. m.; weak alkaline saline, two glasses at 8 p. m.

The distention of the abdomen, accompanied with a

*Read before the Medical Association of the Greater City of New York, November 20, 1911.

few days as did the coating of the tongue. The constipation was relieved, and the nausea and giddiness grew less and less until within a week there was no trace of it left. The trouble at the base of the lungs went at about the same time. The blood pressure at the end of two weeks of treatment was 170 mm. of mercury. This patient who came to Saratoga in the care of a nurse, and who was not expected by her family to return alive, went back to her home at the end of her course able to enjoy a good night's rest and to relish a meal.

In diabetes we have seen so many remarkable improvements both in early and late cases that we have come to look upon the use of our mineral waters as being of the first importance in the treatment of this disease, where the alkalinity of the blood is always low from the continued loss of its inorganic constituents. By using large quantities of our alkaline mineral waters we increase the alkalinity of the blood and restore the osmotic properties of the body fluids to their normal condition.

Case II. On July 17, 1909 Mr. W., a German Jew, of Brooklyn, was brought to us in a semicomatose condition. A history obtained from his wife was as follows:

He was a tailor by occupation and had always been well until two years previously, when he began to lose flesh and strength, complained of excessive thirst and hunger, and a constant itching. He was relieved by treatment at that time, but had frequent relapses and was forced to give up his business. Personal habits good. Moderate alcoholic history. The physical examination showed a well developed man, poorly nourished, the skin and mucous membranes dry and anemic, the tongue also coated and dry. The heart and lungs were negative, also the abdomen. The blood pressure was 180. The laboratory findings showed the urine twenty-four-hour specimen, 2,050 c. c., to have a specific gravity of 1,037, to be amber in color; albumin, a trace; sugar seven per cent. Diacetic acid was present, also acetone in considerable amount, as well as hyaline and finely granular casts.

Treatment.—The patient received ten grains of calomel followed by the cathartic saline waters, and was put on an oatmeal diet. Large doses of the bicarbonate of sodium were given in addition to the mineral waters until the coma cleared up. The patient at this time was geeting eight quarts of the mineral water a day.

At the end of the second month of the cure the patient went home well nourished and in good condition. His urine at that time showed 0.7 per cent. of sugar and a very faint trace of diacetic acid. There was no albumin, but a rare hyaline cast was present. This patient returned the following summer and was still in good condition, having lived within the carbohydrate tolerance established. His urine at this time showed 1.2 per cent. sugar with a trace of diacetic acid.

As high as eight quarts of our alkaline waters have been taken in twenty-four hours for several days before we could get the desired result—an alkaline urine. This once obtained we feel very comfortable concerning our patient, for we are sure that with a proper diet a good result will follow. In the diet, care must be exercised not to withdraw the carbohydrates to too great an extent: in fact in many cases they have to be increased, for we have found that patients can take large quantities of it providing only one kind is given. With most patients oatmeal is tolerated best and wheat flour least. We no longer subject our patients to the greatly reduced diets that once obtained.

The mineral waters in acting directly upon the gastrointestinal tract give more striking results than in any other place. In chronic gastric catarrh with abundant production of mucus, atony of the muscular coats of the stomach and diminished reflex irritability of the mucous membrane, the carbon dioxide in combination with the alkaline water acts, not only as a solvent of the mucus, but as a direct stimulant to the stomach wall to result in both increased motility and increased secretion. In both hyperchlorhydria and hypochlorhydria, contradictory as the statement may seem, the alkaline waters produce a beneficial effect, for they neutralize the excessive amount of acid in the one condition and induce renewed and continued secretion of the gastric juice in the other. Chronic congestion of the liver, another manifestation of disorder in the overeating and overdrinking individual, as well as that form induced by disease of the heart, is frequently and successfully treated by mineral waters and the "cure" régime. In beginning disease of the gallbladder and bileducts brilliant results have been obtained in the early stages of inflammation before too great a change has taken place in their mucous membrane, for if we unload the portal circulation of its toxic substances we lessen the absorption from this source and give the bileducts a chance to recover, where otherwise the inflammation would extend to produce a cholecystitis, cholangitis, and cholelithiasis or to the pancreas setting up a chronic pancreatitis with a long chain of indefinite and troublesome symptoms. Gallstones having once been formed, all that we can strive for is in a measure to lessen the resulting inflammation, but we can never hope to eradicate these stones.

In order to overcome chronic constipation it is necessary to prescribe a correct diet and a goodly amount of exercise, for the lack of these is the commonest of all the numerous causes of the condition. In treating chronic constipation the saline water is taken before breakfast at its normal temperature and in sufficient quantity to produce a watery movement. There has arisen at the spring where the morning waters are drunk, a bad habit of heating the mineral waters with the mistaken idea that they are more active when taken hot. I believe that the cool water excites reflexly intestinal peristalsis and energizes intestinal action, while warm water does not and it is for this reason that I always require my patients to drink the water at its normal temperature, which is 50° F. After a course of six to eight weeks of this water, permanent good results are frequently obtained. The treatment of chronic constipation alone is a sufficient topic for a lengthy paper and I regret to leave it with these few remarks.

The conditions I have spoken of are among the more frequent which are treated at Saratoga, but there remain others which need at least a word. In gout and gouty arthritis, an increased uric acid output has been demonstrated in the laboratory and the patient has shown a corresponding improvement. Rheumatoid affections are improved by baths, manipulations, and waters. In nephritis the increased elimination caused by the waters gives marked relief. Skin diseases are improved both by the sulphur baths and by the saline-alkaline waters. Obesity is well controlled by these same waters and by exercise and diet. The anemias and chlorosis do well in the tonic environment in combination with those saline waters containing considerable traces of iron.

The baths have always taken a secondary place in

the "cure" régime at Saratoga Springs and this must of necessity continue to be so. They are, however, a great addition to our armamentarium, the efficiency of which will be still further augmented when we secure more modern bathing facilities. The baths as at present are administered at a temperature ranging from 65° to 110°F. and for varying lengths of time according to the effect one wishes to obtain, and are indicated in all diseases where baths in general are indicated. Hot air treatments, massage, Swedish movements, and electricity are all at hand.

In conducting the course of treatment each patient must be considered individually in regard to the nature of his disease, his powers of resistance, and his previous habits. It is necessary in all cases to regulate the diet, but not to the degree that is often resorted to in the cures abroad. . The daily programme of an average individual who is taking the cure will be somewhat as follows:

DETAIL OF TREATMENT.

The patient arises at 7 o'clock to drink the morning cathartic waters, which are taken slowly. He is instructed to use up five minutes in drinking each glass and between glasses to walk about for fifteen minutes. The last glass having been taken the patient continues to walk for one half hour more, after which he returns to his hotel for a light breakfast. The waters are found to be sufficiently active when from one to four glasses have been taken. The prescribed alkaline waters are drunk before or after meals according to the results one wishes to obtain. If waters are to be drunk in considerable quantities a glass of the weaker alkaline-saline group is ordered every two hours. When baths have been prescribed they are taken either before breakfast or two hours after breakfast. Those who are to exercise fill in one or two hours, beginning one hour after breakfast, others at this time taking massage, Swedish movements, or electricity. The hearty meal is eaten at midday, the patient resting for an hour afterwards. He then takes a walk, a drive, or enjoys a game of golf or tennis, returning in time for the music and a social hour at the Casino at 4 o'clock, and drinking the water again as prescribed. Eating a light meal at 6 or 7 o'clock the patient retires early. Those who are too ill to take active treatment and who need special diet and care, are treated in institutions well equipped for the purpose.

The length of time which may be spent at the spa, with the best results for the patient, necessarily varies. The average time may be placed between three and four weeks, but those suffering from chronic disorders get the maximum of benefit from as many months. This, however, is best determined by the condition of the patient and the effect of the treatment upon him. .

The departing patient is warned not to resume active commercial or social duties too soon, for though it is not necessary to take an after cure as is the case in many foreign spas, he should get into the harness, so to speak, slowly, continuing the open air life and simple diet until strength and well being are thoroughly established.

540 BROADWAY.

HYPERTRICHOSIS; ITS TREATMENT WITH THE X RAY.*

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The treatment of hypertrichosis, or superfluous hairs, is one of the most difficult problems dermatologists have to contend with. It is true that the condition is not a serious one as far as the physical well being of the patient is concerned, but it is almost impossible to overestimate the mental injury which this ailment sometimes produces in the unfortunate subjects afflicted with it. I have seen them almost on the verge of becoming subject to melancholia, merely as the result of seeing these hairs on the face become darker, coarser, and more abundant as the years pass on. They fall the natural prey to advertising quacks, becoming more and more discouraged as they go from office to office without relief from their affliction, shunning the light and avoiding their companions, they often present an abject picture of mental misery indeed.

Up to a moderately short time ago the only treatment that afforded any relief to these patients was electrolysis. This consists in using galvanic electricity, putting the patient in contact with the positive electrode, attaching a needle to the negative electrode, and inserting it into each hair follicle, leaving it in for a few second until the follicle is destroyed and then withdrawing it. This is always a more or less painful procedure, the amount of pain depending upon the individual susceptibility of the patient. The result is not always satisfactory, for a certain percentage of the hairs removed will return, even with the most careful technique, and have to be removed again and again before the follicle is completely destroyed.

Where we have to deal with a limited number of dark coarse hairs, this treatment is still the method of choice and offers the best and quickest results; but where we have a patient with a great many hairs, sometimes involving practically the entire face, treatment by electrolysis offers very little relief.

We cannot remove all the hairs; a great many keep on returning, and where the hairs are closely approximated we are bound to get a certain amount of scarring. These patients keep on with treatment for years until they grow tired and give up in despair. I do not mention the use of the various depilatories at all, because their use does not constitute any treatment, but is simply a method for temporary removal.

This was the status of the treatment of hypertrichosis until the x ray era began. Shortly after we began using the x ray for therapeutical purposes, we found that it was a very simple matter after a certain number of treatments, to produce a complete alopecia of the part treated. We made use of this with brilliant results in the treatment of certain affections of the hair follicles, such as sycosis, trichophytosis, favus, etc. Then we found that even after a complete alopecia was produced, if the treatment was then discontinued the hairs would generally return in two or three months, but if an

*Read before the Eastern Medical Society, December 12, 1911.

occasional exposure was given for a certain length of time the alopecia could be made permanent. This is the principle on which our treatment of hypertrichosis with the x ray is based.

During the past ten years I have treated about 100 cases of hypertrichosis with the x ray in private practice, and have gradually developed a technique which, while far from being perfect, is nevertheless becoming more and more satisfactory I limit my choice of cases for this treatment to those patients who have a great many dark hairs or long light lanugo hairs (these cases are almost impossible for electrolysis), and to those nervous patients who are so susceptible to pain that they absolutely will not submit to electrolysis.

There are two ways of producing alopecia with the x ray. One is by giving one long exposure (using a Sabouroud and Noire pastille until a so called physiological or epilating dose is given) and then waiting for the hairs to fall out, and the other is by giving repeated short exposures until the same result is accomplished. I prefer the latter, because I have found that these pastilles do not make any allowance for x ray idiosyncrasy and that either through some change that they undergo in transit, or perhaps through some difference in the climate, become somewhat unreliable and the possibility of a severe radiodermatitis is more to be feared.

The patient must be very carefully protected and the x rays should never go beyond the area treated. We must keep in mind that mucous membrane, lips, nostrils, eyes, etc., are much more susceptible to the action of x rays and they must be especially protected. This all can be done by covering the x ray tube with a ray proof shield, permitting the rays to come through only a small opening, dividing the face into small areas, and treating each area in rotation. As an additional safeguard, I take thick rubber matting, a piece of which is tied over the lips, and another piece, with an opening just large enough to cover the section to be treated, is held directly in front of the tube opening.

Different size openings in the shield are used to treat the different areas, and the parts treated are put in direct contact. This all sounds rather complicated, but as a matter of fact it is very simple.

The strength of an x ray exposure depends upon three factors: 1, The quality of the x ray; 2, the distance between the x ray tube and the part to be treated; 3, the length of exposure. By varying either one of these factors we can change and regulate the amount of x ray given.

For therapeutical applications for dermatological cases, I have found that an x ray tube which is pumped cold, from which the air is not so thoroughly exhausted, will hold its vacuum much longer and will give more satisfactory results. The tubes best adapted are the fifty to fifty-five centimetre heavy anode Gundelach or the self regulating Müller type variety. The apparatus I am using is a twelve inch coil equipped with a Cunningham mercurial interruptor and two rheostats, one for regulating the speed of the interrupter, and the other the amount of current sent into the primary coil.

The apparatus does not require more than about two ampères, and I have found that by regulating the rheostats carefully (working the interrupter and coil in perfect harmony and not using more current than is necessary to give a good ray) I can use a tube for a considerable length of time (about thirty minutes) without getting it hot. This is rather important, because if we divide the face into five or six areas and each area receives five minutes' treatment it will total up to twenty-five or thirty minutes. As soon as a tube becomes hot the vacuum gets very low and it is advisable to either change the tube or to wait for it to cool.

Putting a Villard valve tube in the circuit cuts off a great deal of the inverse rays and gives a better and steadier light. The ray from a medium vacuum tube, one backing up a three to four inch spark is perhaps the best for producing alopecia. A high vacuum tube is too penetrating and passes through the skin too rapidly, and a very low vacuum tube is liable to proluce a more rapid and a much more severe dermatitis.

I begin with three treatments a week of five minutes' duration to each area treated and gradually diminish the length and frequency of the exposures. Before we can succeed in epilating the hairs, we must produce a mild x ray dermatitis; to manage so that we get just enough dermatitis to make the hairs fall out and no more is the most difficult problem of the treatment. Considering that the treatment is mainly for cosmetic reasons, you can readily understand that the production of a severe x ray burn is a very undesirable mishap in the treatment of these cases. We must not get beyond a first degree of dermatitis. At this stage the hairs fall out and in about two or three weeks from the last treatment given the skin resumes practically a normal appearance.

The average length of time necessary to produce an alopecia by this gradual method is about six weeks. It varies from four to eight weeks, depending upon the patient's susceptibility to the x rays. Treatment is now discontinued until all redness disappears (about two or three weeks) and then resumed once a week from three to five minutes to each area treated. I have found that if these prophylactic treatments are persisted in for about ten months, at the end of that time there is very slight probability of the hairs returning. If during these months a dermatitis develops at any time, treatment must be immediately discontinued until this disappears and then resumed in a very guarded manner. Occasionally some of the hairs return during the prophylactic treatment period, in which case a few vigorous treatments will make them fall out again. It requires very much less x ray to epilate the second time than the first.

As to the disadvantages of the treatment, unfortunately there are some. We occasionally get a peculiar characteristic telangiectic condition of the skin a long time after treatments have been discontinued. The amount of this telangiectasis depends a great deal upon the amount of dermatitis that has been produced. This is an additional reason for being very careful in limiting the amount of dermatitis. While this is somewhat disfiguring, I do not think it is any worse than the usual amount of scarring we get in a very bad case of hypertri-

chosis that has been treated with electrolysis. There are several things that can be done to improve this telangiectasis when it appears. Application of radium, destruction by the high frequency spark, solid carbon dioxide, or electrolysis may be tried. The treatment is very similar to that of superficial nevi.

Sometimes we get a wrinkled appearance or a white atrophic condition of the skin. To avoid these, for the last two years I have been applying towards the latter part of the prophylactic period in connection with the ray treatments, vigorous applications of high frequency effluves and massage with the object of facilitating the resumption of normal circulation in the skin.

While it is somewhat too early to draw definite conclusions as to the value of this adjuvant method, it appears to me to be of decided value in lessening some of the deleterious effects. In some cases we get an increase in the amount of pigmentation produced. I have found that after treatments are discontinued this generally tends to fade out and improve with time. It may be treated as an ordinary chloasma.

As regards the objection to the length of the treatment, I merely wish to say that this treatment is mainly adapted for extensive cases of hypertrichosis, and that in these cases the only other available method (electrolysis) takes at least as long or longer with much less satisfactory result to be expected. I frequently get a history of years of electrolytic treatment with very little benefit accomplished.

While I tried to impress upon you the fact that the treatment is connected with a certain amount of danger and that there are unquestionably deleterious possibilities, I must also add that to the best of my belief there is not one of the hundred patients I have treated who does not think that her present appearance is a decided improvement over that she presented when she was afflicted with hypertrichosis.

30 East Thirty-third Street.

A COMPARATIVE STUDY OF THE WASSERMANN AND WEIL COBRA VENOM REACTIONS FOR SYPHILIS,

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A comparative study of the Wassermann and Weil cobra venom reactions for syphilis carried on during the past year has brought out certain points which seem to us to merit attention as indicating that the Weil reaction is a valuable adjunct to the Wassermann reaction in the diagnosis of syphilitic conditions.

I.—THE WASSERMANN REACTION.

The principles and technique of the Wassermann reaction are so well known that it seems superfluous at this time to enter into a description of them. The original method has been adhered to except in two particulars: 1. In order to economize material the quantities of the patient's serum and of the various reagents has been reduced in definite proportion; 2, on account of the difficulty experienced in obtaining syphilitic fetal livers and also on account of the instability of the watery extract, we have used as an antigen either alcoholic extracts of animal organs or the ether-soluble acetone-insoluble organ extract as recommended by Noguchi.

II.—WEIL'S COBRA VENOM REACTION.

This reaction was first described by Dr. Richard Weil, of the Loomis Laboratory, Cornell University Medical School.

It seems advisable here to briefly describe the steps leading to the development of the test, and in doing so we shall largely quote verbatim from Weil's original paper (1).

In testing a number of hemolytic agents against human red blood cells, derived from individuals suffering with various types of disease, Weil obtained the most interesting results with cobra venom. These results corroborated H. Sachs's (2) earlier observation, that red cells taken from different individuals of the same species manifest a varying degree of resistance to the action of cobra venom, and Sachs suggested that the venom might be used as an indicator of the amount of lecithin present in the various tissues. That this variability in the resistance of the red cells to the action of cobra venom should exist is not surprising, according to Weil; it might be expected that there would be some variability among tissue cells, in this respect, as in all others. It has been pointed out by a number of observers that such variability toward the action of other hemolysins than cobra venom exists among the individuals, not only of the human but of other species. There is, however, a greater variability in the resistance of human red cells in various diseases toward cobra venom than toward most other hemolysins. The condition which Weil found to present the most marked degree of resistance to the action of cobra venom was syphilis after it had passed the primary stage. The very early cases of lues with chancre or the primary roseola are often characterized by the opposite condition, namely, supersusceptibility to the action of venom. This is in accord with the secondary anemia which so frequently accompanies the onset of the primary rash. Normal individuals and various diseased conditions manifest variability of resistance within certain narrow limits, but this never approaches the degree of resistance characteristic of syphilis. It was found upon analysis that all cells manifesting a certain degree of resistance were derived from advanced syphilitics, while all those manifesting distinctly less resistance were derived from other conditions. It was further found possible to class the former as positive, the latter as negative.

TECHNIQUE.

About two cubic centimetres of blood is drawn from one of the veins at the bend of the elbow into a test tube containing from five to ten cubic centimetres of two per cent. solution of sodium citrate in 0.9 per cent. solution of sodium chloride. This

may be prepared for use on the same day or, preferably, it is kept twenty-four hours in the ice chest. The cells are washed at least four times in 0.9 per cent. saline solution, and are then made up into a four per cent. suspension in the 0.9 per cent. saline. It is most essential to remove the serum very thoroughly, as it interferes decidedly, even in slight trace, with the action of cobra venom. The cells are washed in very accurately graduated centrifuge tubes, and for the last centrifugation should always be washed at the same rate of speed and for the same length of time. The accurate dilution of the cells is a matter of great importance, and unless these rules are observed the results will not be consistent. The cells may be tested immediately or after a brief period in the ice box. If they are to be tested immediately, the salt solution in which they are suspended should be kept in the ice chest until used, as by so doing the initial temperatures at which the mixtures of cobra venom and cells are made is always approximately the same. The cobra venom, which is kept in the dried state, is made up very accurately in small quantities into a 0.05 solution in 0.9 solution of common salt. From this stock solution higher dilutions are prepared as required and are kept at a constant low temperature. At the Cornell Laboratory we have found that these dilutions did not retain their strength for more than four to five days, when kept at the ordinary ice chest temperature, and as a result there was great loss of material unless a great many tests were being carried through. We have, however, found that by keeping the stock dilution constantly frozen solid it has retained its strength unimpaired for six weeks or longer. The resistance of the cells to cobra venom may be tested rapidly, according to Weil within an hour, or more delicately after twenty-four hours. The second method is the only one we have employed and is the only one we shall describe here. Four solutions of the cobra venom are prepared, namely, one in 10,000, 20,000, 30,000, and 40,000. One cubic centimetre of the red cell suspension is added to one cubic centimetre of the various venom solutions. The mixtures are incubated for one hour at 37° C., are then thoroughly shaken, and kept in the ice chest over night. On the following day the mixtures are taken from the ice chest, thoroughly shaken, and the final reading made one hour later. Cells which have apparently not hemolyzed when first taken from the ice chest will be found to have completely hemolyzed one hour after shaking. At the final reading any cells which do not show complete hemolysis at one to 10,000 are regarded as strongly positive; cells only moderately hemolyzed at one to 20,000 are regarded as positive; cells showing complete or almost complete destruction at one to 20,000 are regarded as negative; cells showing complete destruction at one to 30,000 are regarded as negative; and cells showing complete destruction at one to 40,000 are regarded as extremely susceptible to the venom. The results for the whole series of dilution should be concordant, if not, the entire set of tubes should be rejected and the mixtures made afresh. It is to be remembered that the various samples of venom may differ in strength, but a preliminary titration against corpuscles derived from known cases of lues and controls will determine the value for any given sample. As the strength of the dried venom does not vary, this preliminary titration gives a constant standard for that sample. Weil states that in infants and young children the normal red cells hemolyze much more readily than those of adults. In disease, however, the cells acquire the same degree of resistance as do those of adults.

As blood is frequently sent into the laboratory in a clotted condition it occurred to us that it might be an advantage at times to be able to perform the Weil test on such clotted cells. A number of experiments have been carried on at the Cornell Laboratory to see if this were feasible, and so far our experience, though limited, would seem to indicate that it is. The clot is broken up in the citrated saline solution and allowed to stand several hours in the ice chest. The cells are then washed and made up into a four per cent. emulsion in saline solution as described.

Five solutions of the cobra venom are prepared: One to 5,000, 10,000, 20,000, 30,000, 40,000, and the remainder of the technique as given above is followed. At the final reading cells not completely hemolyzed in one to 5,000 are regarded as strongly positive; cells only partially hemolyzed in one to 10,000 as positive, and cells almost completely or completely hemolyzed in one to 10,000 as negative. It will be seen that the clotted cells seem to have acquired a slightly increased resistance to the action of the cobra venom; so that the readings have practically to be made in the one to 5,000 and one to 10,000 tubes instead of in the one to 10,000 and one to 20,000, as in the case where the blood is taken directly into citrated saline solution.

Weil says that in interpreting the degree of resistance of the red cells, three independent criteria are employed, which, however, practically always vary in the same direction and to the same extent. These criteria are, 1, the rapidity with which hemolysis begins; 2, the degree of completeness at the end of the period of observation; and, 3, the tendency of the red cells as the test proceeds either to sink rapidly to the bottom of the tube or to remain suspended in the fluid. If the red cells are susceptible, hemolysis often begins within the first half hour in the incubator; it tends to be marked in the weaker dilution of venom at the end of the experiment; and the undestroyed cells sink rapidly to the bottom of the tube. These conditions are reversed in the case of resistant corpuscles. The cause of the change in the relative specific gravities of the red cells and the fluids has not been determined.

In attempting to explain the action of the test, Weil says that the question arises as to whether the altered resistance of the red cells is to be regarded as a direct result of the action of the syphilitic virus or a reactive and protective response of the organism to the action of the virus. The preliminary period of supersusceptibility would seem to indicate that the increased resistance is a reactive phenomenon rather than a direct result of the action of the syphilitic virus. It has been shown that this resistance to cobra venom is specific and that

the syphilitic red cells show no increase of resistance to other hemolytic agents. Weil suggests that possibly the luetic virus attacks the same cellular constituent as cobra venom. Kyes (3) found that if a watery solution of cobra venom be shaken up with a solution of lecithin in ether, the hemolytic element combines with the lecithin to form a cobra lecithide insoluble in ether and possessing intense hemolytic powers. Ludecke (4), later von Dungern and Coca (5), and still later Manwaring (6) have found that this hemolytic end product does not retain any of the properties of cobra venom and so prefer to call the active principle of cobra venom *Cobralecithinase* and the hemolytic end product *monofatty acid lecithin.*

Kyes showed that in all respects such lecithin acts as a complement, and that where cobra venom injected alone causes hemolysis, the action is to be explained by the preexistence of lecithin as a constituent of the corpuscles, forming an endocomplement. He further showed that the mere existence of lecithin is not sufficient—all erythrocytes contain lecithin, but not all are attacked by cobra venom; therefore the lecithin to act, must be in a free or available state. Cobra venom acts immediately on the red corpuscles of some animals, such as the guineapig; has no action on others, such as the ox, sheep, or goat, but can be activated in the latter cases by the addition of guineapig serum, solution of lecithin, etc.

Lecithin, with a relatively small amount of cholesterin is said to form thirty-three per cent. (7) of the solid ingredients of the red cells. Overton and Albrecht have independently suggested that the lipoids, by peripheral concentration, constitute the semipermeable membrane investing the cell. Koeppe (8), Peskind (9), and others have shown that the hemolytic activity of substances, such as chloroform, ether, bile salts, etc., probably depends upon their being solvents of lecithin.

On the other hand, Wassermann advances the hypothesis that the antibody of syphilis is a toxine which has a marked affinity for lecithin and forms a toxolecithide. Citron suggests that there may be two bodies in the serum, 1, the reagin, a true antibody; 2, a soluble portion of the syphilitic virus. These two can only unite in the presence of a suitable lipoid. Lecithin, as has been already noted, is an important constituent both of red cells and plasma. It therefore seems possible to assume that the amount of lecithin in the red cells is diminished in syphilitic conditions, and in consequence a smaller amount of the toxic cobra lecithide or monofatty acid lecithin is produced in the red cell. As a matter of fact it seems to be fairly well established that lues does attack the lipoids of the body and that the amount of lecithin which can be extracted from the tissues is less in syphilitic conditions than in normal individuals.

There is one further question to be considered, and that is, What rôle does the sodium citrate play in the reaction? We are convinced that it plays an important if not an essential rôle, inasmuch as we have been unable to obtain satisfactory results unless the red cells were exposed to its action. It has been stated previously that, although all erythrocytes contain lecithin, they are not all hemolyzed by cobra venom; the lecithin to act must be in a free or available state. The lipoids, especially lecithin, in common with other colloids, organic and inorganic, are cleared up or precipitated by different concentrations of the same salt—these salts, therefore, acting as reversing agents. The salts of sodium have this power, and it may be that the sodium citrate causes some change in the lecithin or in the surface tension of the cells and their contents, which renders the lecithin available for the formation of the cobra lecithin. On the other hand, Noguchi (10) has shown that corpuscles treated with strong venom solution undergo a change which prevents the hemolytic process under the solvent action of venom, and also alters the corpuscles so that no hemolysis takes place, even in hypotonic media, like water. He found that the venom forms an insoluble precipitate with different constituents of the blood (e. g., hemoglobin, globin, and globulins), and it is this compound which seems to render the corpuscles nonhemolyzable. The compound thus formed is soluble in acids and alkalies. Noguchi found that not all kinds of blood are subjected to this change under the influence of venom. Where there is no protective phenomenon it is also found that the hemoglobin of such blood is not able to form the water insoluble precipitate with venom. Herein lies another possible explanation of the action of the sodium citrate. Further study of these conditions is required to determine the exact mode of action.

Tabulated Summary of Wassermann and Weil Tests made on Cases of Syphilis, Cases for Diagnosis, and Control Cases.

	No. of cases.	Wassermann				Weil			
		Positive.	Per cent.	Negative.	Per cent	Positive	Per cent	Negative.	Per cent
Syphilis.									
I. Primary	46	35	73.9	11	26.1	25	54.3	21	45.
II. Early active.									
(a) Little or no treatment	94	62	96.8		3.2	44	67.1	21	32.9
(b) Considerable treatment recently.	5	1	20.0	4	80.0	4	80.0	1	20.
III. Early latent.									
(a) Little or no treatment	20	18	90.0	2	10.0	15	75.0	5	25.0
(b) Considerable treatment recently	28	9	32.1	19	67.9	19	67.8	9	
IV. Late active.									
(a) Little or no treatment	49	38	77.5	11	22.5	40	81.6	9	18.4
(b) Considerable treatment	9	5	55.5	4	44.5	8	88.8	1	
V. Late latent.									
(a) Little or no treatment	72	35	48.6	37	51.4	55	76.3	17	23.7
(b) Considerable treatment	63	15	23.8	48	76.2	32	50.7	31	49.3
VI. Cases for diagnosis.									
(a) Luetic history more or less definite	31	4	12.8	27	87.2	12	38.7	19	61.3
(b) No luetic history obtained	174	5	2.9	169	97.1	45	25.8	129	74.1
VII. Control cases suffering from various diseases, but giving no history nor signs of lues	75			75	100			75	100

Cases for Diagnosis.

Clinical Diagnosis.

Table II. Luetic history more or less definite.

	Wassermann.	Weil.
1. Lichen planus—chancre 15 years ago	—	+
2. Cancer—old history of lues	—	—
3. Repeated miscarriages—no history but treatment	—	—
4. Repeated miscarriages—lues suspected treatment	—	—

		Wassermann.	Weil.
5.	Had hard chancre 7 years ago. Treated for lues. Now has sore on penis for 8 weeks (chancre?) which improved later on local treatment—old luetic	—	+
6.	Chancre (?) 3½ years ago—no symptoms except uveitis—no treatment	—	—
7.	Sore on penis 8 years ago—no treatment	—	—
8.	Lues 20 years ago—tabes now	—	—
9.	Aneurysm—chancre 30 years ago	+	+
10.	Chancre 25 years ago—now has convulsions; diagnosis between cerebral lues and uræmia; patient has nephritis	—	—
11.	Spasmodic stricture of esophagus—old luetic	—	—
12.	Chancre 8 years ago—now has headaches, bone pains, etc.	—	—
13.	Tabes—chancre 20 years ago	—	—
14.	Tabes—chancre 25 years ago	—	—
15.	Tabes—chancre 10 years ago. Treatment + + recently.	—	—
16.	Cardiac case—old luetic	—	—
17.	Cardiac case—old luetic	—	—
18.	Paralysis and atrophy of the muscles of shoulder girdle and adductors thumb	—	+
19.	Chronic headache and ptosis right eyelid—syphilis 6 years ago	—	+
20.	Aortitis—syphilis 15 years ago	—	+
21.	Sore on penis 8 months ago, 2 months later itchy rash appeared. Had 2 weeks injections, rash disappeared, but itch remained. Inguinal adenitis	—	—
22.	Bence Jones albumin and bone pains—chancre 40 years ago	—	—
23.	Sore on penis 20 months ago lasting 1 month, rash 6 weeks later, no headaches or sore throat	—	—
24.	Aortic disease—lues 21 years ago	—	+
25.	Lues 25 years ago—specific meningitis	+	+
26.	Lues of cord?—treatment	—	—
27.	Lues of cord	+	—
28.	Facial palsy	—	+
29.	Osteitis right hip	—	+
30.	Chancre (?) 15 years ago—now has pain in shoulders, etc.	—	—
31.	Iridocyclitis in girl of 16—thorough treatment for congenital lues for 2 years after birth. Present symptom is first one since that time	+	+

Table III—No luetic history obtained.

		Wassermann.	Weil.
1.	Gradual onset of left leg paralysis for 7 months	+	+
2.	Scleroderma	—	+
3.	Recurring iritis	—	+
4.	Uveitis	+	+
5.	Raynaud's disease	—	+
6.	Nocturnal headaches for 3 years	—	—
7.	Scabies—denies syphilis and gives no history of lesions	+	+
8.	Carcinoma of breast	—	+
9.	Tabes	+	+
10.	Aortic insufficiency	+	+
11.	Paroxysmal tachycardia	+	+
12.	Epilepsy	—	+
13.	Lepra—tubercular	+	—
14.	Hepatic disease	—	—
15.	Jaundice	+	—
16.	Chronic nephritis	—	—
17.	Chronic nephritis	—	—
18.	Cirrhosis hepatis—general adenitis	—	—
19.	Cancer	—	+
20.	Cancer stomach	—	+
21.	Leucoplakia myosis	+	+
22.	Interstitial keratitis	+	—
23.	Double optic neuritis—headache	+	+
24.	Chorio—retinitis	+	+
25.	Acute enlargement right side of neck for 9 days—chancre tonsil	+	+
26.	Ulcer posterior pharyngeal wall—luetic? or neoplasm?	—	+
27.	Tabes	+	+
28.	Mediastinal pressure	+	+
29.	Tabes	—	—
30.	Aortic disease	—	—
31.	Growth in spine with suspected metastases into long bones	+	+
32.	Paralysis—luetic?	+	—
33.	Lues of cord?—no history	+	—
34.	Aortic disease—many miscarriages	+	+
35.	Hemiplegia — uremia — double albuminuric retinitis	+	+
36.	Prolapsed ovary—lues?	+	+
37.	Iridocyclitis	—	+
38.	Addison's disease—no lues	—	+
39.	Addison's disease—same as No. 38—has improved under 2 weeks' luetic treatment.	+	+
40.	Hepatic disease—jaundice lues?	—	—
41.	Scar on cornea history of iritis as child congenital lues?	—	+
42.	Blindness left eye—congenital lues?	+	+
43.	5 cases for diagnosis	—	+
44.	8 cases for diagnosis	+	+
45.	116 cases for diagnosis	—	—
46.	Pachymeningitis—cord tumor	+	+
47.	Numerous abscesses? in past 8 years 5 miscarriages	+	+
48.	Tuberculous chorioiditis?	+	+

Table IV—Controls.

No Luetic History—Tuberculosis of lungs, 4; tuberculosis of bone, 1; tuberculosis of glands, 2; anemia, 2; pernicious anemia, 2; general tuberculosis, 1; cancer, 9; hysteria, 1; stricture of esophagus, 1; parents luetic baby, 2; hernia, 1; acute rheumatism, 1; cirrhosis hepatis, 1; periostitis, 1; psoriasis, 3; Pott's disease, 1; osteomyelitis, 1; erythema induratum, 1; bursitis, 1; chancroid, 3; ecthyma, 1; arthritis, 2; pityriasis rubra pilaris, 1; erythema multiforme, 2; acute iritis, 1; keratitis, 1; chorioretinitis, 1; retinitis hemorrhagica, 1; Raynaud's disease, 1; pneumonia, 1; pleurisy, 3; acute amygdalitis, 1; tumor cerebri, 2; tumor of orbit, 1; tumor of neck, 2; leucoplakia, 1; scleroderma, 1; hemiplegia, 1; chronic anterior poliomyelitis, 1; sarcoma, 1; cerebral hemorrhage, 1; gonorrhea, 2; spastic paraplegia, 1; interstitial keratitis, 1; retinitis pigmentosa, 2; retinitis striata, 1; degeneracy, 1; Jacksonan epilepsy, 1.

Total, 75 cases, all negative by both tests.

ANALYSIS OF THE TABLES.

A study of the tables reveals, 1, that the Wassermann reaction is much the more sensitive in the early untreated stages of syphilis. In the primary stage the Wassermann test gives a positive reaction in 73.9 per cent. of the cases, the Weil only 54.3; in the early active cases, with little or no treatment, the Wassermann test is positive in 96.8 per cent., the Weil in 67.1; in the early latent cases, with little treatment, the Wassermann test is positive in 90.0 per cent., the Weil in 75 per cent.

2. In the later untreated stages of the disease the opposite condition obtains, namely, the Weil test is more sensitive than the Wassermann. In the late active cases, with little or no treatment, the Wassermann test is positive in 77.5 per cent., the Weil in 81.6; in the latent untreated cases the Wassermann test is positive in 34.7 per cent., the Weil in 76.3.

3. On turning to the treated cases we find that the Weil reaction is much the more sensitive throughout. In other words, the Weil reaction persists much longer after mercurialization and therefore offers a further diagnostic and therapeutic test. We have compared the two reactions in very few cases of syphilis treated with "606," but so far the results obtained have been the same as those obtained in cases treated with mercury.

Cases for diagnosis: I. Luetic history more or less definite. The Wassermann and Weil reactions agree throughout, except in seven instances. In cases 1, 4, 5, 18, 19, 20, 24, 28, and 29 the Wassermann test was negative and the Weil positive. In all these there was quite a definite history of lues, and therefore again goes to show that the Weil reaction is more sensitive in old cases of syphilis. In Case 27 the Wassermann was positive and the Weil negative.

II. *Cases with no history of lues:* In only one condition have we obtained frank, positive results with the Weil reaction where syphilis could apparently be absolutely excluded, and that is advanced carcinoma. Here three positive results were obtained out of a total of twelve examined. The red cells of people suffering from advanced carcinoma are known to have increased resistance to all hæmolytic agents. In cases of hepatic disease and chronic nephritis the red cells seem to have a somewhat increased resistance to the cobra venom, but we have never seen any cases which could definitely be called positive. In scleroderma and Raynaud's disease the Wassermann test was negative and the Weil positive; both of these conditions are looked on by many as being of syphilitic origin in some cases, and the Wassermann test has frequently been reported as positive in both conditions. In one case of jaundice the Wassermann test was posi-

tive and the Weil negative, which would seem to indicate that possibly the Weil reaction will be of service in cases of jaundice where the Wassermann test cannot be used. One case of tubercular leprosy gave a positive Wassermann reaction and a negative Weil. A case of Addison's disease gave a negative Wassermann reaction and a positive Weil. at the first examination, whereas both were positive after two weeks' luetic treatment under which the patient's condition distinctly improved. It is likely the patient had a syphilitic affection of his suprarenals. This change from a negative to a positive Wassermann reaction as a result of moderate treatment is not uncommonly seen. In a case of iridocyclitis and one of recurring iritis, which were both looked upon as luetic, though no history could be obtained, the Wassermann reaction was negative and the Weil positive. Neither case could be followed. In several cases of affection of the nervous system, in some of which lues was suspected, though no history could be obtained, and in others where a definite history was present, the Wassermann test was positive and the Weil negative. Our experience so far leads us to think that the Weil test is not as sensitive as the Wassermann in syphilitic affection of the nervous system. Five cases sent for diagnosis gave a negative Wassermann reaction and a positive Weil. They could not be followed. In 124 cases sent in for diagnosis the reactions agreed. Seventy-five cases of patients suffering from various other diseases and having no history nor signs of syphilis were all negative by both reactions.

In conclusion, we should say that the Weil reaction seems to be specific for syphilis, with the sole exception of carcinoma. The Wassermann and Weil reactions do not run parallel, but are complementary to each other—one proving sensitive under conditions where the other fails. We therefore consider that the application of the two tests, both in the diagnosis and therapeusis of syphilis, is highly important.

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LETTER FROM LONDON.

Protests against the National Insurance Act.—Paper on Sterilization of the Unfit.

LONDON, ENGLAND, *December 27, 1911*

I reported in my last letter that the medical profession in this country were very indignant at the action of the council of the British Medical Association in giving permission to their medical secretary, Mr. Smith Whittaker, to take the post of insurance commissioner under the insurance act. This feeling has grown more intense, and large meetings have been held in several important towns to protest against the betrayal of their interests by the council of the British Medical Association. A few days ago, at a large mass meeting in Manchester, resolutions were passed censuring the leaders of the British Medical Association and calling upon them to resign. On December 19th, a large mass meeting of medical practitioners was held at the Queen's Hall, over 2,000 being present. Sir William Watson Cheyne occupied the chair. Most of those present were general practitioners, though a good many leading consultants were to be seen on the platform and among the main body of the audience. It was a meeting animated by deep feeling, even by passion, a meeting full of enthusiasm, impatient of contradiction, breaking into turbulence on the least provocation. In short, it resembled a political meeting at election time when party feeling is running particularly high. In the middle of the hall sat Sir Victor Horsley, one of the council of the British Medical Association, whose rising at a certain point in the proceedings converted the place into a pandemonium. But with all its noise and tumult it was a united meeting, very few hands being held up against the resolutions, and the speakers who moved and supported them were cheered with the heartiest enthusiasm. The chairman said no attempt had been made to ascertain the conditions on which the medical profession would lend their assistance in working the act, or if any such attempt had been made the application had been addressed to the wrong individuals. This was loudly cheered. Then the chairman asked what they were to do in such circumstances. Immediately there came a volley of cries, "Fight him," "Smash the act," "Strike," "Have nothing to do with it." The chairman went on to say that they would have no more specious promises and would refuse to carry out the medical treatment as it was desired by the chancellor of the Exchequer until their necessary and most limited demands had been met. He made an appeal for unity, saying that if they were united they were bound to carry the day. Who was there to replace them? The question was answered by shouts of "No one" and "Sandow" (an allusion to the recent action of the General Medical Council against the doctors connected with the Sandow Institute). A reference to the council of the British Medical Association was received with cries of "Turn them out" and with loud groans and hisses. The chairman urged that the only organization the profession possessed which was able to do the work they wanted was the association, and advised the members if they were not satisfied with their council to do as other employers did and get fresh servants who would serve them better. This advice was loudly cheered. The next speaker was Dr. Fred. J. Smith, the convener of the meeting. He was greeted with affectionate enthusiasm as he rose to move the first resolution, which was to the effect that the six cardinal points were not guaranteed by the act in a manner which satisfied the profession. He concluded a critical examination of the situation with the parting shot that the council had received an

unmistakable mandate to secure the six points as a minimum or die in the last ditch. The council, however, did not die in the last ditch, but flung their medical secretary therein to appease the appetite of the chancellor. Again there was an outburst of cheering. Mr. Milton Townsend seconded the resolution, and when he had finished Sir Victor Horsley, rising in the body of the hall, asked, "Are we to understand, sir——?" He got no further, for his appearance was like the application of a spark to a powder magazine. The chairman invited him to come to the platform, which he did amid a babel of groans, hisses, and shouts of "Traitor!" "Retire from the council!" and so on. After a time the chairman managed to secure sufficient silence to ask the meeting, "Will you or will you not hear Sir Victor Horsley?" There was a great shout of "No!" and some of the audience exclaimed, "Did Lloyd George send you?" Sir Victor had to retire at the expiration of five minutes, the allotted time, without having said more than one or two words. The resolution was then put by the chairman and carried with acclamation. Mr. Percy C. Raiment moved the second resolution, pledging the meeting not to work the act till the demands of the profession were conceded, and this was seconded by Dr. T. Arthur Helme, of Manchester, in an eloquent speech. He was followed by two or three other speakers, including Sir Arthur Pearce Gould. Then Dr. J. H. Keay, a member of the Council of the Association, essayed to speak, and met with a very hostile reception. The second resolution was then put and carried almost unanimously. The last resolution, requesting the chairman to send copies of the resolutions to Mr. Lloyd George and Mr. Asquith, was proposed by Dr. Sidney Phillips, seconded by Sir John Tweedy, and carried unanimously. The result of the referendum organized by *The Practitioner* is announced. A circular letter was sent to every practitioner in Great Britain (29,567), asking him to state whether the insurance act is such as to be satisfactory to the public and to the profession. The returns up to the present are:

No	20,149
Yes	352
Queries	211

Another circular is now being sent out asking all members of the medical profession to pledge themselves in the following terms:

"Feeling that the present National Insurance Act is unjust to the medical profession, I hereby pledge my word not to accept any service whatsoever under it. I stipulate, however, that unless at least 23,000 members of my profession in Great Britain combine with me in this pledge, I am to be freed from it."

A copy of this has been sent to every medical practitioner in Great Britain.

At a meeting of the Medico-Psychological Association of Great Britain and Ireland, Dr. Geoffrey Clarke read a paper on Sterilization from the Eugenic Standpoint. Doctor Clarke passed in review the recent discussions which had taken place concerning the elimination of what were called the unfit members of the community and the measures by which it was proposed to carry this out. The advocates of sterilization averred that present day medical and hygienic care resulted in keeping alive a greater proportion of weaklings than formerly. The great question which required answering was: Had the advances in science tended to impair the mental and physical qualities of the race? He contended that the arguments and conclusions of stock breeders could not be applied to human beings; the mental as well as the physical had to be reckoned with, and he did not think knowledge had yet advanced sufficiently far to enable anyone to say to certain people that they must not be permitted to reproduce their kind. Insanity was not a definite disease, but a variation from the average normal standard, the standard itself varying with the country and time and even in different places in the same country; i. e., a person might not be able to stand the stress and surroundings of a London slum, but yet live a successful life in a quiet country place.

Moreover, there was a large class of mental degenerates who were not yet insane. If sterilization was to be adopted it should take place in some forms of mental disease quite apart from the eugenic standpoint. He thought it had yet to be shown that any practicable scheme of sterilization would materially diminish the normal rate of increase in insanity. There was a great need of a better record of family histories, which should be kept quite separate from the present statistics that had to be furnished and which he regarded as useless for such an inquiry. At present the defective histories swamped the good ones. What was needed was full information even if only a few families were taken, giving the normal as well as the abnormal.

Therapeutical Notes.

Tincture of Iodine as an Antidote in Phenol Poisoning.—Maherly (*Bulletin général de thérapeutique,* 1911) indorses tincture of iodine as a potent antidote in phenol poisoning. He administered a teaspoonful of the tincture in water to a negro, who, by mistake, had swallowed a strong solution of phenol instead of whiskey. The result was excellent. He also gave to children of three years of age, who had taken phenol, repeatedly five drops of tincture of iodine in water, also with the best results.

Toxicity of Acetanilide.—The fact that caffeine is a circulatory stimulant naturally led to the supposition that its presence in a prescription containing acetanilide or other antipyretic afforded an antidote in some measure to the toxic effects of the latter. Influenced by this idea we have permitted our patients to take doses of these antipyretics, when so "sheltered" of a size they would fear to administer, if given alone.

Worth Hale's experiments in animals show that the addition of caffeine to acetanilide caused death by the latter more quickly or in smaller dose, while sodium bicarbonate lessened the toxicity. He found acetanilide and sodium bicarbonate the least poisonous, acetanilide alone next, acetanilide, caffeine, and sodium bicarbonate still more, and acetanilide and caffeine most.

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OUR PROGRAMME.

On assuming the scientific management of THE NEW YORK MEDICAL JOURNAL, the writer begs leave to state that his aim will be to subserve the interests of the medical profession, mainly where these are concerned with the field of practice. The first condition of such a programme is to encourage those who labor for the advancement of our knowledge. To meet this feature, progressive articles, when based on a solid foundation, clinical or experimental, or on a broad analytical study of the literature, will be given precedence in the department of Original Communications. When of unusual value, an article will, moreover, receive special editorial notice, while a carefully prepared summary of its contents will be sent, duly translated, to all the leading medical periodicals of Europe. Another step in the same direction will be the conversion of the Pith of *Current* Literature department into that of Pith of *Progressive* Literature, to avoid inflicting upon our readers the endless repetitions with which medical literature is burdened. This necessitated, for the various specialties, the cooperation of experts; the writer was fortunate in securing the assistance of associates, all teachers, whose ability and devotion have long been known to him.

As to the second condition, the distinguished president of the American Medical Association, Dr. Abraham Jacobi, once characterized therapeutical pessimism as "a sin of omission which frequently rises to the dignity of a crime." So thoroughly does the writer concur in this forceful opinion, that therapeutics will receive considerable attention, the purpose being to aid the general practitioner in his daily work. An associate who devotes all his time to this branch of medical science, also a teacher of therapeutics, will cover this all important field. The writer does not hesitate to repeat in this connection that "not only do our patients crave active militant protection and relief in the hour of suffering," but also that "the physician knows through the teachings of practical experience that drugs are his legitimate and often trustworthy weapons of warfare, the strongest shield he has to interpose between his patients and the fell destroyer."

The general policy of THE NEW YORK MEDICAL JOURNAL will be that of the writer's much regretted predecessor and friend, the scholarly and gentle Frank P. Foster, who, imbued with profound respect for, and confidence in the judgment of the profession at large, always appealed to it through the light of reason when, in the course of his thirty-one years' editorship, any important general question demanded his consideration.

C. E. DE M. SAJOUS.

THE SURGEON'S SHARE OF THE WHITE MAN'S BURDEN.

The term "American Naval Surgeon" connotes a type—and one much honored in those regions which came, more than a decade ago, by the fortunes of war, under the influence of our Federal Government. Our naval medical corps is made up of men ranking high in medicine; who have contributed their full share of scientific discovery; who are ameliorating, wherever their assignments take them, such suffering as is endured not only by American soldiers and sailors, but also by many others, men, women, and children. And our colleagues in the navy are in no wise tinctured in their zeal with commercialism or self interest, such as is so obvious in other white men bent upon assuming the burden of the tawny races.

Our naval medical corps maintains fifteen excellent hospitals, each well nigh ideal as to sanitation and as to scientific, kindly, and effective ministrations. These institutions, and the dispensaries adjacent to them, are supposed to be open only to officers and enlisted men during their term of service; but custom has now included not only thousands of male employees, but also the families of those of combatant grades.

The surgeon of each vessel treats without fee, as part of his duty, the wives and families of the officers and crew when his ship is in its home port; and there is thus established a confidence and regard of peculiar value toward the observation of regulations essential to the physical welfare of all concerned. This subconscious diplomat knows in his ministrations no distinction between commissioned officer, noncommissioned officer, and common tar. The surgeon in the practice of his calling may bend without loss of dignity.

At Las Animas, in California, for example, is a hospital of 200 beds for tuberculosis cases; at Olongapo, P. I., are extensive hospitals, to which the *Relief* is assigned for service. At Guam there is a hospital where, in addition to provision for the navy men, there are eighty beds for natives, and a special ward for women and children. At Culebra, an island off Porto Rico, there is another such hospital; another at Cavite, P. I., where dispensary treatment is extended to the natives; another at Yokohama, Japan; and one at Samoa, where wards are also provided for native sufferers.

Hospital ships have been designed. Modern operating rooms and commodious sick bays have been provided on battleships; a system of prompt relief of the wounded and sick has been devised and is being constantly improved. The naval surgeon will ever be the first to come in intimate relation with the enemy's wounded. Thus, when the skillful and kindly ministrations of our medical corps were extended to the chivalrous Cervera and his brave associates, the latter took back to Spain impressions which did much to allay the inevitable bitterness of defeat.

In 1902 Dr. Presley M. Rixey became surgeon general of the navy. His faculty of inspiring his subordinates with enthusiasm for their calling was superbly developed. He strove ever, and generally with success, to increase the efficiency of his medical corps; to raise the standard of admission; to improve the naval medical schools; to secure increased pay, so that better and abler young men would be attracted to the service; to expand the opportunities of his associates down to the lowest rank, for research work as well as for practical therapeutics and surgery.

In 1910 Doctor Rixey gave place to Dr. Charles F. Stokes. The progress attained by the former has been held and further advanced by his successor, who believes that the navy is entitled to the best possible service and that the chief aim of the navy surgeon is to promote by his science and art the highest efficiency of the fleet. Surgeon General Stokes has developed what may be termed a system of mechanomedical prophylaxis. For instance, he has been working for improved conditions in the fire room, so that stokers may work better and with less physical strain; he has studied turret conditions with a view to minimizing various gases, to preserving the gunner's eyesight and to protect his ears from the concussion; he has devised a method for the safe and speedy transfer of the wounded to the hospital ship without recourse to small boats; and he has considered the elimination of weak or treacherous nerves by the greatest possible promotion of individual health and general hygiene, so that dangerous errors may be minimized and team work on a battleship be made effective.

Thus from first to last is every individual in the navy under the constant supervision of his surgeon, who is responsible for the health of the service, that prerequisite in officer and enlisted man alike.

THE EAST RIVER HOMES FOUNDATION.

The completion of these improved dwellings, the gift of Mrs. William K. Vanderbilt, Sr., especially designed for housing the tuberculous and those who are predisposed to tuberculosis, constitutes a noteworthy addition to our resources for combating the curse of consumption in New York. This important group of buildings in which no expense has been spared to secure every health giving quality and device which could promote their admirable purpose, is fully described in this issue of the Journal.

New York city with its efficient Health Department, registration of tuberculous cases, aroused public sentiment, well organized district system of tuberculosis clinics, country sanatorium for incipient cases at Otisville, and hospital provision for the segregation of advanced cases at the Riverside and Metropolitan, St. Joseph's, and the Seton hospitals, has long been a pioneer in the warfare against tuberculosis, to which other cities and countries have looked for inspiration, education, and guidance in the best methods. Mrs. Vanderbilt's generous foundation fills a large gap in the hitherto existing system of protection and treatment, by providing suitable hygienic homes for discharged sanatorium patients and by doing permanently for the entire family the good work the preventorium does temporarily for delicate children. She has brought one step nearer the ultimate effective control of tuberculosis.

Especially admirable seems to us the great economic saving, the utilization of the roofs, the provision of balconies, and the care taken to insure thorough ventilation in these sanitary homes. Greater attention in general to the important mat-

ter of ventilation, which is too much disregarded by architects in planning our schools, public buildings, law courts, department stores, and office buildings, is urgently needed.

Beside the direct personal benefit resulting to the tenant occupying rooms in the East River homes, every rent payer will feel that he is a contributor to the good cause in which he is deeply interested, his rent helping to make more efficient the campaign against tuberculosis.

PYOPAGUS TWINS.

Professor Ph. Bockenheimer, of Berlin, reports in the *Berliner klinische Wochenschrift* for November 27, 1911, an interesting case of a female pyopagus. The twins are Daisy and Violet Hilton, now three and a half years of age. The grandfather of the children was one of twins, and the grandmother gave birth to two pairs of twins. The birth of the pyopagus twins took twelve hours. The mother, a primipara of twenty-one years, was a healthy woman. The twins weighed twelve pounds and developed slowly, but now are healthy children. Their anatomical condition is very similar to that of the well known Bohemian pyopagus twins whom we described editorially in our issue for July 30, 1910. Professor Bockenheimer favors disuniting the twins whose bony structures are absolutely separate, their sexual organs with the exception of the labia majora distinct, while only one anus with a large rectum exists. This rectum really belongs to one child, as the rectum of the other, instead of being fully and separately developed, falls into the large common organ. The pulses of the children are not synchronous, and they are absolutely two different individuals, as one may laugh while the other cries, and all organs, with the exception of the rectum, function individually. The uniting stem, which grows larger every year, could, therefore, in the author's opinion, be divided, and a new anus for one child would have to be formed. Doctor Bockenheimer would favor a disuniting operation when the children are about six years of age.

THE HIGHER PRICE OF DRUGS.

Those physicians who have had occasion to purchase drugs recently must have noticed that a considerable advance has occurred in the prices of a large number of vegetable drugs. This advance has been due to several causes, the two most important being the small crop yield in central Europe, whence many of our more commonly used drugs are obtained, and the gradual depletion of the supply of indigenous drugs due to the disappearance of our wild forests. Coincident with the comparative failure of the drug crop in central Europe there has been a very scanty crop of opium harvested in Asia Minor, with the result that this drug and its products have also materially advanced in price.

It may be expected that in the course of events the prices of European drugs and of opium will within a couple of years again sink back to approximately the levels of cost which prevailed prior to the comparative failure of the crop of 1911. But with our indigenous drugs no such prospect is in sight. In fact there is every probability of a steadily declining crop and advancing price in such drugs as hydrastis, senega, lobelia, and serpentaria. Hitherto we have depended wholly upon the wild plants for our supply of these and a long list of domestic drugs. This supply is being rapidly depleted under the inroads which agriculture is making on our forests. The time is not far distant when some of these valuable indigenous drugs will become practically extinct unless active and effective measures are taken to preserve them.

The United States Department of Agriculture now maintains several drug experiment stations, and the stations connected with several of the State agricultural colleges are making studies of botanical drugs indigenous to these States with a view to their artificial propagation. We cannot hope for supplies of these drugs except through their systematic growth on a generous scale. Several firms in Europe have made a distinct commercial success of the cultivation of medicinal plants, and the reports of the department of agriculture indicate that there is a good field for such ventures in the United States. One of the popular novels of the day, *The Harvester,* by Mrs. Gene Stratton-Porter, paints a most alluring picture of the commercial possibilities of the expert cultivation of medicinal plants, and several of the colleges of pharmacy and one or two manufacturing houses have undertaken experimental work in these lines with very hopeful results. Notwithstanding the growing importance of synthetic products in medicine we are still dependent on Nature's laboratory for some of our most important drugs. It is true that the synthesis of hydrastin has just been announced, and we may therefore be able to dispense with hydrastis canadensis, but there still remains a large series of drugs of botanic origin for which we must turn to the woods and the fields. It is therefore highly important that the cultivation of medicinal plants be established before the supply of wild plants has been completely exhausted. A Philadelphia professor of pharmacognosy has an interesting and

beautiful garden of medicinal plants at his suburban residence. Such physicians as are happily possessed of ample grounds will find the experimental growth of medicinal plants a fascinating hobby which might easily be developed into a profitable industry.

BENIGN NATURE OF UTERINE FIBROIDS.

It becomes more and more evident, as studies are more thoroughly made of the symptomatology and pathology of uterine fibroids, that these neoplasms are anything but benign. They do not recur after removal or extend by metastatic processes, but they produce a morbidity and mortality which makes them worthy of serious consideration.

As early as 1863, Virchow demonstrated that primary sarcomatous changes can take place in a myomatous growth; and later, Fehling, in 409 myomata, found two per cent. to show malignancy. Martin observed sarcomatous transformation four times in a series of 205 cases; while in Cullen's series of 1,400, seventeen showed undoubted sarcomata of the uterus occurring in or associated with myomata. In addition to malignant degeneration, these growths are very liable to undergo other degenerative changes, namely, cystic, necrotic, suppurative, or myxomatous, and many others which endanger life and increase the operative risk, if surgery is postponed. Schmorl asserts that uterine fibromata are the favorite metastatic site of malignant tumors and indicates the breast, stomach, ovary, cervix, and peritoneum as the primary sites of these growths.

The fallacy of waiting for the menopause and the atrophic changes of that period in fibroids has been exposed; as the climacteric is often delayed for years and the degenerative processes are noted during the fourth decade. An increase in size of the tumor, or a recurrence of hemorrhage after the menopause should always arouse suspicion of malignancy or degeneration.

The occurrence of pregnancy in a uterus which is the site of a fibroid tumor always arouses apprehension, as these neoplasms, no matter where situated, may seriously complicate pregnancy, parturition, and the puerperium. When we compare the statistics of the operations of myomectomy and hysterectomy for the removal of these tumors by present day methods, with the statistics justified by the investigations of Noble, that death results in thirty-three per cent. and chronic invalidism in twenty-eight per cent. of all cases not operated in, we can arrive at but one conclusion, and that is, that a symptom producing fibroid tumor of the uterus should be removed as soon as diagnosis is made, unless some marked contraindication to surgical intervention exists.

THE PROPOSED INSURANCE BILL IN THE UNITED KINGDOM.

We wish to call our readers' attention to our last two letters from London, one of which appears in this issue. The writer very attractively describes the fight of the members of the British Medical Association against the National Insurance Bill. The proposed working of the bill is clearly elucidated, and we can well understand the ire of our British colleagues. But not only the contents of the bill and its workings inflamed the physicians, but the fact that some of the leading members of the association left its ranks for governmental positions, added fuel to the fire. Mass meetings were held, and a vivid description of such a convention, held at Manchester, is given in our present issue. We learn from this that of 29,567 practitioners of Great Britain, the total number of medical men, 20,149 answered that the proposed insurance act would be detrimental to public and profession.

Our British confrères are to be congratulated upon their unanimity. The experience of our German colleagues must have added to their enthusiasm against a bill such as that proposed.

THE ANESTHETIST.

Woolsey, in *The New York State Journal of Medicine* for December, 1911, deplores a tendency which he thinks he has discovered to hand over the responsibilities of the anesthetist to the nurse. If this tendency has developed anywhere into actual practice, the sooner it is stopped before possible investigation by a coroner, for example, the better. The duties of the anesthetist are in a sense as important as those of the operating surgeon and demand not only special skill of a high degree, but the sense of duty and moral obligation that are to be acquired only through an exhaustive medical education capped by the taking of the sublime Hippocratic oath.

News Items.

The Handicapped Child.—Mr. E. R. Johnstone, Superintendent of the Training School for Feeble Minded Children at Vineland, N. J., has accepted an invitation from the Bronx District Committee of the Charity Organization Society, to give an address on The Handicapped Child. The meeting will be held at the Mott Haven Reformed Church, 146th Street and Third Avenue, on Tuesday evening, January 9, 1912, at 8 o'clock. A rare opportunity will be offered to physicians, teachers, social workers, and others who are interested in the training of mentally deficient children. A cordial invitation is extended to all.

Medical Society of the County of Chemung, N. Y.—At the annual meeting of this society, held on December 19th, the following officers were elected to serve for the ensuing year: President, Dr. Charles Haase; vice-president, Dr. William Brady; secretary, Dr. C. F. Abbott; treasurer, Dr. G. V. R. Merrill.

Antityphoid Vaccination for Naval Officers.—As a supplementary preventive measure against typhoid fever in the ranks of the navy and the marine corps, the compulsory inoculation of all the officers and enlisted men of these branches of the service under forty-five years of age has been ordered by the secretary of the navy.

New Officers of the Williamsburgh Medical Society.—At the December meeting of the Williamsburgh Medical Society, Brooklyn, the following officers were elected to serve for the ensuing year: President, Dr. S. Blatter; first vice-president, Dr. A. Bonner; second vice-president, Dr. G. I. Miller; secretary, Dr. William K. Jacobs; financial secretary, Dr. M. J. Levitt.

The Health of Chicago.—The total deaths from all causes reported to the Department of Health of Chicago during the week ending December 23, 1911, was 623, corresponding to an annual death rate of 14.5 in a thousand of population. There were 728 cases of communicable diseases reported during the week, as compared with 752 for the preceding week and 944 for the corresponding period in 1910.

Lectures by Professor Hektoen.—The faculty of the University and Bellevue Hospital Medical College announces a series of six lectures to be given under its Herter Foundation on Immunity, by Professor L. Hektoen, of the University of Chicago, beginning on Monday, January 8th at 4 o'clock and continuing daily throughout the week, at the same hour, at the Carnegie Laboratory, 338 East Twenty-sixth Street.

New Officers of the New York Physicians' Association.—The following officers were elected at the recent annual meeting of the New York Physicians' Association: President, Dr. George Dow Scott; first vice-president, Dr. Seymour Oppenheimer; second vice-president, Dr. Charles Herrman; secretary, Dr. Harry G. Watson; treasurer, Dr. Sigmund Epstein; trustees, Dr. William S. Gottheil, Dr. Robert Abrahams, and Dr. Jacob Sobel.

Proposed Flatbush Medical Society.—On December 16, 1911, a number of doctors living in Flatbush met and decided to form an association to be termed the Flatbush Medical Society. A committee consisting of Dr. B. D. Harrington, Dr. S. B. Thomas, Dr. C. Duncan, Dr. R. W. Shearman, Dr. George A. Merrill, and Dr. R. Prentiss, was appointed to draw up a constitution and arrange other details for presentation at a future meeting. The committee invites those interested to attend this meeting which will be held at the Eighteenth Assembly District Republican Club, 2431 Church Avenue, on Friday, January 12, 1912, at 8:30 p. m. All doctors who attend this meeting and take part in the adoption of the constitution may become charter members of the society. Address all communications to Dr. Stanley B. Thomas, 251 Lincoln Road, Brooklyn, or to any other member of the committee.

Public Health Lectures.—A series of lectures on the prevention of disease will be given under the joint auspices of the Public Health Education Committee of the Medical Society of the County of New York and the Hygiene Committee of the New York City Federation of Women's Clubs, at the New York Academy of Medicine, on alternate Wednesday evenings and Thursday afternoons, from January 10th to March 28th. These lectures form part of the New York work of the Public Health Education Committee of the American Medical Association. They are open to the public, and no cards of admission are required. The Hygiene of Food is the topic for Wednesday evening, January 10th, the speakers being Dr. Harvey W. Wiley, of Washington, Dr. Mary M. Crawford, and Dr. Henry P. De Forest. Other subjects to be discussed in this course of lectures are Alcohol in Relation to Efficiency, Effects of Home Medication, Contagions and Their Prevention, Sex Hygiene for Men, Child Hygiene, the Common Cold, Triumphs of Modern Surgery, Sex Hygiene for Women, Care of the Eye and the Ear, Nerves in Their Relation to Efficiency, and Causes and Prevention of Pelvic Disorders. Dr. Rosalie Slaughter Morton is chairman of the committee and Dr. Mary Sutton Macy is secretary.

Vital Statistics of New York.—During the week ending December 30, 1911, there were reported to the Department of Health of the City of New York 1,567 cases of communicable diseases, with 214 deaths. The total deaths from all causes reported during the week ending December 16, 1911, was 1,402, corresponding to an annual death rate of 14.68, as compared with a rate of 16.69 for the corresponding week in 1910. The births reported during the week numbered 2,661, and the marriages 1,010. There were 131 stillbirths.

New York State Leads in the Antituberculosis Campaign.—On January 2d a statement was issued jointly by the National Association for the Study and Prevention of Tuberculosis and the State Charities Aid Association, which showed that during the year 1911 New York State spent $3,550,000 in the campaign against tuberculosis, leading all States in the Union in the amount of money devoted to the work. More than $14,500,000 was spent in antituberculosis work during 1911 in the whole country, of which $11,800,000 was used in the erection of sanatoria and hospitals, and $850,000 by dispensaries for the examination and treatment of tuberculosis patients.

Personal.—Dr. James V. May, superintendent of the Matteawan State Hospital, has been appointed president of the State Commission in Lunacy, to succeed Dr. A. W. Ferris, resigned.

Cable despatches from Paris announce that Madame Curie has been in a hospital since January 1st suffering from acute appendicitis. An operation was performed on Wednesday, January 3d, which was entirely successful, and a prompt recovery is expected.

Dr. Philip F. O'Hanlon, coroner's physician, who was operated upon for an abdominal abscess, on Friday, December 29th, is reported to be making a good recovery.

Dr. R. G. Broderick, formerly health officer of San Francisco, has been reinstated in his old position.

Dr. Warren P. Morrill, superintendent of the Sydenham Hospital of Baltimore, a municipal hospital for infectious diseases, has resigned, and Dr. Robert A. Warner has been suggested as his successor. Doctor Morrill has accepted the superintendency of the Winnipeg General Hospital, which is said to be the largest institution of its kind in Western Canada.

Dr. Maurice H. Richardson, of Boston, has been appointed surgeon in chief of the Massachusetts General Hospital.

Dr. J. N. McCormack, of Bowling Green, Ky., has resigned from the Committee of Organization of the American Medical Association, of which he has been chairman for the past eleven years.

Meetings of Local Medical Societies to be Held During the Coming Week:

MONDAY, *January 8th.*—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence, New York; New York Ophthalmological Society; Association of Alumni of St. Mary's Hospital, Brooklyn; Williamsburgh Medical Society, Brooklyn; New Rochelle Medical Society; Corning, N. Y., Medical Association (annual); Waterbury, Conn., Medical Association (annual).

TUESDAY, *January 9th.*—New York Academy of Medicine (Section in Public Health); New York Obstetrical Society; Newburgh Bay Medical Society; Medical Society of the County of Schenectady; Medical Society of the County of Rensselaer; Buffalo Academy of Medicine (Section in Medicine); Practitioners' Club of Jersey City.

WEDNESDAY, *January 10th.*—New York Pathological Society; New York Surgical Society; Medical Society of the Borough of the Bronx; Alumni Association of the City Hospital; Brooklyn Medical and Pharmaceutical Association (annual); Richmond County Medical Society; Alumni Association of the Norwegian Hospital, Brooklyn.

THURSDAY, *January 11th.*—New York Academy of Medicine (Section in Pediatrics); Brooklyn Pathological Society; Blackwell Medical Society of Rochester; Jenkins Medical Association, Yonkers; Buffalo Ophthalmological Club.

FRIDAY, *January 12th.*—New York Academy of Medicine (Section in Otology); New York Society of Dermatology and Genitourinary Surgery; Eastern Medical Society of the City of New York; Society of Ex-Internes of the German Hospital, Brooklyn.

SATURDAY, *January 13th.*—Therapeutic Club, New York.

Pith of Progressive Literature.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

December 30, 1911.

1. CHARLES W. BURR: Transitory Mental Confusion and Delirium in Old Age.
2. EDWARD A. RICH: A Point in the Treatment of Lateral Curvature of the Spine.
3. HANSELL CRENSHAW: An Improved Hypodermic Outfit.
4. ANDREW J. GILMOUR: Marked Varicose Veins of the Right Leg in a Patient Six Months Pregnant.
5. W. F. THOMPSON: Improved Method of Preparing Agar.
6. EDWARD H. CASTLE: Improved Technique of Venoperitoneostomy for Relief of Ascites.
7. STEPHEN C. GLIDDEN: A New Appendiceal Crushing and Cutting Forceps.
8. ROYALE HAMILTON FOWLER: External Dislocation of the Knee.
9. HAROLD N. MOYER: A New Symptom in Paralysis Agitans; the Cog Wheel Resistance of the Extremities.
10. GEORGE H. EVANS: The Abuse of Normal Salt Solution.
11. FRANK W. ALLIN: The Baby Tents of Chicago.
12. W. WARNER WATKINS: The White Cells in Tuberculosis.
13. PALMER FINDLEY: Prolapse of the Uterus Complicating Pregnancy.
14. EDWARD D. FISHER: General Paresis, Tabes, and Syphilis of the Nervous System.
15. GREENFIELD SLUDER: A Phenol (Carbolic Acid) Injection Treatment for Sphenopalatine Ganglion Neuralgia.
16. C. H. HAMILTON: Congenital Imperforate Anus, with Occlusion of Entire Colon.

5. Preparing Agar.—Thompson states that in the preparation of nutrient agar the egg process, used to clarify the medium, has always been open to objection on account of the long time required for satisfactory filtration. As free from the objections of the egg process the writer gives the following: Twenty grammes of powdered or shredded agar are dissolved in about 500 c.c. of distilled water, by boiling, or, better, under about five pounds' pressure in an autoclave. Two grammes of calcined magnesia are powdered and triturated with a portion of the agar solution. When free from lumps the agar-magnesia mixture is intimately mixed with the remaining agar solution and the whole thrown into a double, white filter and the filtration allowed to proceed in a steam sterilizer or in an autoclave, requiring about three hours for the 500 c.c. to pass through. The filtrate, which is now perfectly clear, is poured into a 500 c.c measuring flask, allowed to cool to 35° C. and the volume made to exactly 500 c.c. with distilled water. Five c.c. of the finished agar solution are dissolved in 45 c.c. of water, heated to the boiling point, and the reaction to phenolphthalein determined and the required normal sodium hydroxide or normal hydrochloric acid added to the remaining 495 c.c. to secure the reaction neutral. In another 500 c.c. measuring flask place exactly 500 c.c. (at 15° C.) of double strength, nutrient bouillon; adjust reaction to 3+, using 5 c.c. to determine reaction to phenolphthalein, heat to boiling, filter through paper, and make the volume to 495 c.c. at 15° C. The agar solution and the nutrient bouillon are now mixed and 990 c.c. of perfectly clear nutrient agar with a reaction of 1.5+ is the result. The writer states that the advantages are: Calcined magnesia is insoluble in water, requires no coagulation, is porous, and does not impede filtration. The preparation of double strength bouillon, separately, permits of more rapid filtration, especially when precipitates occur after standardizing. The use of 500 c.c. volumetric measuring flasks, at 15° C., renders weighing unnecessary.

14. Nervous Paresis, Tabes, and Syphilis.—Fisher divides these diseases into two classes, (a) general paresis and tabes being parasyphilitic, and (b) syphilis of the nervous system, being directly due to infiltration of syphilitic material into the nerve structures and vessels, with evidence of spirochetes. An important point is also the time between the infection of the primary disease and the appearance of the disease of the nervous system. In the parasyphilitic diseases, general paresis and tabes, involvement of the nervous system rarely shows itself before ten years, and often still later; while in syphilis it usually occurs in about five years. Other causes are important factors in exciting diseases of the nervous system, as injury, strain, overexertion, exhausting diseases, as typhoid, excess, alcoholism, venery, heredity, etc. Perhaps without these exciting agents no involvement of the nervous system would take place, but the converse is still more positive, that without syphilis probably there would be no general paresis or tabes. The author touches on the symptomatology and pathology of these affections, noting the course and progress of each. Referring to treatment he mentions only the new remedy, salvarsan; as yet, in the parasyphilitic affections, it is probably as ineffective as mercury and potassium iodide. In syphilis it is certainly very active in its results, in certain manifestations more effective than mercury and potassium iodide. Whether its effect in future involvement of the nervous system is to be permanent is still a question.

MEDICAL RECORD

December 30, 1911.

1. ARTHUR V. MEIGS and HOWARD L. MARSH: The Quantitative Analysis of Human and of Cow's Milk.
2. BAYARD HOLMES: Trunk Anesthesia.
3. JAMES TAFT PILCHER: Chronic Invalidism Due to Pathological Conditions of the Colon and Appendix.
4. ALEXIS V. MOSCHCOWITZ: The Question of Transplantation of the Cord in Operations for Hernia.
5. ERIC CARL BECK: Scrubbing Ulcers.
6. RAYMOND B. HOOBLER: An Automatic Device for Reading Systolic and Diastolic Blood Pressures.
7. LEONARD K. HIRSCHBERG: Confirmation Studies of Weinstein's Test for Cancer of the Stomach.
8. FRANCIS A. PRENDERGAST: A New Typhoid Fever Test.

1. Human and Cow's Milk.—Meigs and Marsh have undertaken the quantitative analysis of human milk to prove the results published by Meigs (*Transactions of the Philadelphia County Medical Society*, February 22, 1882, and *Philadelphia Medical Times*, July 1, 1882) and of cow's milk because of its great importance as a food and because it was impossible not to use it for various experiments, as it is always so easy to obtain. In the paper mentioned it was asserted "that human milk never contains more than seven tenths of one, to one and a half per cent. of casein (now named the protein of milk). These analyses (the technique of which is given in full) showed that the amounts of water, total solids, and fat are not very different in the two kinds of milk. The differences are in the percentages of ash, protein, and lactose. The percentage of ash (salts) is about three times as great in cow's milk as in human milk. The important differences are those of the percentages of protein and lactose; in human milk the protein is much lower (one half) and the lactose much higher (fifty per cent.) than in cow's milk. The sums of the amounts of protein and lactose in human and in cow's milk when added together are nearly equal. Human milk is the best food for infants and should be imitated in the modification of cow's milk for that purpose. Pure cow's

milk is not a proper food for the young infant, as it is too rich in protein. The authors found that the quantitative composition of the human milk does not change during lactation, which fact shows that as the infant increases in age, the modified cow's milk used should not be made stronger, but should be increased in quantity. The authors after two years' work at the subject conclude that the original findings of Meigs as to the low percentage of protein in human milk are verified.

5. **Scrubbing Ulcers.**—Beck describes the technique of scrubbing varicose ulcers used extensively in Germany and adopted by him. The patient is deeply anesthetized. All crusts surrounding the ulcer are removed. A stiff hand scrub brush is thoroughly sterilized. Tincture of green soap is poured on the ulcer, just enough sterilized water to make a lather and the scrubbing begins. At first diseased and spongy tissue comes off in a dark black or grayish mass. Application of sterilized water removes the débris and shows how far we have succeeded. Continue the scrubbing until the base of the ulcer is smooth and the edges stand out clearly, red and hard, giving the whole the appearance of being "punched out." There will be some bleeding, but this conduces to quick healing. Strenuous scrubbing of the edges is necessary; it smooths them off and the resulting hyperemia will show its beneficial results within twenty-four hours, when the little blue line of granulation appears. Before applying a wet dressing of either boric acid or bichloride solution, the entire ulcer and its vicinity is painted with tincture of iodine to prevent reinfection as much as possible. As a rule, when the patient regains consciousness, there is severe pain. Some form of hypnotic may be necessary. If the bandage is kept moist with warm solution the pain and burning are of short duration. This method of scrubbing is also used to stimulate sluggish healing in unhealthy wound surfaces.

7. **Weinstein's Test.**—Hirschberg states that he has been using this test in every case of doubtful gastrointestinal disorder, particularly in cases of the subacute or chronic variety. Weinstein announced in 1910 that tryptophan was one of the aminoacids always formed in the stomach if cancer was present. The technique of the test as used by Hirschberg is as follows: A test meal, consisting of a glass of milk, a piece of white bread buttered, with granulated sugar, or a piece of zwieback, an egg, and a glass of water is extracted in one hour and a half. This is filtered and immediately examined for tryptophan, thus: Six c.c. of the filtrate in the test tube is mixed with four drops of a three per cent. acetic acid solution. Four drops of a saturated watery solution of bromine are carefully added with a pipette. A reddish violet color indicates the presence of tryptophan. If the rosy red color does not appear, allow it to stand twenty minutes. Should it not appear then, more bromine water, drop by drop, must be cautiously added. Excess of bromine will show a yellowish tint. If the procedure as thus far followed is uncertain or negative, the remaining stomach contents (both filtered and unfiltered) are placed in an incubator for one or two days. Antiseptics need not be added, for the microorganisms form no tryptophan. If then the examination shows no tryptophan, it does not necessarily prove the absence of carcinoma. If, on the other hand, it is positive, cancer may be considered to be present.

8. **New Typhoid Fever Test.**—Prendergast describes a new means of making an early and sure test for the presence of typhoid fever. The test consists in injecting with a fine hypodermic needle a few drops of a suspension of dead typhoid bacilli of the strength of not less than 5,000,000 per c.c. This strength may be easily made by taking the ordinary typhoid vaccine now on the market and diluting it as follows: Take one drop of the 1,000 million vaccine and add to it twenty drops of sterile saline solution. Mix thoroughly. After the solution has been injected endodermally (care always being taken to raise as superficial a bleb as possible and with a well mixed solution), in twenty-four hours the nontyphoid patient shows a well marked area of redness around the point of injection. The typhoid patient shows absolutely no reaction. The reaction (as a rule) begins to appear in twelve hours, reaches its maximum in twenty-four hours, and has disappeared in forty-eight hours. Any redness after forty-eight hours is considered an infection and is not taken as a reaction. The test should be repeated with better precautions against infection. Rub the skin at the point of injection with alcohol, have a clean hypodermic syringe and needle, and use fresh sterile vaccine. This test gives no constitutional reaction (rise of temperature, malaise, chill, etc.), and has no elements of danger. In the negative cases (controls) a few patients have complained of slight soreness and itching at point of injection twelve to twenty-four hours after the injection. This quickly subsided without treatment and gave no further trouble. The author makes a preliminary report of twenty-seven unselected cases. He enumerates the following advantages of the test: No danger to patient; no danger from live culture (as in Widal test); no constitutional or local after effects; no microscope, no blood of patient required; appears early, one case three days before the Widal; how early future cases and a greater number will show; simple and easy to apply; no wait for laboratory report; seems to establish the diagnosis of typhoid fever even after the lapse of years (in two cases, three and six years previously).

BRITISH MEDICAL JOURNAL

December 16, 1911

1. H. F. Waterhouse: Bier's Hyperemic Treatment.
2. T. S. B. Williams: Leprosy.
3. David Thomson: [illegible]
4. E. C. Hort and W. [illegible]: [illegible]
5. J. C. Taylor and K. V. Trueshaw: [illegible] Coke Stove.
6. [illegible]

2. **Leprosy.**—Williams presents a new conception of the nature of the lepra organism. As a result of his studies he believes that it can be shown by careful culture and subculture and by animal experiment that the microorganism is a streptothrix. He has been able to grow the following phases of the organism: "(a) A nonacidfast streptothrix in the mycelial stage and producing acidfast rods. (b) A nonacidfast diphtheroid bacillus also producing acidfast rods; this is really a streptothrix

(c) An acidfast bacillus, which is the broken down stage of a streptothrix. (d) An acidfast mycelium." Upon animal inoculation Williams has produced lesions resembling leprosy from the acidfast bacillary form. Williams and others have grown nonacidfast mycelia, nonacidfast diphtheroid organisms, and acidfast streptothrices (bacillary or mycelial) directly from leprous patients. Having, then, fairly well established the streptothrix nature of the specific organism, Williams has found that vaccines made from the nonacidfast forms do not produce any reaction in leprous subjects, whereas one from the acidfast form did give a typical reaction in lepers and none whatever in the nonleprous. It therefore seems to him to point to the specific nature of his organism and also to afford a means of diagnosis and possibly of treatment of the disease. In point of fact the therapeutical character of the vaccine has already been quite well established as of real importance in the early stages of the disease.

3. **Diurnal Variation in Leucocytes.**—Thomson observed a remarkable variation in the leucocytes in point of number at different times of day in malaria, and has been able to correlate the changes with the stage of development of the parasites and with the number of parasites present in the blood. The more numerous the parasites the greater the leucopenia; during the liberation of the malarial virus in the blood at the time of sporulation the percentage of the uninuclear leucocytes falls greatly. The number of leucocytes rises simultaneously with the fall of temperature, and this phenomenon is much more delicate than the temperature variation itself. After the disappearance of demonstrable parasites from the blood and the subsidence of fever there remains for some time the typical diurnal variation in the leucocytes, which Thomson explains on the theory of the persistence of small numbers of parasites which upon sporulation liberate their toxines. This phenomenon of the leucocytic variation was also found in cases of Hodgkin's disease and in the only case of carcinoma that Thomson examined. He therefore suggests that these diseases may also be of a parasitic nature, for the phenomenon has not been seen in nonparasitic affections as yet. He believes that it will prove to be of considerable diagnostic value.

4. **Dangers of Saline Injections.**—Hort and Penfold do not think that saline injections are by any means so innocuous as is generally supposed. They base their opinion upon the recorded harmful results and upon animal experimentation and bacteriological studies. From these data they conclude that the injection of saline solutions as at present administered is far from free from risk, especially when the quantity used is large; that the toxicity which develops in distilled water which is allowed to stand in sealed sterile vessels is not yet explained; that the fever which follows the injection of salines cannot be prevented by boiling, centrifugalizing, or filtration, even through bacterial filters; and, lastly, that the only trustworthy method of preventing this fever is by distillation of the water immediately before its use in the injection.

LANCET.

December 16, 1911.

1. R. H. Paramore: Intraabdominopelvic Pressure.
2. R. Morison: Abdominal and Pelvic Surgery.
3. D. White and C. H. Melville: Venereal Disease.
4. R. L. E. Downer: Involution of a Fibromyoma.
5. M. A. Cassidy: Calcium Salts as Prophylactics against Serum Rashes.
6. L. S. Dudgeon and P. N. Panton: A Urogenital Diplococcus.
7. E. Clark-Jones: Splenomegalic Polycythemia.
8. H. Macnaughton-Jones: Ovarian Cyst of Unusual Size.

1. **Intraabdominal Pressure.**—Paramore has made an exhaustive study of the pressure in the abdominal and pelvic cavities and concludes that the positive pressure here found is not dependent to any noticeable extent upon gravity, but is due chiefly to the compressing effect of the enclosing musculature; the abdominal walls, the diaphragm, and the pelvic floor. That, for example, the endogastric and intrarectal pressures are due to the general pressure within the respective poles of the visceral mass, and are caused by the mutual pressure of the viscera and their pressure in turn against the confining abdominal walls. That the variations in pressure at any point are, except in unnatural positions, due to changes in tension of the muscular walls. Through the increase of this intraabdominal pressure with the descent of the diaphragm in inspiration there is a rush of blood to the right heart. This is a powerful factor in the maintenance of general blood pressure and may serve to explain the lower blood pressure in women on account of the less actively functioning diaphragm. While the maintenance of the several organs in their respective positions in the abdomen through the agency of the pressure is the most obvious function it has it is probably the least important. The pressure certainly tends to limit the distention of organs either by direct support or by its influence upon the circulation in them. This latter again has a material effect upon metabolism in the hollow organs, hastening and assisting it. Paramore concludes that the intraabdominal pressure, even with the body at rest, subserves some of the most important functions of circulation and of metabolism.

3. **Venereal Disease.**—White and Melville continue their discussion of the present and future of these diseases. After placing the incidence of venereal disease in the great cities of the world at about one twenty-fifth of the total population of each and the occurrence in the smaller cities and towns and in the rural districts at proportionately smaller figures, conclude that there are on conservative estimate at least a half a million in Great Britain alone who are infected annually. The question then of what is to be done to reduce these appalling numbers which seem to be on the increase becomes a very pertinent one. The authors are of the opinion that from whatever point of view, whether individual or national, moral or physical, of theory or of practice, all evidence is against the State regulation of vice. It has failed after a century of trial. Legislation cannot rid us of prostitution. They hold that the ideas of disease being retributive and of fear a deterrent are radical errors, though plausible and popular. They believe that the diseases must be attacked directly in addition to the use of other means of moral improvement. There must be adequate hospital provision for these cases just

as much as for tuberculosis. The stigma associated with the treatment of these ailments must be removed and physicians and victims alike must be taught to strive for early and complete cure. Prophylaxis must be urged upon those who are capable of transmitting the disease. All these means together with education and elevation of the general moral standards and the encouragement of temperance would soon bring the scourge within control.

5. **Calcium Salts in Serum Rashes.**—Cassidy tested the efficacy of calcium salts in the prevention of rashes following the administration of diphtheria antitoxine in sixty-two consecutive cases. He gave either the chloride or the lactate in alternate cases regardless of the severity of the disease or the size of the dose of antitoxine given. He gave from three to ten grains, three times daily, omitting the third day. Of the sixty-two patients twelve died too soon to be included in the observations; of the remaining fifty, twenty-seven received no calcium and eleven of these showed a rash the average duration of which was but three days; of the twenty-three who did have the calcium treatment there was a rash in nineteen instances with an average duration of more than eight days. This seems to indicate, Cassidy thinks, that the treatment is of little or no benefit if the results of the short series can be regarded as trustworthy.

7. **Osler's Disease.**—Clark-Jones reports in detail the observations he has made on a case of this extremely rare affection. The cyanosis was intense and quite peculiar in its appearance and distribution, in that the mucous membrane of the mouth and pharynx was of an intense purple color and the least traumatism was sufficient to cause slight hemorrhage. Otherwise the cyanosis was very marked and general and the total freedom from the usual associated symptoms of dyspnea and distress made a striking picture. Save an enormously enlarged spleen there were no physical signs discoverable. The blood was of increased viscosity, hemoglobin was 110 per cent., erythrocytes eight and a half million or 170 per cent., giving an index of 0.6; the leucocytes were increased to 20,000 and there was a multinucleosis of ninety-two per cent.; there were no other blood abnormities. The absence of emphysema and heart lesion places this case in the class of Vaquez's or Osler's disease; that is, chronic cyanosis with polycythemia and splenomegaly.

PRESSE MÉDICALE.

December 13 and 16, 1911.

1. Lagane: Arteriosclerotic Syndrome of the Intestine.
2. Martinet: Arterial Pressure and Viscosity of the Blood.
3. Rist: Thoracic Percussion.
4. Danlos: New Conception of Parasyphilis.
5. Benon: Special Hospital Assistance in Acute and Subacute Mental States.
6. De Laroquette: Physical and Physiological Principles of Luminous Superheating.

1. **Intestinal Arteriosclerosis.**—Lagane states that there are two varieties of lesion, atheroma of the mesenteric arteries, long neglected but now recognized as common, and arteriosclerosis properly so called of the arteries of the intestinal wall. The former generally accompanies chronic aortic disease in syphilitics who have passed the fiftieth year. The latter is seen in younger subjects of alcoholism, lead poisoning, syphilis, typhoid, or gout. Pain is the most striking symptom, coming on most severely after an effort, mental or physical, and referred to the umbilical region or to the loins. There may be retching, meteorism, and nausea. Rest gives relief, but several attacks may supervene in one day. The pain is probably due to irritation of the nerve branches of the intestinal sympathetic, through sclerotic lesions of the vasa nervorum. Some writers, however, refer the pain to lesions of the abdominal aorta. Evidently differentiation is not easy from tabes, abdominal neurosis, hepatic and other colics, lead poisoning, ulcer and cancer, appendicitis; other signs of arteriosclerosis must be carefully looked for. Other symptoms of this form of the intestinal syndrome are redness of the face after eating, indigestion, enlargement of the liver, subicteroid hue, and either obstinate constipation or a mucoenteritis with bloody diarrhea. The constipation occurs often in crises, like the intermittent claudication of Charcot and Erb, which may be called crises of intestinal miopragia, and dyspnea accompanies them. When diarrhea occurs it is extremely characteristic and is probably due to a true edema of the bowel. Autopsy shows occlusion of the arterioles and ulcerations the size of a dime. It will be seen that there are no absolutely pathognomonic symptoms of the syndrome under discussion. Tincture of strophanthus, alone and combined with theobromine, has been recommended as a remedy.

3. **Thoracic Percussion.**—Rist states that there is nothing mysterious about this cornerstone of diagnosis and no special gifts of ear are demanded to acquire skill in its practice. The writer has nothing but scorn for those who teach that any special *sensation* is communicated to the plexi-meter forefinger by differing conditions in the thorax, and he avers that many other superstitions have grown up around what is a strictly scientific procedure. The ear alone is concerned with percussion, and the varying sounds are no more difficult to distinguish than shades of color. As Sahli remarks, when you palpate, palpate, but when you percuss, listen.

4. **New Conception of Parasyphilis.**—Danlos rests his conclusions on the following premises: 1. Tabes and general paresis are noted almost exclusively in syphilitics; 2, in these subjects, when these symptoms develop, the *pox itself* is cured. Danlos thinks the first proposition is not doubted; the second results from the fact that it is very exceptional to see during tabes and general paresis, any true syphilitic manifestation; at autopsy of tabetic subjects, the treponema is never found. Furthermore, specific medication, so valuable during syphilis, is useless if not dangerous in tabes and paresis. The latter must be due to some modification of secretion, either in rendering the soil more apt to nourish a new microbe or in modifying the internal medium in which the neuraxis lies and whence it derives its nutrition, the latter hypothesis being the more probable. The immunity of old syphilitics seems to be linked to the production of antibodies; therefore, it is not illogical to attribute parasyphilis to organic impregnation by

antibodies. Whether this idea holds water or not, it leads to an interesting therapeutical method: it is not the antibodies that we should combat, but the antigens themselves. No longer should we inject antigen plus complement, but antibody plus complement. Danlos avers that he is not far from thinking that herein lies the secret of the value of antidiphtheritic serum. The writer then discusses the discovery of Wassermann as it affects his theory, which, he says, he offers with due modesty.

6. Luminous Superheating.—De Laroquette thinks light will soon be as important therapeutically as it is biologically. The bodily organs are more transparent than has been suspected, and light rays in reality penetrate very deeply. Thermophototherapeutics is the name the writer proposes for the extended use of light and heat. Of the obvious effects of these agents, he speaks of hyperemia, slight analgesia, perspiration, polypnea, most marked in dogs which do not perspire, increase of functional activity, diuresis; and he concludes that they will be most valuable wherever there is subactivity of any organ, a functional diminution, or where increased function would be useful, as in convalescence from prolonged disease or in recovery from wound or shock.

SEMAINE MÉDICALE

December 20, 1911.

Trunecek: Shocks in the Subclavian Arteries as Signs of Sclerosis of the Thoracic Aorta.

Shock in the Subclavian Arteries.—Trunecek states that patients with aortic sclerosis exhibit always a visible series of pulsations in the subclavian arteries, easily detectable, moreover, by the strong impulse they communicate to the palpating finger. To this shock he has given the name of *ictus scleroticus*. It is synchronous with the action of the left myocardium and independent of respiration. It is caused partly by changes in the thoracic aorta and partly by those in the subclavian arteries themselves; the altered aorta cannot adapt itself to the quantity of blood driven through it at each instant. The sign is valuable because easily recognizable without apparatus or instruments, and without particular clinical skill, and because it gives accurate information regarding the condition of the aorta which is not susceptible of direct inspection.

REVUE MÉDICALE DE LA SUISSE ROMANDE.

November 20, 1911.

1. A. Guisan: Doctor Tissot's Casebook.
2. E. Bauer: Tuberculin Therapy and the Prophylaxis of Tuberculosis.
3. Perrin: Vulvovaginitis in Female Children.
4. C. Martin-du-Pan: Lorthioir's Procedure for the Radical Cure of Hernia in Children.
5. Long: Generalized Lead Paralysis.

3. Vulvovaginitis in Childhood.—Perrin describes a plan of treatment which he found would bring about a cure in from two weeks to twenty days. The reason this affection has hitherto frequently proved rebellious is that it is often associated with infection of the endometrium and urethra, which remains unrecognized and hence untreated. By inserting into the vagina a narrow endoscope, without injuring the hymen, the author found the cervix involved in every case under observation. Even in latent cases, where the vulvovaginitis seemed about cured, gonococci were found at the external os. Secretions obtained from the urethra with a platinum loop nearly always contained the gonococcus. In the treatment Perrin uses protargol and distilled water, of each 8 parts, in glycerin, enough to make 50 parts. This is applied to the urethra with cotton through a narrow tube, or by means of a syringe with long, narrow nozzle. The cervical canal is similarly treated, using an endoscope with electric illumination. Finally, a tampon with an extension or handle is introduced into the vagina, the tube withdrawn over the handle, and the vaginal parietes coated with the solution. A cotton tampon placed between the labia completes the procedure. About 100 cases were thus cured, showing no gonococci on repeated examination and no reaction after painting the cervix with one per cent. silver nitrate and injecting a 0.5 per cent. solution into the vagina and urethra. Sometimes nonspecific vulvovaginitis and proctitis persist after the gonococci have disappeared. In these cases Perrin found irrigations of 4 per cent. lysoform more effective than any other measure.

4. Radical Cure of Hernia in Children.—Martin-Du-Pan reports fifty-eight cases of inguinal hernia in children, operated in by the method of Lorthioir of Brussels. The distinctive features of this method consist in resection of the hernial sac at the highest possible point without opening the inguinal canal, and the leaving of the hernial stump free, without sutures or ligature. The procedure was based on the fact that in cases of recurrence after operations with suture of the stump, the scar of the sutured portion was found at the distal end of the new sac, suggesting that the suture had produced a depression in the peritoneal surface at the internal ring, favoring recurrence. With the stump unligated there remains a raised surface at the level of the internal ring which prevents the gut from slipping into the canal. The operation is so quickly performed and insignificant that even very young children can be operated upon with safety. A two centimetre incision over the external ring is sufficient. The sac is most easily identified by bringing up the testicle into the wound; it is then separated from the cord, drawn down as far as possible, and cut across. In children over three years old with widely open inguinal canals the author inserts one or two catgut sutures uniting the pillars. The skin incision is closed with Michel's clamps. In the series of fifty-eight cases there was but one recurrence; this took place within twenty-four hours and was due evidently to abnormal mobility of the cecum, the appendix being found in the left sided hernia. The author prefers the operation to bandage support in infancy, stating that the latter is often badly borne, ineffective, and favors testicular ectopy. The operation was performed even in poorly nourished infants and led to marked general improvement. Brief histories of fifty-one cases accompany the article.

CORRESPONDENZ-BLATT FÜR SCHWEIZER AERZTE.

December 1, 1911.

1. L. Frank: Determination of Physical and Psychic Symptoms During Hypnosis.
2. A. Dutoit: Detachment of the Retina as a Sequel to an Accident.

December 10, 1911.

2. E. Gallusser: Bronchoscopy.
3. R. Von Fellenberg: Extract of the Pituitary Gland in Labor.
4. Häberlein: Accident and Sickness Insurance Law.

1. Determination of Physical and Psychic Symptoms during Hypnosis.—Frank demonstrates in three or four cases which he cites, that we are able, during hypnosis under association of ideas, to determine certain physical and psychic symptoms which are the primary cause of certain neurasthenic conditions. He states further that we are sometimes able to overcome these conditions through the use of association of ideas. He thus does not follow Freud and his school, who are adopting suggestion.

2. Bronchoscopy.—Gallusser, after some general remarks on the use of the bronchoscope in which he reports some cases of his own and quotes from the literature, speaks of bronchoscopy in asthma. Ephraim has advised the local application of a solution of novocaine and suprarenin direct into the bronchus with the help of the bronchoscope. Gallusser has applied this method in two cases with good results. He does not give the exact dose.

3. Pituitary Extract in Labor.—Von Fellenberg states that we have in the extract of the pituitary gland a remedy which produces contractions of the uterus similar to those which appear in labor. He explains this action of the extract through its effect as an agent increasing blood pressure, which also influences directly the muscles of the uterus.

BERLINER KLINISCHE WOCHENSCHRIFT

November 27, 1911.

1. A. Grotjahn: Social Pathology.
2. Herman Lüdke and Joseph Sturm: Seroprognosis.
3. A. Géronne and C. Gutmann: Our Experience with Salvarsan in Abortive Treatment of Syphilis.
4. Hoffmann: Pure Culture of Spirochæta Pallida.
5. P. Aaser: The Demonstration of the Diphtheria Toxine in the Blood of Diphtheria Patients.
6. Fritz Fleischer: Streptomycosis Oralis Febrilis.
7. Bockenheimer: A Case of Pyopagus and the Operative Disunion.
8. Kretschmer: Therapeutics of Diseases of the Rectum.
9. Kurt Singer: Crisis of Tabetics.

3. Abortive Treatment of Syphilis.—Géronne and Gutmann report on thirty-seven cases of syphilis treated abortively; twenty patients had a negative Wassermann reaction, while in seventeen the reaction was positive. All patients were treated with one, two, or three injections of salvarsan, and twenty-four received mercurial treatment. Of the thirty-seven patients twenty-nine remained, some of them for sixteen months, under observation, which showed a lues free condition. The authors condemn the use of a ten or forty per cent. calomel oil, which is advised by Gennerich, but favor a combination treatment, consisting of mercurial inunctions and salvarsan injections.

4. Pure Culture of Spirochæta Pallida.—Hoffmann states that the culture medium of Noguchi for *Spirochæta pallida* has, in his hands, proved the best. This is a fluid medium which Noguchi produced from diluted serum and small pieces of tissue.

5. Diphtheria Toxine in the Blood of Diphtheritics.—Aaser has found the diphtheritic toxine in the blood of patients suffering from a severe attack of diphtheria and treated with antitoxine in a period of twenty-four to forty-eight hours after the injection of the serum. Post mortem he was also able to demonstrate the toxine in the blood of the heart.

MEDIZINISCHE KLINIK

December 10, 1911.

1. Felix Marchand: Inflammation
2. G. Finder: The Tonsils as Portal of Infectious Diseases
3. A. Schmidt: Disturbances of the Stomach in Migraine
4. L. Pa... Pneumothorax and ...
5. C. Hirsch: Early Diagnosis of Tuberculosis of the Kidney.
6. Edmund Saalfeld: Treatment of Warts.
7. A. Gockel: Light in Mountains.
8. C. Adam: Ophthalmic Therapeutics

3. Disturbances of the Stomach in Migraine.—Schmidt favors the theory that disturbances of the stomach in attacks of migraine are a sequela to the headache, and not the migraine a result of stomach trouble. He has found that atony of the stomach, so often observed in migraine, will occur with a general enteroptosis of the organs of the abdomen. These stomach attacks are either affections of secretion, motion, or sensibility. Sodium chloride therapy will therefore cure the stomach trouble, but does not affect the migraine. In other cases rest was the only cure for the stomach, again without results upon the migraine.

5. Early Diagnosis of Kidney Tuberculosis.—Hirsch does not favor tuberculin injection for diagnosis of genitourinary tuberculosis, although he was able through such an injection to diagnosticate the tuberculous kidney, the objective symptoms being pain in the region of the right kidney and fever.

ZENTRALBLATT FÜR GYNÄKOLOGIE

December 16, 1911.

1. G. Linzenmeier: Sepsis in the Newly Born. Origin[illegible]: Bednar's Aphthæ.
2. S. S. Cholmogoroff: A Method to Arrest Hemorrhag[illegible] the Uterus.

1. Bednar's Aphthe.—Linzenmeier observes that the septic diseases in the newborn, formerly so frequent, have now been greatly reduced. The so called puerperal infection of the newborn is seldom found as we pay special attention to external wounds, the usual entrance of sepsis. But we do not pay enough attention to the mouth, especially the gums. Foster defines Bednar's aphthæ as a disease occurring during the first few weeks of life, characterized by symmetrical patches of necrosis of the mucous membrane of the posterolateral borders of the hard palate. Prophylaxis and cleanliness are imperative to keep the infant's mouth sweet.

MONATSHEFTE FÜR PRAKTISCHE DERMATOLOGIE.

December, 1911.

1. Richard L. Sutton: Is There a Relation between Dermatitis Infectiosa Eczematoides, Dermatitis Repens, and Acrodermatitis Perstans?
2. Vörner: The Influence of Salvarsan Infections upon Lues Mixta.
3. P. Pawloff: Answer to Remarks of Professor A. I. Pospelow on My Study in Syphilides of the Bladder in Adults.

1. Dermatitis Infectiosa Eczematoides, Dermatitis Repens, and Acrodermatitis Perstans.—Sutton states that infectious eczematoid dermatitis represents a characteristically clinical and pathological anatomical process and should not be classified with the pustular eczemata as has been done. The cause may be found in the yellow or white staphyloccoci. Histologically this dermatitis is distinguished from dermatitis repens (Hallopeau's acrodermatitis perstans), especially through the localization of the inflamed process and the difference of the affected structure of the skin. In dermatitis eczematoides the pathological action is found nearly exclusively in that part of the stratum corneum

which is placed above the stratum lucidum, while in dermatitis repens the infection attacks the more deeply lying strata. This histological picture gives, therefore, the necessary pathology. The treatment of dermatitis eczematoides will consist in simple and mild antiparasitic medication and will not take longer than a fortnight while dermatitis repens manifests great resistance to treatment, which must be continued for months.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

December 12, 1911.

1. Falta and Fleming: The Effect of Adrenalin and Pituitrin upon the Uterus of the Rabbit and the Availability of the Uterus Method for the Proof of Adrenalin in Serum.
2. Hell: Pituitrin in Abortion.
3. Deutsch: The Results Received from Atophan in the Normal and the Gouty.
4. Herzog: Bacteriological Blood Examination in Sinus Thrombosis.
5. Gros: The Process of the Bactericidal Effect of Silver Preparations in Media of Sodium Chloride.
6. Ritter: The Quantitative Measurement of Röntgen Rays in Therapeutics.
7. Hannes: Pathology and Therapeutics of Hernia of the Umbilical Cord.
8. Weinmann: Alleviation of Pain in Labor.
9. Nürnberger: Guaiacol-Arsenic Therapeutics in Tuberculosis.
10. Tuschinsky and Iwaschenzow: Salvarsan in the Treatment of Scurvy.
11. Oberrholzer: Cerebrospinal Meningitis as a Recurrence after Salvarsan.
12. Borchers: On the Question of Localization of Speech Centres in the Brain.
13. Lichtenberg: An Improved Clasp for Union of Stomach and Intestine.
14. Bachens: Iodostarin.

1. The Proof of Adrenalin in Serum.—Falta and Fleming endorse O'Connor's statement that adrenalin may be found, after subcutaneous injection, in arterial blood, but not in venous blood collected from the muscles, skin, etc. This fact disproves the statement about the "adrenalin contents" of the blood of peripheral vessels.

2. Pituitrin in Abortions.—Hell states that the results obtained from pituitrin in abortions are not better and not securer than those from the older remedies, such as secale, hot and cold douches.

3. Atophan in Gout.—Deutsch reports his experiments with atophan, COOH—C_6H_5—N, phenylchinolin carbon acid, and states that in atophan we have the best remedy in acute gout which our present therapeutics possesses.

5. Silver Preparations as Disinfectants.—Gros demonstrates that the amount of silver which exists at the beginning of mixing a silver salt solution with serum bouillon, represent only a small fraction of the quantity of silver necessary to kill a certain number of bacteria. It will, therefore, be necessary that, in disinfection with silver preparation in sodium chloride media, a solution of silver chloride take place permanently. The process of the disinfection resolves itself into two actions—the reaction of the silver ions upon the bacteria, and the solution of silver chloride. The first part is the same in all silver preparations, but in the second part the several silver preparations act differently, and by a proper selection we can produce a good disinfection.

6. Quantitative Measurement of Röntgen Rays.—Ritter describes a "dosimeter" of Röntgen rays, in use at the dermatological clinic at the University of Kiel, which enables the röntgenologist to use the rays by sunlight as well as by artificial light.

8. Alleviation of Pain in Labor.—Weinmann advises the use in the last labor period of the seminarcosis with chloroform, also called chloroform narcosis *à la reine,* as Simpson is said to have used it for the first time in a confinement of Queen Victoria. In the first period of labor he prefers pantopon narcosis, if necessary combined with scopolamine.

9. Guaiacol-Arsenic in Tuberculosis.—Nürnberger comes to the conclusion that at present we are not entitled to attribute a specific influence upon tuberculosis to arsenic or any phenol derivative.

10. Salvarsan in the Treatment of Scurvy.—Tuschinsky and Iwaschenzow observe that in scurvy small repeated doses of salvarsan produced a quick amelioration of the symptoms in the mouth and a diminution of the number of spirochætæ. Otherwise salvarsan had absolutely no influence upon scurvy.

PRAGER MEDIZINISCHE WOCHENSCHRIFT.

December 7, 1911.

1. Camill Hirsch: The Prognostic Importance of Metastatic Carcinoma of the Chorioid.
2. Emil Haim: Pantopon-Scopolamine Anesthesia.
3. Rudolf Steiner: International Laryngological-Rhinological Congress, Berlin, September, 1911.

1. Prognostic Importance of Metastatic Carcinoma of the Chorioid.—Hirsch reports two cases of carcinoma of the breast, the patients having been operated upon some time ago. Suddenly there appeared a metastatic carcinoma of the chorioid. Seven months later the patients died. Hirsch says that his observation supports the views of Suker and Grosvenor who, in 1908, concluded from sixty cases of carcinoma that death will occur about seven months after the appearance of metastases of the chorioid.

ZENTRALBLATT FÜR CHIRURGIE.

December 9, 1911.

Perman, E. S.: The Importance of Indirect Pressure Pain in Appendicitis.

Pressure Pain in Appendix.—Perman maintains that pain in the ileocecal region excited by pressure on the left side of the abdomen is a constant symptom in appendicitis.

REVIEW OF NEUROLOGY AND PSYCHIATRY.

November, 1911.

1. Leonard J. Kidd: The Sensory Phrenic and Its Organs.
2. E. Dods Brown: The Use of Salvarsan in Mental Diseases.

1. The Sensory Phrenic.—Kidd states that the existence of a sensory portion of the phrenic nerve is quite unknown to large numbers of medical practitioners, and that he has never seen a clinician examine a case of pain in the neck, shoulder, or upper arm from the standpoint of the sensory phrenic, and that is what every clinician should do. In summarizing the anatomy of the phrenic, attention is called to the fact that of the six or seven branches, only two could possibly be even in part motor, viz., the terminal diaphragmatic, and a branch from the right phrenic to the inferior vena cava and the right auricle. Sensory branches are distributed to the pleura, pericardium, liver, peritoneum, and suprarenals, the distribution being less extensive on the left side. The clinical importance of an accurate knowledge of the phrenic lies in the fact that lesions of any of the organs supplied by

the sensory phrenic may cause referred pains in the neck, shoulder, or upper arm. Hippocrates and Galen recognized cervical and clavicular pains resulting from subdiaphragmatic lesions. Among the conditions to which the author ascribes frequent referred shoulder and neck pains, are pleurisy and pleuritic adhesions, cholecystitis, hepatic abscess, peritonitis and peritoneal adhesions, pancreatitis, and suprarenal tumors. He also suggests that hiccough as well as diaphragmatic and shoulder tics may sometimes owe their origin to irritation of the sensory fibres of the phrenic. Not all lesions of the organs mentioned, however, give rise to referred pains, for the phrenic represents only a part of their sensory supply, and its fibres may not be involved.

2. Salvarsan in Mental Diseases.—Brown has administered salvarsan in seventeen cases of mental disease classified as follows: Insanity of syphilitic brain disease, one; general paresis, five; dementia præcox, five; delirious insanity, two; chronic delusional insanity, two; melancholia and recurrent acute mania, each one. The injections were intramuscular and intravenous, and the dose generally 0.3 gramme. In some of the cases a second dose was given after a period of two to six weeks. For summarizing results, the cases were classified into two groups: 1, Syphilitic and parasyphilitic, and, 2, nonsyphilitic insanities. Of the first group, including one cerebral syphilis, five paretics, and one delusional with syphilitic history, only three showed definite mental improvement. In the second group about one half of the cases were apparently benefitted mentally. Most of the patients of both groups improved physically after the treatment. The Wassermann reaction when present was not modified, nor was the proteid content of the cerebrospinal fluid, although the cellular elements in this fluid were greatly reduced in the paretics. The erythrocyte count was not much affected, but leucocytosis and increased blood pressure were noted in nearly all of the cases, both of these conditions gradually returning to the original level in the course of a few days.

SURGERY, GYNECOLOGY, AND OBSTETRICS.

November, 1911

1. F. G. McConnell: Ileocecal Adhesions.
2. A. W. Mayo Robson: Actinomycosis of the Stomach.
3. J. M. Wainwright: Factors in Present Day Mortality of Appendicitis.
4. J. L. Yates: Physiological Principles in the Treatment of Acute Peritonitis.
5. H. C. Bailey: The Blood Pressure Index of Eclampsia.
6. S. M. Brickner: A Review of Seventy-three Cases of Dudley's Operation for Dysmenorrhea and Sterility.
7. B. B. Cates: Acidosis.
8. A. H. Barkley: Fibroid Tumors of the Vagina.
9. J. R. McDill: Tropical Infections of the Derivatives of the Primitive Gut, Complications, and Treatment.
10. C. Beck: Operative Treatment of Chronic Osteomyelitis.
11. H. Fischer: The Continuous Endotracheal Insufflation (Meltzer-Auer) in Endothoracic Operations in the Human Subject, with Description of an Apparatus.
12. F. J. Cotton and W. M. Boothby: Anesthesia by Endotracheal Insufflation.
13. G. T. Harrison: Treatment of Placenta Prævia.
14. D. A. K. Steele: Surgical Treatment of Fractures of the Pelvis.
15. G. Gellhorn: The Removal of Ureteral Calculi from the Bladder under Guidance of the Cystoscope.
16. G. Chandler: The Value of Posture in Avoiding Vomiting Following Ether Anesthesia.

1. Ileocecal Adhesions.—McConnell affirms that many appendectomies for chronic recurrent appendicitis, or for symptoms attributed to ileocecal adhesions are often followed by unsatisfactory results or nonabatement of symptoms, and states that kinks in the lower ileum due to ptosis of the cecum, or membranous pericolitis, which restricts the normal movements of the cecum and colon, give symptoms almost identical to those of appendicitis chronica. Removal of these conditions has been followed by permanent relief in cases in which a previous appendectomy gave no improvement. In operating for chronic appendicitis these conditions should be searched for, though this will necessitate a larger incision than is usually employed, and if found, they should be removed or corrected, and an effort made to keep the cecum up and out of the pelvis.

3. Factors in Present Day Mortality of Appendicitis.—Wainwright, in showing that the actual cause of death in many of the fatal cases of appendicitis is due not necessarily to the appendicitis itself, but to some more or less remote complication or secondary condition, reviews 300 operative cases among which there have been sixteen deaths from all causes, or 5.3 per cent. No bad case was refused operation. He divides the cases into four classes: Class I. Appendix acutely inflamed or gangrenous, but with no pus outside the appendix, fifty-nine cases with three deaths. Class II. Acute cases with localized abscess, sixty-four cases, with two deaths. Class III. Acute cases with free pus, twenty cases with nine deaths. Class IV. Chronic or recurrent cases, 157 cases with two deaths. The fatal cases he divides into four groups as follows: Group I. Recovery from operation and death later from pulmonary embolism; two cases. Group II. Death due to accidents and previous diseases; two cases. Group III. Cases making good recovery from operation and ending fatally afterward from pulmonary infections; three cases. Group IV. Cases making a good operative recovery but ending fatally some time later on account of exhaustion due to fecal fistula; three cases. Group V. Cases ending fatally with immediately continuing symptoms of abdominal sepsis; six cases. These last six cases are the only ones out of the sixteen reviewed which terminated fatally from the immediate effects of the disease. Pulmonary embolism usually occurs about the tenth day and in patients who have apparently been making a good recovery, and is usually secondary to unsuspected local thromboses, very often of the pelvic and lower abdominal veins. Femoral phlebitis, usually of the left side, has been noted in several cases, but all ended in recovery. These cases of vascular disturbance nearly all occurred in cases without pus and where there was primary union of the wound. Inflammatory conditions in the chest, usually of the right side, are fairly frequent, and nearly always occur after pus cases, especially where there has been general peritonitis. Undoubtedly the anesthetic is partly responsible by impairing the resisting power of the lung. "The Murphy treatment" no doubt results in a lower mortality in pus cases than where more elaborate measures to get rid of the pus are tried, i. e., suction or irrigation. The deaths in Group V were due to delayed operation almost solely and represent the mortality in the worst type that comes to the general hospital. Ether reduces the phagocytic power of the blood and so predis-

poses to infection, but this may be prevented according to Graham by administering 150 c.c. of olive oil per rectum. Abscess of the liver, suppurative pylophlebitis, and subphrenic abscess, though common, have not been encountered in this group of cases.

9. **Tropical Infections of Gut.**—McDill asserts that amebic disease can recur without dysentery, and an examination of dejecta after a saline cathartic will reveal the dislodged parasites. Liver abscess as a complication of amebic disease of the colon always has the ameba in its wall as the specific pathogenic organism of the disease. Early recognition of the intestinal disease and proper treatment will reduce amebic liver abscess to a minimum. Solitary liver abscesses are the only ones amenable to successful surgical treatment, which is by drainage. The best route to the liver for exploration and drainage is transpleural, which avoids lung collapse. Four inches of the tenth rib are resected, and the wound closed by sutures through the entire thickness of the musculature. Then an incision is made along the upper border of the eleventh rib, extending into the peritoneal cavity, the fingers of an assistant meanwhile pressing the loosened chest wall in and against the diaphragm to prevent pneumothorax. The upper lips of the wound are clamped together and later sewed, closing up the pleural cavity. The liver is thus exposed near its dome and is ready for any ordinary exploration. If pus is not found the wound may be packed and after adhesions form further exploration may be done. In intractable cases of amebic dysentery appendicostomy gives good results, but is difficult.

10. **Operative Treatment of Chronic Osteomyelitis.**—Beck states that bones differ only from other tissues in the process of repair, the scar formation of the soft tissues being replaced in bone by the formation of new bone on top of an old inflammation, the repair often outgrowing the damage. The lower third of the femor and the upper third, lower third, or whole tibia are the usual sites of osteomyelitis. Pain and abscess formation are the two principal indications for surgical interference. They are concomitant, the pain ceasing when the pus can flow freely. The old treatment of making a big enough opening to curette out all the necrosed bone you can find is condemned by Beck as changing a partial necrosis of bone into a chronic suppurative cavity of bone which will constantly discharge from one or more fistulæ. This is because the edges of the bone are separated and cannot heal, just as any other wound with separated lips cannot heal. Bone chips, skin grafts, waxes, and pastes have been used to overcome this, but Beck affirms that pastes are of use only in narrow channellike cavities and that the following three rules are paramount for good results: 1. Open broadly, leaving periosteum intact as much as possible; 2, remove all diseased tissue; 3, leave no cavity behind. The bone is chiselled away till perhaps half its circumference is gone. The periosteum, which has been carefully separated and conserved, is sutured and allowed to fall against the flat surface of chiselled bone, obviating any cavity. The periosteal cavity may in some cases be packed with gauze and later with paste for a number of days. The external wound is closed with sutures or adhesive plaster and readily heals. Results are still better in the tibia, for here the whole tibia has been removed, leaving the periosteum only, from which a new tibia has formed.

11. **The Continuous Endotracheal Insufflation in Endothoracic Operations in the Human Subject, with Description of an Apparatus.**—Fischer describes a simple and ingenious method devised by Meltzer and Auer, of New York, which obviates expensive special rooms or cabinets for endothoracic operations. Respiration is carried on by continuous insufflation of the lung and without any normal or artificial rhythmical respiratory movements whatsoever. The method is as follows: A soft rubber tube, open at the end, is introduced into the larynx and pushed down into the trachea until the bifurcation is reached. It is then withdrawn one inch. The tube should not be too large to permit escape of air between the tube and tracheal wall. The tube is connected with a three necked Wolff bottle containing ether, from which another tube leads to a pressure pump. This is all the apparatus necessary. If only air is desired a second tube is used, leading directly from the pump to the tracheal tube. If ether and air are to be used the two tubes are required. There is an outlet in the common tube which can be closed or opened by a clamp, the opening of which for a moment reduces the pressure in the lungs and permits exchange of gases. This should be done a few times a minute. A pressure of ten to twenty millimetres of mercury is used. Fischer has devised a special introducer to overcome the difficulty of introducing the tube into the trachea.

12. **Anesthesia by Endotracheal Insufflation.**—Cotton and Boothby being engaged with Ehrenfried in experiments on the plastic surgery of the abdominal and thoracic aorta, noted that in numerour experiments with endotracheal air-ether anesthesia sudden deaths on the table (formerly numerous in this class of cases) entirely disappeared. The apparatus was a "pickup" apparatus, which was later, with some refinements, used on human cases with excellent results. They have constructed an introducer, very like the O'Dwyer intubating apparatus, to obviate the difficulty in placing the tube in the trachea. Reasoning that nitrous oxide-oxygen anesthesia should be ideal in insufflation cases, they have used it in several instances with gratifying success. No air is used, only nitrous oxide, ether, and oxygen, the ether being discontinued as soon as the patient is well under.

14. **Surgical Treatment of Fractures of the Pelvis.**—Steele says that in the treatment of fractures of the pelvis, the complications are more important than the fracture itself. Rupture of the urethra, tearing of the prostate, or laceration of the bladder or rectum are among those most fatal. The catheter should be introduced to eliminate injuries to the urethra or prostate. If the catheter cannot be passed, or if the first urine is bloody, the urethra or bladder is injured and a perineal incision into the urethra should be made so as to drain the bladder. If there is evidence of peritonitis, a laparotomy is indicated at once. The

treatment of the fracture itself is to encircle the pelvis with a snug flannel binder and keep the patient recumbent on a firm, comfortable mattress, with a trap door in the centre, so that excreta can be taken care of without disturbing the patient.

16. The Value of Posture in Avoiding Vomiting Following Ether Anesthesia.—Chandler states that he sets his patients up in a sitting posture immediately the operation is finished, no matter what the condition operated for, and almost never has vomiting or nausea occurred, as is usual in the recumbent posture. He ascribes this to the avoidance of congestion in the medulla and thus irritation of the respiratory and vomiting centres, and also to the pressure of the abdominal viscera being removed from the diaphragm by gravity.

THE JOURNAL OF INFECTIOUS DISEASES

November, 1911.

1. C. F. Craig: Further Observations on the Complement Fixation Test in Lues.
2. E. Steinhardt and T. Flournoy: The Effect of Specific Vaccines on Rat Typhoid.
3. R. T. Petit: Secondary Infection in Pulmonary Tuberculosis. Recovery of the Streptococcus and Pneumococcus from the Blood.
4. O. Klotz and W. L. Holma: Infection by the Gas Bacillus in Coal Mines.
5. W. D. Frost and V. Armstrong: The Cleaning Efficiency or Sanitary Value of Vacuum Cleaners.
6. G. W. McCoy and C. W. Chapin: Plague Infection with Particular Reference to that of Ground Squirrel Origin.
7. G. F. Dick: On the Nature of the Proteolytic Substances in the Blood.
8. J. A. Luetscher: The Comparative Virulence of the Pneumococcus in the Sputum of Lobar Pneumonia at Various Stages of the Disease, with Special Reference to Crisis.
9. R. P. Hibbard and D. C. Neal: Some Observations on the Blood of Dairy Cows in Tick Infested Regions.
10. W. R. Copeland and C. P. Hoover: The Interpretation of Tests for *Bacillus coli communis*.
11. C. W. Duval, F. B. Gurd, and R. Hopkins: A Study of the Factors Determining the Cure of Individuals Infected by *Bacillus Lepræ*.
12. K. K. Koessler and J. M. Koessler: Specific Antibodies in Scarlet Fever.
13. W. T. Sedgwick and F. Schneider, Jr.: On the Relation of Illuminating Gas to Public Health.
14. H. M. Bracken, F. H. Bass, F. F. Wesbrook, H. H. Whittaker and H. W. Hill: The Mankato Typhoid Fever Epidemic of 1908.

1. The Complement Fixation Test in Lues.—Craig gives an analysis of 3,950 tests in which a modified Noguchi technique was employed, the difference being that an alcoholic extract of fetal luetic liver was used as antigen and that the serum was inactivated. To determine the keeping quality of the serum, fifty normal sera were kept and examined at intervals of one week for a month. The results convinced the experimenter that as long as normal sera remain free from bacterial contamination, and are inactivated before use, they do not give a positive reaction, even though kept at room temperature for a month. In Group I of 1,661 cases in which the diagnosis was lues or suspected lues, the percentage of positive results was 83.7 if certain ones were omitted. If there are included, however, 53 individuals who were tested in the primary stage of the disease at a period too early for the reaction to have appeared, and 37 in whom vigorous specific treatment had been administered for weeks or months, 79.1 per cent. gave positive results. The highest percentages were obtained during the primary and secondary stages, being 95.9 per cent. in the latter if the treated cases are omitted. In Group II consisting of 618 individuals not diagnosticated clinically as syphilis, seven were positive. Three of these occurred in patients suffering from tertian malarial fever, the blood being tested during the febrile stage. In all the blood became negative after the subsidence of the fever. Of the other four three were diagnosticated as pulmonary tuberculosis, and one as "undetermined fever." In two of these diagnosticated as tuberculosis, a history of luetic infection was obtained later. Group III consisted of examinations of the blood of 156 individuals in good health and in whom luetic infection could be excluded. A negative result was obtained in every instance. As a result of these tests Craig concluded that, "If the disease in which the complement fixation tests has occasionally been found positive be excluded, a double plus or plus reaction is sufficient to enable one to diagnosticate the presence of lues. I am convinced that, under such conditions, the test is absolutely specific whether symptoms of the disease are present or not, and whether there is, or is not, a history of infection. In those cases in which, after the appearance of a suspicious lesion, the negative reaction becomes positive, a diagnosis of lues can be made without hesitation. On the other hand, a diagnosis of lues should never be made upon a plus-minus reaction alone. The presence of a reaction indicates active infection even though it may not be manifested by symptoms, and is always an indication that further treatment is necessary."

3. Secondary Infection in Pulmonary Tuberculosis.—Petit takes up the mooted question of the degree of importance of secondary infections in pulmonary tuberculosis, the chief point in his technique being that he withdraws from 10 c.c. to 20 c.c. of blood, usually the latter. In making the broth cultures a concentration greater than one to ten was avoided. From a series of 130 patients, streptococci were found in 36 cases, the pneumococcus in 24, a percentage for the two of 46. The isolation of the pneumococcus or the streptococcus from the blood stream of more than one third of the cases examined leads the author to the conclusion that not only are secondary invading organisms of frequent occurrence in pulmonary tuberculosis, but further, that in many instances these organisms, entering the blood stream, constitute a complication of extensive pathological significance.

5. Sanitary Value of Vacuum Cleaners.—Frost and Armstrong, as the result of experiments with different forms of vacuum cleaners, conclude that the efficiency of the permanently installed systems is much greater than in the case of the portable machines, the efficiency of the latter varying greatly according to the differences in motive power, manner of construction, shape and size of brushes, etc. The main drawback in the portable machines is that the air is exhausted within the room and with it many bacteria may escape. Health officers are, therefore, warranted in forbidding the use of these machines by travelling cleaners, since it must be very evident that pathogenic organisms could be carried from one house to another.

8. Comparative Virulence of the Pneumococcus in Lobar Pneumonia.—Luetscher, by means of isolating the pneumococcus from sputum, cultivating it and inoculating animals with it, attempts to determine the changes that take place at the

time of crisis. Whether the change in the patient's condition is due to the development of resisting elements within the individual or to changes in the organisms, his conclusions are as follows: 1. Crisis is not a result of any change in the virulence of the pneumococcus; 2, as long as pneumococci are expectorated from the lungs (for a short time in cases with crisis, for a longer period in cases with lysis) the organisms retain practically their original virulence; 3, strains obtained from pharyngeal swabs during the pneumonic process have the same virulence as those obtained from the sputum; 4, strains obtained from pharyngeal swabs after the lungs have resolved and expectoration has ceased, have a relatively low grade of virulence; 5, a strain obtained from the throat of a patient not ill with pneumonia, had the same relative virulence as strains obtained from the throats of convalescent patients in whom the physical signs had disappeared; 6, loss of virulence of organisms obtained from the throats of patients who have recovered from pneumonia, seems to be due to an unfavorable action of the saliva; 7, from the results obtained in one case, there does not seem to be any difference in virulence of the organisms obtained from the blood, and those obtained from the sputum.

THE LARYNGOSCOPE.

October, 1911.

1. G. Bruehl: Pathology of the Ear.
2. P. D. Kerrison: The Vertigo of Vestibular Paralysis.
3. S. McCullach: A Report of Eleven Cases Operated on by the Yankauer Method for Closure of the Eustachian Tube.
4. G. C. Hall: Report of Cases Operated on by the Yankauer Method of Closing the Eustachian Tube.
5. G. Hudson-Makuen: Some Obstructions to Speech Development.
6. L. F. Frissell: The Oropharynx as a Portal of Entry for Infection.
7. W. P. Wherry: Vincent's Angina. A Study of the Invasion of the Tonsil.
8. F. Brawley: Diagnosis of Associated Diseases of the Eye and Nasal Accessory Sinuses.
9. O. Glogau: Removal of a Laryngeal Polypus under Guidance of the Pharyngoscope.
10. H. P. Mosher: A Tube for Closing and Removing an Open Safety Pin.
11. C. J. Koenig: Submucous Resection of the Nasal Septum. New Instruments.
12. J. C. Beck: Radiography in Otolaryngology.

6. The Oropharynx and Infection.—Frissell, in considering the throat as a portal of entry for infection, appears to lay stress upon the significance of the fact that the ring of Waldeyer, which practically surrounds the combined opening of the digestive and respiratory tubes, is situated at a point where the ciliated epithelium is not yet present to furnish protection by sweeping out the invading microorganisms. The ring is at the same time beyond the protective action of the saliva, which frequently shows an inhibitory action on bacterial growth. Systemic infection, with the tonsil acting as the portal of entry, may be through the bloodstream, when constitutional symptoms will manifest themselves within a few hours. The more common method of infection, however, is probably through the lymphatic stream, as evidenced by the frequent enlargement of the lymphatic gland at the angle of the jaw, and sometimes of the deep cervical chain. The diseases developing as the result of gaining entrance into the body through the oropharynx may be of two types: The local infection may cause constitutional disturbance as the result of toxine absorption, as in diphtheria; or bacteria may actually invade the body, as is seen in tuberculosis, where the tubercle bacilli have been detected penetrating the intact mucous membrane. Experimental evidence is at hand to show as the result of invasion an indirect possibility of involvement of the apex of the lung from the tonsillar infection. Many cases of septic invasion of the body have been reported, which have been traced to the tonsil as the point of entry, the constitutional manifestations resulting because of the entrance of the infection into the bloodstream.

7. Vincent's Angina.—Wherry, having had an opportunity to study at first hand fifty cases of Vincent's angina, states that there are two distinct manifestations of this disease, invasion into the tonsil and into the extratonsillar tissue, the latter being much the less characteristic, both, however, have the same specific germ, but a separate pathological entity. The necrosis first starts in a crypt which is usually situated well up toward the apex of the tonsil and behind the anterior pillar. Because of faulty drainage, retained secretions, and epithelial débris, the destructive process is greatly encouraged. The ulcer affecting the extratonsillar tissue is usually circular, involving only the mucous surface, and having a most characteristic red, slightly raised areola surrounding it, the margin being slightly undermined. The essential features in the treatment are the promotion of drainage and the stimulation of Nature's efforts, and cleanliness of the ulcer. With a cotton wrapped probe, the detritus is removed, and an application of a twelve per cent. solution of silver nitrate is made to the infected crypt. The author concludes that *Bacillus fusiformis* in its usual activity is not a very virulent organism, that the ground must be prepared by other organisms and by lower resistance for its invasion; that Vincent's angina is essentially a disease of the crypt of a tonsil induced by poor drainage plus the germ; that the promotion of drainage and the application of twelve per cent. silver nitrate is specific; that the usual site of election is the upper angle of the tonsil behind the anterior pillar.

MONTHLY CYCLOPEDIA AND MEDICAL BULLETIN.

December, 1911.

1. W. J. Morton: Note on Fluorescence Excited within Human Tissues as a Mode of Treatment.
2. A. E. Gallant: Panhysterocolpectomy for Hernia Vaginæ.
3. S. W. Newmayer: Status of Midwifery in Pennsylvania and a Study of the Midwives of Philadelphia.
4. J. O'Malley: The Common Gastric Diseases.
5. C. E. de M. Sajous: Hypoadrenia as a Cause of Death in Infections and Its Treatment

1. Fluorescence.—Morton's method of utilizing fluorescence consists in saturating the patient's blood and tissues with a harmless, potentially fluorescent substance such as esculin or fluorescein and then submitting him, in whole or in part, to the effects of some agent which directly excites fluorescence, such as the Röntgen rays or radium. He uses a standard solution of fluorescein in water (one to thirty), administering from ten to forty drops three times daily in a glassful of water one hour after meals. On applying the Röntgen rays the tissues are subjected wherever they penetrate to an effect such as would be produced by different varieties of light, including ultraviolet and ultrared. The effects asserted for "fluorescization" include, 1, an increase of oxygen in intimate relation to tissue molecules, and, 2, great acceleration

of intracellular changes. A mild radiation promotes all cell growth, but an intense radiation causes cell destruction. The method is maintained to be superior to the Röntgen rays used alone in that even very dilute rays suffice to awaken fluorescence in deep tissues and to produce thereby definite destructive effects,—a result unobtainable by the Röntgen rays alone without endangering the vitality of superficial tissues. The author has employed the method in cases of cancer since 1903 and has seen benefit from it. In lupus and tuberculosis of the bones, lymphatic glands, peritoneum, bladder, and lungs, recovery was greatly hastened by it.

2. **Panhysterocolpectomy.**—Gallant reports a case of external cystocele occurring some years after hysterectomy, in which he removed the mucous lining of the vagina and obliterated the cavity completely down to the hymeneal border. In another case, that of a woman of sixty-eight years, suffering from complete uterine prolapse with cervical ulceration, hysterectomy and colpectomy were performed in combination, and gave complete relief from the deep pains previously present. The results in the twenty-one cases of hysterocolpectomy so far reported have been so successful that the author believes it justifiable to recommend this procedure in severe forms of prolapsus, especially where other operations have failed, provided the menopause is past and marital relations are no longer in question.

4. **Gastric Diseases.**—O'Malley lays stress on the fact that what is apparently gastric disease is often reflex and due to disturbances at a distance. Gallbladder irritation can lead to oversecretion and hyperesthesia in the stomach and cause pyloric spasm with food stasis where there is no actual stenosis. In the opinion of many authors, gastric atony and even gastrectasis may be dependent upon long continued nervous depression. In some cases of acute postoperative dilatation no mechanical obstruction exists. In incipient pulmonary tuberculosis with digestive disturbances reflex influences may be responsible. Superacidity is often a reflex manifestation; the author has seen it disappear after proper refraction of the eyes. The same measure relieved gallstone pain simulated by a neurotic pylorospasm. Where eyestrain is the cause of reflex gastric trouble the refraction must be very accurate or the result will be discouraging.

5. **Hypoadrenia.**—Sajous designates by "terminal hypoadrenia" a form of adrenal insufficiency occurring late in the course of a febrile disease and resulting from exhaustive secretory activity incident upon the attempt of the adrenals to protect the organism against the pathogenic agent. Temporary local lesions during the febrile stage may also have been a factor. The symptoms of hypoadrenia consist of pronounced adynamia, low blood pressure, hypothermia, pallor, anorexia, nausea, diarrhea, weak and more or less accelerated pulse, vertigo, fainting spells, not infrequently with ultimate death from cardiac failure. Disturbances of this type have been observed in pneumonia, typhoid fever (cardiac type), diphtheria (malignant form), scarlatina (fulminating cases), tetanus, erysipelas, mumps, certain forms of amygdalitis, and some streptococcic infections. Nonfatal cases are exposed to relapse of the infection or to complications such as sepsis, abscesses, bone lesions, rapid tuberculosis, disorders of nutrition, cholelithiasis, and occasionally Addison's disease. The adrenals may show no pathological change, but are usually enlarged and congested, and may present hemorrhagic areas or suppurative inflammation, the latter especially in case of streptococcic infection, pneumonia, or meningitis. The treatment of the average case of hypoadrenia consists of giving the dried suprarenal gland (U. S. P.) as soon as asthenia and low blood pressure appear; dose, 3 grains (0.2 gramme) three times daily in capsules, gradually increased to 5 grains. When cardiac weakness disapears, desiccated thyreoid gland, 0.5 grain (0.03 gramme); strychnine, 1/60 grain (0.001 gramme), and Blaud's pill, 1 grain (0.06 gramme), added to each capsule, will hasten convalescence. In more dangerous cases epinephrin may be injected intravenously in saline solution (at 108° F.), the needle of the syringe containing the former being inserted into the rubber tube conveying the saline. Or, 10 minims of the one to 1,000 solution diluted in saline solution may be given hypodermically, or better intramuscularly as initial treatment. Rénon and Delille obtained good results with pituitary extract, 1.5 grains (0.1 gramme) by the mouth at noon daily.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 6, 1911, held under the auspices of the Section in Pediatrics.

The President, Dr. WILLIAM M. POLK, in the Chair.

The Influence of Milk Station Work on the Reduction of Infant Mortality.—This paper, by Dr. GODFREY F. PISEK, appeared in this JOURNAL for November 25, 1911, p. 1065.

The Principles of the Reduction of Infant Mortality.—Dr. S. JOSEPHINE BAKER was the author of this paper, which appeared in this JOURNAL for November 25, 1911, p. 1067.

ERNEST J. LEDERLE, Ph.D., commissioner of health, said that the Department of Health had asked the Board of Estimate for sufficient funds to carry on under permanent municipal auspices the work of the seventy milk stations that had been established in the city of New York partly by the city and partly by the New York Milk Committee and other private organizations. If the people of the city thought this work worth while, and if they believed the Board of Health the proper agency for this work, the Board of Health asked that it be supported by the people, and especially the medical profession, in obtaining from the Board of Estimate sufficient funds to carry on the work properly.

In his discussion Doctor Lederle confined himself to the question of the control of the milk supply of the city. We had seen remarkable changes in the last thirty years in the control of the milk supply by the municipal authorities, especially by the Board of Health. Twenty-five or thirty years ago the Department of Health was confronted with what was considered a very grave matter, the adulteration of

milk by the removal of the cream, the addition of water, or both. About twelve years ago certain physicians became interested in infant feeding, and it was found that there were often more important features to be considered in the milk supply that was to be used for infants, and the chief one was that the milk should be clean. If unclean milk was found that meant injury to the infant. It was known that certain diseases were transmitted to infants as well as to adults through the agency of milk. This pointed to a new field to deal with in considering the milk supply. In 1902 and 1903 the Department of Health took upon itself the task of making bacteriological examinations to learn the condition of uncleanliness of the milk of the city, even going to the farms and creameries for this purpose. A system of inspection was established. Great results had been accomplished through this system of milk inspection at the farms. At the present day, however, it was found that the producers would not supply us with the quality of milk demanded, especially that required for infant feeding.

A few years ago there occurred a serious outbreak of typhoid fever on the west side of the city which was traced to milk. During the early part of last year another serious outbreak occurred in the upper west side of the city which was traced to milk. It was found that the milk had been contaminated by a typhoid carrier. As a result of the investigations made at that time recommendations were made by the Department of Health that all the milk used for drinking purposes should be pasteurized. Good results were expected from this recommendation during the coming year.

It was decided that it was impossible for the city of New York to use 1,600,000 quarts of milk a day that had been brought to the standard which would be proper for infant feeding; it was not, in fact, necessary that the whole supply of 1,600,000 quarts should be brought to this standard; it was not economic, nor was it proper to raise the cost of such a milk to a prohibitive degree. Therefore the Department of Health had decided to adopt an official grading of the city's milk supply into three classes: Grade A, for infants and children; grade B, for adults; grade C, for cooking. This was described in detail on a chart to which the commissioner referred.

Doctor Evans, former commissioner to the Department of Health, Chicago, Ill., said that one third of the people in Chicago, and he presumed it was the same in New York, died from what was termed "bad air" diseases; one third died from infant diseases; while the remaining one third died from all the other things combined. Therefore, it was easy to see how important it was that this field should be cleared up. From an economic standpoint it was worth while. There was nothing in dead or neglected babies. In some communities it was very difficult to get people to understand the importance of this work.

Dr. Philip Van Ingen said there were one or two things that he would like to emphasize. He had made a study of infant deaths in the Borough of Manhattan for the last three years. In making comparisons up to the first of October he found that in the Borough of Manhattan thirty-three per cent of the decrease in infant mortality had occurred in 144 blocks immediately surrounding eleven milk stations. He had not yet obtained figures for the rest. Six were on the lower east side, four on the lower west side, and one was on the upper west side. Thirty-three per cent of the total decrease in infant mortality in Manhattan occurred in an average of thirteen blocks surrounding these milk stations.

Another interesting thing was that the reduction had taken place since June 1st. In other words, since the work was begun by the Board of Health and other agencies, infant mortality had been on the decrease. There had been a decrease of 882 deaths among infants in four months in the Borough of Manhattan alone. There had been a total decrease of 1181 in the greater city of New York. Manhattan and Brooklyn showed a decrease of 1187, or six more than the total for the greater city of New York.

It seemed to Doctor Van Ingen that when the infant mortality was considered in those 144 blocks since the founding of the milk stations, and compared it with the previous year—or the average for the two previous years—and found a diminution of twenty-nine per cent., it showed that there was something at work. As Doctor Baker had said, the keynote in the work of the milk stations was prevention. Their chief efforts were not directed toward the curing of sick infants, but keeping them well. The nurses went from house to house and talked with the mothers regarding their babies, urging them to make efforts to keep them well. This was an economical way of handling the proposition.

Dr. Henry Dwight Chapin said there was one thing he would like in particular to emphasize, the high mortality among infants in institutions. They would never reduce the mortality among a certain class of infants as long as they were handled in institutions. A large number of decrepit and underfed infants were not properly cared for at home. They drifted from one hospital, from one dispensary, from one asylum, to another, and eventually they died. Such a class of infants should be boarded out. Ten years ago he recognized that we had a problem which required a different method of treatment to solve. So he chose a certain district in the country near Morristown, N. J., where he had a doctor and a nurse on salary and infants were sent there to be boarded out. These were the atrophic, badly nourished infants, and a large proportion of them had been saved. It was better to permanently help these infants than to only temporarily tide them over. These infants swelled the death rate when treated in institutions. Many would be saved if boarded out under proper conditions. The city of New York should have districts near New York where such babies could be boarded out in small homes and receive a mother's care under the oversight of a doctor and nurse specially trained to handle such infants. This would greatly reduce the death rate in this class of cases.

Dr. L. Emmett Holt said he was glad to hear Doctor Baker emphasize the fact that there was a high infant mortality all the year round. It was often forgotten that twenty-five per cent. of all in-

fant deaths occurred during the first month of life. These early deaths were due to congenital feebleness, prematurity, accidents of birth, etc., and were not influenced by the season of the year. He thought the prevention of infant mortality should be begun, as had been already stated, by caring for the mother before the infant was born. One should carefully scrutinize the work of midwives; and should follow up newly born children in the home by the visiting nurse before they became sick.

In the past one of the most striking things to be noted in infant mortality was the small number of deaths from gastrointestinal diseases among the well to do in contrast to what was seen among the poor. This was in part perhaps due to the difference in the milk supply but largely to the care, instruction, and attention which well to do classes were able to avail themselves of. Until very recent times poor people had little opportunity to know what was proper in the care and feeding of children. Mothers often brought children to dispensaries after they had been sick a week, the child's food during this time not having been changed. We had now begun to work at the right end of this problem. Infant mortality was to be solved by methods of prevention, not therapeutics. Of all methods of prevention, education took the first place. The agencies which had cooperated so well during the past season were all deserving of heartiest praise. It was a splendid example of what could be accomplished in this way.

Doctor Holt strongly endorsed the application made by the commissioner of health to have the work now going on continued throughout the year. It was not a question of the number of bacteria in the milk, but of the intelligent care of the infant from its birth.

Dr. WILLIAM P. NORTHRUP said he had only one thing to add, the importance of not treating these children in hospitals; his experience in attempting to cure them in hospitals was not encouraging. He said he was much interested in the enterprise of Doctor Chapin. The follow up nurse was of great value; she followed up these mothers who brought their infants to the outdoor department and gave them instructions; the instructions were the most important part of her functions. Any nurse who came from an institution or from a clinic, going among the people with the endorsement of a college, was "some person" and these women would listen to her. Many times a doctor would give definite and careful instructions and the woman would say: "Yes." She would go to another dispensary, get a bottle and definite instructions, and say: "Yes." Then she would go to another dispensary, get her bottle and instructions and again say: "Yes." So she would go to three different dispensaries. At last it was found out that she did not understand English. If, however, the nurse visited the home and asked what the mother was doing with the milk, she would be surprised to see her but would finally welcome her. The nurse went back again and the mother believed in her. Doctor Northrup felt convinced that this matter of education was the most important part of this subject. This matter of instruction was what he was most interested in and what he would like to emphasize. The doctor could not get far on the road of instruction without the aid of a follow up nurse.

Dr. A. JACOBI said that he could only repeat what had already been stated. He understood that this was not a "milk" but a "mortality" evening. It had been alluded to that a large number of infants died before the child was one week or one month old. We should not forget that. It was not a question of milk stations exclusively; it was a question of nursing from the very first. What could be done for the newborn infant should be done by the mother if she was capable. The mothers themselves, however, were not properly cared for. As a rule, of one hundred women, if properly fed and instructed, at least ninety-five were able to nurse their infants. These did not want milk stations; they had their milk stations in their own breasts. The mother should be cared for before the infant was born and particularly afterward. There was no place in New York where these poor women could go to rest up for six or eight weeks. There were now no more than 1,000 beds for any class of convalescents in the city of New York; we should have 10,000 beds. A number of private persons had begun to study this question to learn what to do with these women after confinement. Now they were treated like acute patients in the hospitals who were discharged as soon as the main symptoms of an acute disease disappeared. Before considering what we should do for the infants, we should first do something for the mothers. If private persons would not do it, the community *must* do it. If an infant died, it was somebody's fault; if the infant died because of bad air or bad food, it was due to the community; the community should hold itself responsible. It was said that this was socialism or the claims of socialists; Doctor Jacobi said if this was so, the sooner we adopted such rules the better for the mothers and for the babies.

He also referred to the housing of these people. They must have good pure air; not only must they have rest, good food, but they must get away from the foul air of the tenements. As an example, we could not succeed in treating tuberculous patients unless we gave them pure air. The same with infants. They could not thrive in a badly ventilated, congested room. They would die because of lack of fresh air and egress of heat. They would die as people died from heat stroke. Heat stroke and bad air should be avoided. There should be better housing for the people, for the whole people, rich and poor. He had been in large Fifth Avenue mansions where the library and sitting room extended over the whole width of the house; yet the children were on the top floor where there was hardly a breath of air.

Metabolism in Rheumatism. Food Factors in Rheumatism. Management of Valvular Lesions.—Dr. JOSEPH E. WINTERS said that he was thoroughly and absolutely convinced of the chemical etiology and chemical pathology of rheumatism. That contention was based on the products of protein metabolism; the irritant effects of these products existed when they were not neutralized by suffi-

cient basic constituents in the food. The acid products of protein metabolism, when not neutralized by sufficient basic constituents, resulted in all the manifestations of rheumatism.

The foul smell, the acid perspiration, the acid urine, etc., were phenomena never seen except in rheumatism, and for this toxic state the great laboratory of Nature had provided a specific, namely, wintergreen which contained a large percentage of methyl salicylate, and which yielded salicylic acid. This was what destroyed the rheumatic element because it united with the acid. This was an unalterable chemical law. The end product of protein metabolism was invariably acid; the acid radical was always constant; protein contained basic constituents. Acids, the result of exogenous metabolism, were immediately neutralized. Living molecules could not exist in an acid medium; the fluids in the tissues were rendered alkaline chiefly by the sodium compounds, the tissue cells chiefly by the potassium compounds. The mere trace of free acid menaced the alkaline medium. Acids were the foes of the body and they were distinctive of the disease rheumatism. Those who were susceptible and not susceptible to pathogenic bacteria as such were determined by the functional integrity of the enzymes.

Salts that were to fulfil any important part in the life process must be taken into the body organically combined in the food. The mineral constituents that were not organically combined were useless. Doctor Winters called attention to beef tea, beef extract, bouillon, chicken broth, and mutton broth as positive rheumatic factors. From these the patients got nitrogenous extractives, broken down protein. Death ensued in about one month if the mineral supply was cut off, although all the other constituents of a normal diet were supplied. These constituents contained no assimilable minerals and, therefore, were mineral free. Nitrogenous extractives excited excessive metabolism of the cell nuclei. Rheumatic factors were definite. The human body contained seven or more pounds of mineral matter and to provide ample salts in proper combinations in the food to neutralize the acid made it necessary to study with care the food; this was of paramount importance.

Certain bacilli were always present in the digestive tract and some of these had the power of converting sugar into lactic acid. The lactic acid bacilli might convert eighty per cent. of the sugar into lactic acid. A large amount of water was necessary to dissolve the sugar for absorption; the result of this abstraction of water resulted in delay which was followed by fermenttion, and in this fermentation fifty per cent. of the sugar was converted into lactic acid. The lactic acid promptly withdrew alkalies from the tissues. This reduction in the alkalies in the tissues was an important factor in the etiology of rheumatism.

The natural history and chemical pathology of rheumatism were inseparable and interwoven. A patient with acute rheumatism might have the same amount of pain, heat, and swelling in his joints for weeks; after weeks or even months he might be cured as rapidly as he would have been if therapeutic measures had been employed on the first day of his illness. This was known of no other disease: there was no other disease which could exist for weeks or months and, at the end of that time, be cured as rapidly as if the remedies had been given on the first day of the attack. After weeks or months there was present the same chemical irritant as on the first day. After weeks or months of rheumatism there was the same chemical basis and with exactly the same neutralizing power as on the first day of the disease. Acute rheumatism might continue with unrelenting severity for weeks and for months and the inflammatory causes were the same as they were on the first day. After weeks or months the disease might cease spontaneously and the joints would be found to be in as good a condition as they were before the disease began. There would be left no impairment of structure or of function. Uncomplicated acute rheumatism, irrespective of duration or virulence, Doctor Winters had never seen end in suppuration. The natural history of rheumatism had no parallel in diseases. The chemical pathology made it intelligible, understandable, and clear.

Dr. Egbert Le Fevre said he was sorry that time had not permitted Doctor Winters to distinguish between the types and conditions of so called rheumatism based upon a chemical etiology and chemical pathology. He thought that all appreciated that as a result of the chemical changes mentioned by Doctor Winters there occurred arthritic conditions. Doctor Winters had not differentiated between the arthritic conditions which were undoubtedly due to faulty metabolism, i. e., the gouty affection, and acute articular rheumatism or rheumatic fever. From the brief presentation of his paper it was impossible to determine if he made a distinction. If he included the gouty conditions then many of his premises and the conclusions based on them could be accepted. If, however, acute articular rheumatism was only considered then many of his premises could not be accepted.

That acute rheumatism was associated with hyperacidity of the secretions and other manifestations of acid intoxication; this he granted. But he was not willing to subscribe to the statement that it was dependent entirely upon metabolic changes resulting in the body from the want of a neutralizing base. He believed that the infectious nature of acute rheumatism must be considered. The very fact that the disease had pathological manifestations that were so definite that the onset, the course, the termination, and even the sequelæ were so true to type forced one to the conclusion that rheumatism was, in the majority of cases at least, an infective condition. The predisposing conditions in acute rheumatism he believed might be metabolic. Doctor Winters had struck an important point that we were very apt to overlook, namely, that improper food, especially in children, among other things so changed the resistance of the child that, during this vulnerable age, it was especially liable to infections. He believed in the infectious nature of rheumatism, although they had had not as yet found the infectious agent. Doctor Le Fevre did not believe that rheumatism was due to a single in-

fective agent, but might be due to a number, as the streptococcus, the pneumococcus, and influenza bacillus. He was a believer in the efficiency of salicylic acid and its compounds, not only its power to control the symptoms but also to influence the sequelæ. He believed that we should consider acute rheumatism as an infectious disease.

Dr. HARLOW BROOKS said that Doctor Winters had certainly presented the theory of the chemical or metabolic etiology of acute rheumatic fever in its most favorable light, a more logical argument in its favor could not be made, none the less, although "almost persuaded to believe," he could not relinquish his firm conviction that rheumatic fever should be grouped with the infections and personally believed that it was a mixed infection and not a pure one, for he did not feel that the contention of Poynton and Payne had been sufficiently supported by other workers.

There were a few clinical facts not mentioned by Doctor Winters which tended to support the chemical theory. Among them was the well established observation that the disease occurred for the greater part in localities and among subjects who were very resistant to most infections; it was a disease notably of the vigorous and of the outdoor liver, lumbermen, miners, prospectors, all of whom suffered relatively but little from the ordinary infections.

The well established relationship between climatic and season conditions and between dietetic and other predisposing factors and the occurrence of the disease might also be used as arguments in this direction.

Taken as a whole, however, the clinical aspects of the disease certainly were those of an infection; its pathological anatomy, that side of the disease with which he had long interested himself was also typically that of an infection, as was also the case with its complications.

It may be that it was due to lack of skill on his part, but he had not met with the marked success in the use of the salicylates which had been Doctor Winters's good fortune. He was still one of those who, although the relief afforded by the drug was obvious, was entirely unable to feel that its employment shortened the course or prevented complications—until he could feel as Doctor Winters that this was the case he could not look upon salicylic acid as a specific in rheumatism nor accept Doctor Winters's theory as to its action.

Dr. CHARLES GILMORE KERLEY stated that his observations in rheumatism led him to believe that there was unquestionably a chemical factor and that this represented a means of furnishing a soil which was favorable to the development of infection, the actual factor in rheumatism. Certain families showed a predisposition to rheumatism. He had often seen two or more cases among one set of children. Certain articles of diet undoubtedly had an influence in preparing a field for the infection of rheumatism. Children who partook largely of cane sugar and high fat were in his observation particularly susceptible. He had had the opportunity of seeing a number of cases of necropsies on children who had died with acute articular rheumatism with cardiac complications, and the whole history of the disease as well as the post mortem findings bore out, according to his mind, the infection theory. The so called growing pains of children were frequently relieved by the removal of the probable source of infection, the tonsils. After the tonsils were removed he had repeatedly known of these symptoms of growing pains to subside entirely. One of the reasons, probably, that children had rheumatism more than adults and that they were more apt to be attacked with endocarditis and pericarditis was because they had a lower resisting power against pathogenic infections.

With regard to the treatment Doctor Kerley believed that salicylic acid was useful in a few cases. He also believed that the alkaline treatment was of value in preventing recurrences of the attacks. When a child once had rheumatism in its acute form, with endocarditis, pericarditis, chorea, etc., he was quite sure to have another attack. Placing such an infant on salicylic acid and the alkalies, giving the interval treatment, would often prevent recurrent attacks.

Dr. WALTER LESTER CARR said that if we accepted the chemical, uric acid theory that was for so long the definite view of many able clinicians, we could not fail to agree with most of the paper presented here, and their discussion was limited to expressions of acceptance of many of the views advanced. Lithemia undoubtedly lowered the resisting power of cells. If, however, we believed that the word "rheumatism" had a different significance than was attached to it three or four decades ago and we attempted to explain this wider vision, we became cognizant of the many variations presented by the disease and the extreme difficulty of drawing a clear picture of all the cases that were formerly classed under rheumatism.

No one at this time could call an arthritis associated with scarlet fever rheumatism, nor did many fail to recognize the changes in joint and other membranes during the course of pneumonia as anything but that occasioned by the primary (pneumonia) infection. Up to the present enough had been learned of the bacteriology of rheumatism to show that the disease was occasioned by microorganisms; the exact organism that produced the majority of the cases was not agreed upon by investigators, although the consensus favored the organism of Poynton and Payne. In almost all cases the site of infection was the throat, but it was possible to have entrance through the intestinal wall by a process of subinfection.

The diplococcus found in rheumatism had an affinity for uninuclear leucocytes and for endothelial cells. Meyer found that the diplococcus was not present in the blood or fluid. This organism produced formic acid and had a hemolytic action. The formic acid was found in the urine and explained in part at least its acidity during a rheumatic seizure. The hemolytic action of the organism was shown by the anemia present in a greater or less degree in all these cases.

Dr. A. D. HIRSCHFELDER, of Baltimore, remarked that the problems of physical chemistry were so far removed from the ordinary affairs of clinical medicine that the clinicians should always be thankful

when any one called their attention to them, as Doctor Winters had done. The pioneer work of Professor Jacques Loeb, Hans Horst Meyer, and the two Hendersons had shown us the great practical application of such problems to questions of practical medicine. Fascinating as these speculations might be, however, we must not overlook the more obvious revelations of morphology and bacteriology, and he could only agree with the previous speakers in accepting the multiple bacterial origin of rheumatic fever. He would like to ask Doctor Winters, however, whether arthritis had ever been obtained in experimental poisoning with acids or whether it was a common occurrence in the acid intoxication of severe diabetes. As regards the question of feeding, one important point in the management of heart disease seemed to him to be that the diet at each stage of the disease should be sufficient to supply the amount of energy (number of calories) used up by the patient, and should be varied to meet these needs, though it should not be made excessive. Schieffer had shown that underfeeding alone might give rise to atrophic changes in the heart, and the experiments of Leo Loeb and Fleisher demonstrated that the interaction of two deleterious agents produced much greater effects than could be attained by one of them acting alone. It was therefore most important not to add the injurious effect of malnutrition upon the heart to that of the toxic agent of rheumatism.

Letters to the Editor.

A PESSIMISTIC COMMUNICATION.

New York, *December 23, 1911.*

To the Editor:

I have read with some degree of amusement the humorously satirical editorial printed in the December sixteenth issue of the Journal entitled Professional Courtesy.

To imagine for one moment that the Governor would listen to any protest emanating from the medical profession when a political plum is in question is to suppose a degree of simplicity in an editor which is unthinkable. And the belief implied, if not expressed, that physicians would exhibit a noble altruism when a twelve thousand dollar position was within their grasp is difficult to understand unless one considers the editorial article in a satirical sense. Of course, the term "professional courtesy" is to be regarded in the same light as "ethical conduct," "medical altruism," "betterment of mankind," etc., as phrases more calculated to tickle the ears of the groundlings than for every day professional use. By the way, what is professional courtesy? Is it a sort of medical *Après vous, Alphonse?*

If the editor of The New York Medical Journal will review the past I am sure he will be struck with the fact that in no profession is there more distrust of one another, more pettiness, more jealousy than in the medical. He will also be struck with the fact that within the past ten years a steady deterioration has been going on in the medical ranks and that medicine has been losing the respect of the public; not the unthinking part of it, but the educated and reflecting portion.

That the profession will "resent the intrusion of politics and political methods into affairs of public health administration" is as laughable as the admonition that it "should also demonstrate to the public that 'professional courtesy' is no idle term."

F. R. Sturgis, M. D.

[A long continued and intimate association with a large number of physicians has convinced us that, as a class, they are imbued with a keen sense of honor, and deserve the high degree of confidence reposed in them by the public in general. The editorial article referred to in this letter was not satirical, and we know from the many favorable comments we have received, that Doctor Sturgis's pessimistic view of conditions in the medical profession is shared, if at all, by only an insignificant minority. —Editor.]

RECTIFYING AN OMISSION.

New York, *December 26, 1911.*

To the Editor:

In my report published in your Journal for December 23, 1911, entitled Three Interesting Obstetrical Cases, I neglected to have you publish the following note.

Cases ii and iii, Large Hematoma Vulvæ Complicating Labor, and Second Cæsarean Section for Threatening Rupture of the Uterus, occurred in the service of Dr. A. J. Rongy, at the Jewish Maternity Hospital. I wish to thank him through your Journal for the kind courtesy and permission to report same. Case ii was operated in by Dr. Ralph Waldo and Case iii by Dr. A. J. Rongy.

Hoping to be pardoned for omitting this note in the report, I remain,

S. J. Scadron, M. D.

GERIATRICS.

New York, *December 23, 1911.*

To the Editor:

Your review of Professor Pic's book, *Précis de maladies des vieillards,* ends with the words, " . . . the science for which the late Dr. Frank P. Foster found the name of *geriatrics,* and concerning which The New York Medical Journal has published much of value." I first suggested the term *geriatrics* in a paper bearing this title, which appeared in the Journal for August 21, 1909, and I am pleased to see that the name has been generally adopted. I wrote most if not all the articles dealing with this subject that have appeared in The New York Medical Journal since then and many articles on this subject in other medical publications. Your suggestion of a work on geriatrics in our language may soon be realized, as I have about completed a *Handbook of Geriatrics* and it will soon be ready for the publishers.

I. L. Nascher, M. D.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Heart Sounds and Murmurs. Their Causation and Recognition. A Handbook for Students. By E. M. Brockbank, M. D. (Vict.), F. R. C. P., Senior Hon. Assistant Physician, Royal Infirmary, Manchester. With illustrations. London: H. K. Lewis, 1911. Pp. 56.

In convenient pocket form for clinical reference the author has provided an excellent manual for students, of the various sounds of the heart. Different types are used for the purpose of emphasis, and the author has not hesitated to repeat himself under various headings to save the student from constant backward and forward reference. British physicians always use the stethoscope and directions are given for getting the best results from the instrument, including the advice to keep one hand on the patient's shoulder and not in the possessor's pocket.

Theory and Practice of Thyreoid Therapy. Being Some Experiences of the Results of Thyreoid Medication, with Deductions Concerning the Influence of Thyreoid Secretion in Health and Disease, and Certain Effects of Drugs and Various Circumstances upon Thyreoid Secretion. A Book for General Practitioners. By Herbert Ewan Waller, M. R. C. S. England, L. R. C. P. London. New York: William Wood & Co., 1911. Pp. xii-154. (Price, $2.)

The author believes that some understanding of the physiology and pathology of the thyreoid gland and its secretions is essential to the practitioner in treating every patient, and that understanding will materially improve his success in the treatment of fully one fourth of his patients. And while this dictum may be extreme, there is a more general realization of the important factor that gland exercises in causing disease states, and more physicians are keen to look for hypothyreoidism and hyperthyreoidism.

The agnosticism that the most skillful must needs maintain in many obscure conditions, because of a present want of exact methods of determining the existence in the human organism of an excess or a deficiency of any or all of the constituents of the thyreoid secretion, is sufficient reason to take exception to the author's reference to "the science of thyreoid therapy." It is not a science, and as he truly states what we deem to be a fact to-day may eventually have to be regarded in a different light.

We do not think that the author states his position too strongly when he says that the thyreoid secretion is probably to a large extent responsible for many of the little details of daily life, the sum of which makes all the difference between being robust and delicate, enjoying life, or being a martyr to various petty discomforts.

Some symptoms and results of thyreoid inadequacy are described, including dental caries and rhachitis. The effect of fat on thyreoid activity, as well as the thyreoid treatment of obesity are reviewed. Calcium, iodine, and the thyreoid secretion and their interrelation in goitre and Graves's disease are discussed, as well as the influence of the secretion in eczema and imbecility. The influence of arsenic, the salicylates, and kindred drugs on thyreoid activity is briefly reviewed. Necessarily the treatment of the subject has been brief, and the book is handicapped by the lack of an index.

Lehrbuch der spezifischen Diagnostik und Therapie der Tuberkulose. Für Aerzte und Studierende. Von Dr. Bandelier, chefarzt des Sanatoriums Schwarzwaldheim in Schömberg bei Wildbad, und Doctor Roepke, Chefarzt der Eisenbahnheilstätte Stadtwald in Melsungen bei Cassel. 6. Erweiterte und verbesserte Auflage. Mit einem Vorwort von Wirkl. Geh. Rat Prof. Dr. R. Koch, Exzellenz. Mit 19 Temperaturkurven auf 5 lithographischen Tafeln, 1 farb. lith. Tafel und 5 Textabbildungen. Würzburg: Curt Kabitzsch, 1911. Pp. 296.

The sixth edition of this textbook appeared in the same year as the fifth edition which we reviewed in these pages, March 11, 1911. We can add hardly anything to what we said then. A chapter on tuberculosis of the ear has been added to this latest edition. The question of the fight against the white plague is so important that the standard textbooks should always be kept up to date. The authors and publishers of this book have done their duty to the physicians who seem to fully appreciate this textbook on tuberculosis.

Elements of Physiological Psychology. A Treatise of the Activities and Nature of the Mind from the Physical and Experimental Points of View. Thoroughly Revised and Rewritten. By George Trumbull Ladd, LL. D., Emeritus Professor of Moral Philosophy and Metaphysics in Yale University, and Robert S[illegible] Woodworth, Ph. D., Professor of Psychology in Columbia University. Illustrated. New York: Charles Scribner's Sons, 1911. Pp. xix-704.

It is hard to realize that when the first edition of this book was published almost a quarter of a century ago, it was the only work of its kind in English, and that it was the forerunner of the large literature that has since appeared in this, one was about to write, science, and there came to mind Professor William James's final summation: "This is no science, it is only the hope of a science. . . . At present psychology is in the condition of physics before Galileo and the laws of motion, of chemistry before Lavoisier and the notion that mass is preserved in all reactions." And Professor Ladd invites attention to the attractive features of this field of research, by his statement that despite the light that has been thrown on the various problems involved in the study of mental life and mental development by many trained students, many "new problems or new aspects of old problems have been uncovered and are still awaiting future investigation, and there is no prospect that this process will come to an end." He submits that the fundamental problems with regard to the nature of man's mind and its relations to the organism, its place in the scale of development and its destiny, remain essentially unchanged.

In this edition there has been added to part one a chapter on the place of the nervous mechanism in the animal kingdom, and one on the development of the nervous system in the individual, so that this section of the book, to which has been transferred the chapters on the cerebral hemispheres and their functions, gives a complete summary of the nervous mechanism.

The authors have revised thoroughly the second part that summarizes the correlations that exist between the nervous mechanism and the mental life of man.

The third part has been reduced to two chapters that discuss the nature of mind, in which it is concluded that the "study of ultimate psychological problems, from the physiological and experimental points of view, finally leaves them in essentially the same condition as that in which it finds them; and this position is that of a naive and so called 'common sense' dualism, as distinguished from the metaphysical theories of parallelism, materialism, or subjective idealism."

We agree with the authors that students of medicine ought to know far more than they do of psychology as approached from the physiological point of view, and we believe that the day will soon be here when such instruction will be given in all medical schools as an essential preparation for the study of abnormal psychology.

In every way the volume maintains those admirable characteristics that have made it the guide of many students for more than a score of years.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending December 29, 1911:

[illegible] Nov. 14, 1 case; Jaffa, Nov. 19-25, 2 cases, 1 death; Jerusalem, Oct. 29-Nov. 5, 3 cases, 2 deaths; Jaffa, Nov. 19-25, 27 cases, 19 deaths; Tripoli, Nov. 8-15, 8 cases

3 deaths; *Malta*, Nov. 12-18, 5 cases, 2 deaths; *Persia*, present; *Russia*, Oct. 4-Nov. 20, 75 cases, 64 deaths; *Servia*, Nov. 19-25, 5 cases, 3 deaths; *Straits Settlements* (Singapore), Oct. 22-Nov. 4, 12 cases, 9 deaths; *Tunis Regency*, Nov. 1-24, 940 cases, 1,268 deaths; *Turkey in Asia* (Mecca), Nov. 27-Dec. 3, 193 cases, 198 deaths.

PLAGUE—UNITED STATES: *California*, July 25-Sept. 18, 3 cases, 1 death.

PLAGUE—FOREIGN: *China* (Hong Kong), Nov. 5-22, 1 case, 1 death; *Egypt*, Nov. 1-25, 4 cases, 3 deaths; *India*, Nov. 19-25, 2 cases, 1 death; *Indo-China* (Saigon), Oct. 29-Nov. 5, 5 cases; *Mauritius*, Oct. 26-31, 2 cases; *Straits Settlements* (Singapore), Oct. 22-Nov. 4, 4 cases, 4 deaths.

SMALLPOX—UNITED STATES: *Arizona*, Aug. 1-Sept. 30, 1 case, 1 death; *Indiana*, Nov. 1-30, 37 cases; *Missouri*, Dec. 9-16, 1 case; *Pennsylvania*, Nov. 1-30, 7 cases; *Texas*, Nov. 1-30, 12 cases; *Vermont*, July 1-Dec. 31, 323 cases.

SMALLPOX—FOREIGN: *Canada*, Dec. 10-26, 2 cases; *Chile*, Nov. 19-25, 7 cases, 2 deaths; *France* (Paris), Nov. 19-Dec. 2, 10 cases; *Hawaii* (Honolulu), Dec. 19-25, 6 cases, 3 deaths; *India* (Madras), Nov. 19-25, 3 cases; *Mexico*, Nov. 13-Dec. 16, 6 cases, 3 deaths; *Russia* (Kief), Nov. 27, 140 cases; *Spain*, Nov. 1-Dec. 2, 9 cases, 5 deaths; *Straits Settlements* (Singapore), Oct. 29-Nov. 4, 2 cases; *Teneriffe*, Nov. 19-Dec. 2, 13 deaths; *Turkey* (Constantinople), Nov. 20-Dec. 30, 8 deaths.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending December 30, 1911:

Allen, William H., Lieutenant, Medical Corps. Relieved from duty at Fort Slocum, N. Y., and ordered to the Army and Navy General Hospital, Hot Springs, Ark., for observation and treatment, thence to Fort Sam Houston, Texas, for duty. **Barber,** John R., Captain, Medical Corps. Ordered to Letterman General Hospital, San Francisco, for duty. **Borden,** William B., Lieutenant, Medical Reserve Corps. Orders to the Philippine Islands, revoked. **Brown,** Henry L., Captain, Medical Corps. December 22d, relieved from duty at Fort Morgan, Ala., and ordered to Fort Slocum, N. Y., for duty. **Carswell,** R. L., Captain, Medical Corps. Detailed for duty in the Bureau of Navigation, P. I., relieving Captain Philip W. Huntington, Medical Corps. **Lynch,** Charles, Major, Medical Corps. Ordered to New York City and Poughkeepsie, N. Y., on official business pertaining to the American National Red Cross. **McCord,** Donald P., Lieutenant, Medical Reserve Corps. December 21st, relieved from duty at Fort George Wright, Wash., and ordered to Fort William Henry Harrison, Montana, for duty. **McKinney,** Garfield L., Captain, Medical Corps. December 22d, relieved from duty at the Letterman General Hospital, San Francisco, and ordered to Fort Caswell, N. C., for duty. **Maguire,** Daniel F., Lieutenant, Medical Corps December 29th, leave of absence extended twenty days. **Maynard,** Edwin B., Lieutenant, Medical Reserve Corps. December 27th, granted two months' leave of absence. **Morse,** Arthur W., Major, Medical Corps. December 22d, ordered to Fort Morgan, Ala., for duty. **Napier,** Edward L., Lieutenant, Medical Corps. Ordered to temporary duty as surgeon, transport *Sheridan*, during voyage to Manila, P. I., and upon arrival in Manila, P. I., to report for assignment to duty in Philippines Division. **Slater,** Ernest F., Lieutenant, Medical Reserve Corps. December 21st, leave of absence extended ten days. **Wilson,** James A., Lieutenant, Medical Corps. December 21st, ordered to Fort Slocum, N. Y., for duty. **Worthington,** Joseph A., Captain, Medical Corps. Orders assigning him to temporary duty as surgeon of the transport *Sheridan*, revoked.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending December 30, 1911:

Carpenter, D. N., Surgeon. Detached from the Naval Academy and ordered to the *Kansas*. **Johnson,** M. K., Surgeon. Detached from the *Tennessee* and ordered home to await orders. **Longabaugh,** R. I., Passed Assistant Surgeon. Detached from the navy recruiting station, Des Moines, Iowa, and ordered to duty at the Naval Hospital, New York, N. Y. **McDonnell,** W. N., Passed Assistant Surgeon. Detached from the *Kansas* and ordered to the *Tennessee*. **Mann,** W. L., Passed Assistant Surgeon. Detached from the *Hannibal*, January 4th, and ordered to the Naval Hospital, Boston, Mass., for treatment. **Pollard,** J. B., Assistant Surgeon. Detached from the Naval Hospital, New York, N. Y., and ordered to the navy recruiting station, Des Moines, Iowa. **Robnett,** A. H., Passed Assistant Surgeon. Detached from the *Missouri* and ordered to the *Culgoa*. **Steadman,** W. G., Passed Assistant Surgeon. Detached from the *Dixie* and ordered to the *Kansas*. **Stoops,** R. E., Passed Assistant Surgeon. Detached from the *Culgoa* and ordered home to await orders. **Stuart,** D. D. V., Assistant Surgeon. Detached from the *Idaho* and ordered to the *Hannibal*. **Winn,** C. K., Passed Assistant Surgeon. Detached from the *Mississippi* and ordered to the *Dixie*.

Births, Marriages, and Deaths.

Married.

Hopkins—Lewis.—In Fall River, Massachusetts, on Tuesday, December 19th, Dr. C. B. Hopkins and Miss Irene L. Lewis. **Mitten—Lemon.**—In Milwaukee, Wisconsin, on Wednesday, December 27th, Dr. Arthur Allen Mitten, of Buffalo, and Miss Hamilton Lemon. **Scott—Fifer.**—In St. Louis, Missouri, on Wednesday, December 20th, Dr. R. E. Scott and Miss Bertha C. Fifer. **Shumacker—Schwartz.**—In Chattanooga, Tennessee, on Sunday, December 24th, Dr. Leo Shumacker and Miss Isabelle Schwartz. **Silver—Torpy.**—In Everett, Massachusetts, on Sunday, December 24th, Dr. Francis Rudolph Silver and Miss Mary Josephine Torpy. **Sims—Rickard.**—In Jacksonville, Florida, on Tuesday, December 19th, Dr. D. A. Sims and Mrs. Grace Rickard.

Died.

Atchison.—In Nashville, Tennessee, on Monday, December 18th, Dr. William A. Atchison, aged eighty years. **Berry.**—In Austin, Texas, on Monday, December 18th, Dr. T. D. Berry, of the United States Public Health and Marine Hospital Service, aged thirty-five years. **Boone.**—In Baltimore, Maryland, on Saturday, December 30th, Dr. William C. P. Boone, of Plainfield, New Jersey, aged sixty-seven years. **Caw.**—In Parkhill, Ontario, Canada, on Sunday, December 17th, Dr. William Caw, aged sixty-nine years. **Dakin.**—In Laporte, Indiana, on Thursday, December 21st, Dr. George M. Dakin, aged eighty-four years. **Dickinson.**—In Trenton, Kentucky, on Monday, December 25th, Dr. J. S. Dickinson, aged eighty-five years. **Edwards.**—In Williamstown, New Jersey, on Friday, December 22d, Dr. J. G. Edwards, aged sixty-two years. **Flautt.**—In Grafton, Missouri, on Monday, December 25th, Dr. J. A. Flautt, aged sixty-three years. **Goode.**—In Mobile, Alabama, on Friday, December 22d, Dr. Rhett Goode. **Hartzell.**—In Allentown, Pennsylvania, on Wednesday, December 20th, Dr. Henry Kerr Hartzell, aged seventy-one years. **Hill.**—In Woodcliff-on-Hudson, on Sunday, December 24th, Dr. Augustus V. Hill, aged sixty-six years. **Lewin.**—In New York, on Thursday, December 28th, Dr. Hermann Lewin. **Leys.**—In Roslyn, Long Island, New York, on Monday, December 25th, Dr. Peter Douglas Leys, aged seventy-seven years. **Meigs.**—In Philadelphia, on Monday, January 1st, Dr. Arthur Vincent Meigs, aged sixty-one years. **Palmer.**—In Brooklyn, New York, on Tuesday, December 26th, Dr. A. Judson Palmer, aged seventy-nine years. **Ravenscroft.**—In Denver, Colorado, on Monday, December 18th, Dr. William H. Ravenscroft, aged seventy-eight years. **Roden.**—In Newark, New Jersey, on Sunday, December 31st, Dr. Hugh Patrick Roden, aged sixty-six years. **Sewall.**—In New York, on Friday, December 29th, Dr. Samuel Green Sewall, aged eighty-eight years. **Sims.**—In Urbana, Illinois, on Saturday, December 23d, Dr. William B. Sims, aged seventy-five years. **Wick.**—In New Bethlehem, Pennsylvania, on Sunday, December 24th, Dr. James Addison Wick, aged sixty-five years. **Wright.**—In Indianapolis, Indiana, on Friday, December 22d, Dr. William McVey Wright, aged forty-eight years.

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Original Communications.

THE EFFECT OF TUBERCULIN TREATMENT UPON THE LEUCOCYTIC PICTURE.*

(A PRELIMINARY REPORT.)

BY MYER SOLIS-COHEN, A. B., M. D.,
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Pediatrist to the Jewish Hospital, Philadelphia; Assistant Physician to the Philadelphia General Hospital; Visiting Physician to the Philadelphia Jewish Sanatorium for Consumptives, Eagleville, Pa.; Consulting Physician to the Home for Consumptives, Chestnut Hill, Pa.,

AND ALBERT STRICKLER, M. D.,
Philadelphia,

Dermatologist to the Douglass Memorial and Northeastern Hospitals, Philadelphia; Clinical Assistant in Dermatology, Philadelphia Polyclinic Hospital; Pathologist to the Philadelphia Jewish Sanatorium for Consumptives, Eagleville, Pa.

From a study of 182 differential leucocytic counts made in fifty cases of pulmonary tuberculosis we have formulated (1) the following conclusions:

1. Improvement in pulmonary tuberculosis is associated with an increase in the proportion of lymphocytes in the blood at the expense of the polymorphonuclear cells. As the patient gets worse the proportion of multinuclear cells increases at the expense of the lymphocytes. None of the other cells are affected by either process. As a rule, in consequence, the percentage of lymphocytes will be less and the percentage of multinuclears will be greater, the more advanced the disease and the greater the amount of lung tissue involved.

2. As a patient begins to improve there is usually an increase in the proportion of multinuclear cells containing one and two nuclei, the increase being often maintained for several weeks, but not indefinitely.

3. Uninuclear, transitional, and eosinophile cells are unaffected by the stage, extent, or progress of the disease.

4. The leucocytic picture in pulmonary tuberculosis corresponds with the patient's resistance to the disease, rather than with the extent of the lesion.

5. By means of the leucocytic picture it is often possible to estimate a tuberculous patient's resistive power, and to obtain a fairly accurate estimate as to his chances for recovery.

The following table gives the average proportion of each type of cell we found in the different groups, and the number of cases and blood counts on which the averages are based:

	Number of cases.	Number of blood counts	Multinuclears.	Lymphocytes.	Uninuclears.	Transitionals.	Eosinophiles.	Arneth's I and II.
All stages	50	182	66	30	1.5	1	1.5	44
Stage I	13	46	62.5	33.5	1	0.5	1	44.5
Stage II	6	27	65	30.5	1	1	1	47.5
Stage III	21	109	68	28.5	1	1	1	44.5
Class I (Turban)	14	50	63	33	2	1	1	45.5
Class II (Turban)	9	36	65.5	30	1	1	1.5	47
Class III (Turban)	27	96	68	28.5	1.5	1	1	43.5
Apparently cured	5	24	61	35	2	0.5	1.5	43
Arrested	5	16	64.5	30.5	2.5	1	1.5	47.5
Improving	15	68	64.5	31.5	2	0.5	1.5	44
Stationary	9	30	69	28.5	1	0.5	1	32
Advancing	15	43	68.5	27	1	1.5	1.5	45

In the following table the patients in each stage have been grouped according to the progress of the disease.

	Number of cases.	Number of blood counts	Multinuclears.	Lymphocytes.	Uninuclears.	Transitionals.	Eosinophiles.	Arneth's I and II.
Stage I:								
Apparently cured	5	24	61	35	2	0.5	1.5	43
Arrested	3	6	66.5	29	2.5	1	1	52
Improving	5	16	62	34.5	1.5	1	1	42
Stage II:								
Arrested	2	10	61.5	33	2	1	2	46.5
Improving	2	13	66.5	28	3	0.5	2	49
Stationary	2	4	67	30.5	1	1	0.5	69
Stage III:								
Improving	8	39	65.8	30.4	2	0.4	1.4	46.7
Stationary	8	27	68.5	29	1	1	0.5	43
Advancing	15	43	68.5	27	1.5	1.5	1.5	45.5
Capable	9	37	64.5	32	2	0.5	1	43
Incapacitated	22	72	69.5	27	0.5	1	1	45.5
Nontoxic	8	35	68	29	1	1	1	46.5
Toxic	13	33	70	26	1.5	1.5	1	45

Although the average index showed little change, the proportion of cells in the first two classes of Arneth seemed, in most of our individual cases, to be increased as the patient improved, and in a number of cases to be diminished as the patient grew worse.

THE EFFECT OF THERAPEUTICAL MEASURES ON THE LEUCOCYTIC PICTURE.

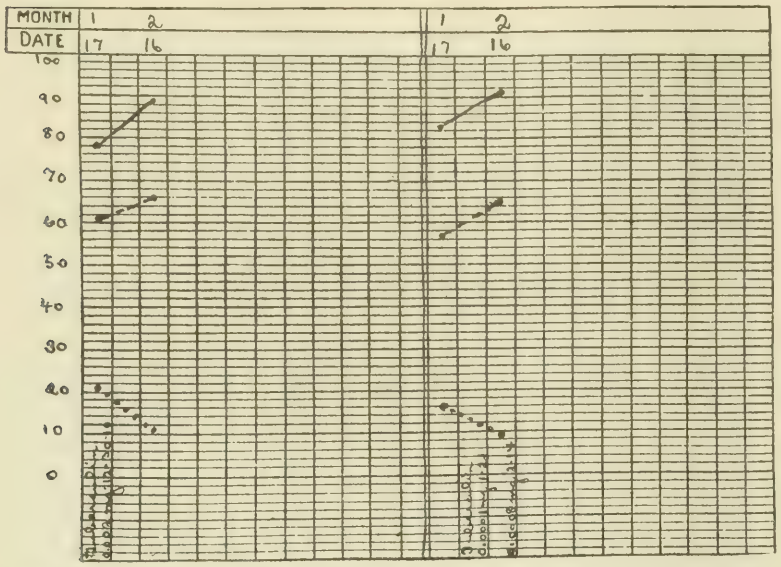
The primary object of this investigation was to find some method of determining whether or not a given remedy is effective in a given case. Having established a means of observing graphically the variations in a patient's resistive power, and of the progress of his disease, we studied the effect on the blood picture of a number of therapeutical measures, including Bier's hyperemia, cantharides blisters, creosote carbonate, iodoform, and nuclein (2).

In the differential leucocytic count we have a means of studying more exactly than in any other way the effect produced by therapeutic measures

*Read by title at the Sixth Annual Meeting of the National Association for the Study and Prevention of Tuberculosis, Denver, June, 1911.

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PATIENTS AT RUSH HOSPITAL, PHILADELPHIA (SERVICE OF DR. SOLOMON SOLIS-COHEN).



Case 1, E. H., Stage III, Class 3, improving. Given tuberculinum purum hypodermically in ascending doses. Gained 4 lbs. in 1 month. General condition improved.

Case 2, A. M., Stage III, Class 3, improving. Given tuberculin TR hypodermically in ascending doses. Gained 3½ lbs. in 1 month. General condition improved.

——— = Multinuclears. ..... = Lymphocytes. — — — = Classes I and II of Arneth.

in patients with pulmonary tuberculosis. It is impossible to state definitely, however, whether the changes observed in the leucocytic pictures are produced directly in the blood, or result indirectly from the change in the general condition of the patient caused by the measure employed.

It would seem, from the few cases studied, that:

1. Bier's suction hyperemia in cases suitable for this treatment causes an increase in the proportion of lymphocytes and of multinuclear cells with one and two nuclei.

2. Applying fly blisters every five days and allowing the serum to become absorbed causes an increase in the proportion of multinuclear cells with one and two nuclei, and in most instances an increase in the proportion of lymphocytes.

3. Iodine in the form of iodoform administered by the mouth causes an increase in the proportion of multinuclear cells with one or two nuclei.

4. Creosote, given in the form of the carbonate, causes an increase in the proportion of lymphocytes and of multinuclear cells with one and two nuclei.

5. Nuclein seems to cause an increase in the proportion of polymorphonuclear neutrophiles.

6. The effect produced in the blood by many therapeutical measures is not, as a rule, maintained indefinitely, but only for a variable period, averaging about a month.

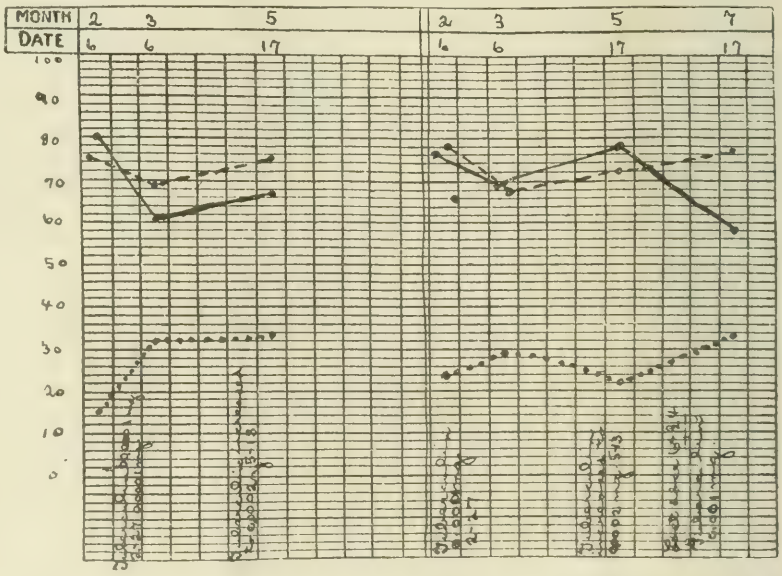
THE LEUCOCYTIC PICTURE DURING TUBERCULIN TREATMENT.

We are now studying the effect of tuberculin treatment on the leucocytic picture, and present in this paper a preliminary report on our first six cases.

The patients are classified according to the stage of the disease, as defined by the National Association for the Study and Prevention of Tuberculosis, the amount of lung tissue involved (Turban's classification), the progress of the case, and as to whether or not the patient is incapacitated and toxic. The leucocytes are divided into polymorphonuclear neutrophiles, which are grouped according to the number of nuclei they contain, lymphocytes (uninuclear cells whose nucleus occupies over half the cell), uninuclear cells (whose nucleus is smaller than the surrounding protoplasm), transitional cells (uninuclear cells with indented nucleus), and eosinophile cells. The one who made the counts has never seen the patients, knew nothing of their condition, and did not know when treatment was commenced or when the dose was increased.

Two children in a sanatorium who were given tuberculin by mouth in very gradually increasing doses, showed a remarkable increase in the proportion of lymphocytes and of multinuclear cells with one and two nuclei. They were stationary cases in Stage II, Class 1, and capable of working. An adult stationary and capable patient in Stage II, Class 3, in a sanatorium, who was kept on the same small dose by mouth for three months, showed first a marked increase of lymphocytes and later a very slight increase. The first two classes of Arneth showed, first, a moderate decrease, and later a cor-

PATIENTS AT HOME FOR CONSUMPTIVES, CHESTNUT HILL, PA.



Case 3, G. N., Stage III, Class 3, stationary. Received tuberculin OT by mouth same dose for 3 months, then increased. Lost 1¼ lbs. in 3 months. General condition about the same.

Case 4, L. G., Stage II, Class 2, stationary. Received tuberculin OT by mouth same dose for 3 months, then increased. Lost 5¼ lbs. in 5 months. General condition slightly worse.

——— = Multinuclears. ..... = Lymphocytes. — — — = Classes I and II of Arneth.

responding increase. Another adult stationary and capable patient in Stage II, Class 2, on the same dosage, showed first an increase in lymphocytes, followed by a greater decrease, and then, as the dose was augmented, by a still greater increase. The first two classes of Arneth showed first a decrease and then a regular increase. Two adult improving and capable patients in Stage III, Class 3, under the care of Dr. Solomon Solis-Cohen at the Rush Hospital, received tuberculin hypodermically in increasing doses. In both there was a decrease in the proportion of lymphocytes and an increase in the proportion of multinuclear cells with one and two nuclei. The charts of all these cases are appended.

REVIEW OF THE LITERATURE.

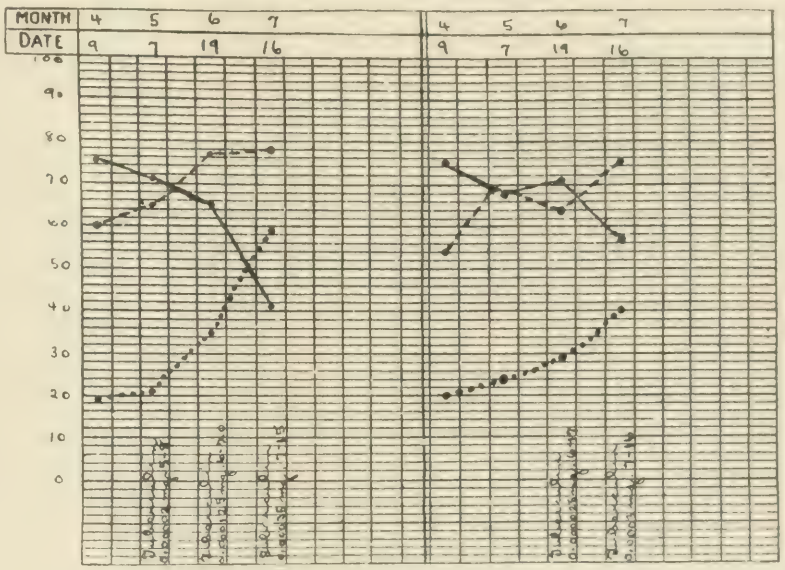
We have been able to find but two references to the blood picture during tuberculin treatment. Hultgen (3) regards the leucocytic picture found in incipient pulmonary tuberculosis (multinuclears, 53 per cent.; small uninuclears, 41.5 per cent.; large uninuclears, 3.5 per cent.; eosinophiles, 3 per cent.) as identical with the postinfection picture seen in recovery from disease, a kind of autoimmunization—a desirable state of affairs. Why, then, he asks, not use this proportion among the leucocytes as a guide in the administration of tuberculin? Since the leucocytes are so manifestly sensitive toward noxa of any kind, chemical, toxic, and toxine infections, should they not show, by their changes, as to whether certain therapeutical agents are harmful or curative? He believes that the leucocytes respond readily invariably to any changes in the amount of antibodies in the circulation, that the blood picture described develops under the use of tuberculin, but that deviation for this occurs when overdoses of tuberculin are given, with subsequent return.

Etienne (4), Remy (5), and Boulangier (6) studied the blood of five tuberculous patients, aged from sixty to seventy-six years, probably in Stage III. The total number of multinuclear neutrophiles was often diminished for a short period of time immediately following the injection. There was an increase, however, in the cells with three or more nuclei. At the same time there was a corresponding increase in the total number of uninuclear cells, of which the lymphocytes were clearly increased, both in absolute number and in percentage. The large uninuclears, however, were diminished, and in three of the cases the small uninuclears were also diminished. After six months' treatment, however, the number of multinuclear cells was higher than at the beginning. In four cases it rose more or less rapidly to the maximum, from which it later descended, remaining, however, at the end of six months, higher than at the beginning. At this later stage also there was a notable increase in the multinuclear cells with three or more nuclei. The total number of uninuclear cells was always diminished at the end of six months, as was the number of large uninuclear cells. The lymphocytes were, however, increased, while the small uninuclear cells were increased in some patients and diminished in others. The eosinophile cells did not seem to be influenced in a definite manner by the action of tuberculin.

DISCUSSION OF RESULTS.

From our six cases it is impossible to generalize or draw definite conclusions. The results in four of our cases, and especially in two, are certainly suggestive. It is possible that the effect on the blood picture will show what cases are suitable for tuberculin treatment and whether the dose employed is correct, insufficient, or excessive. The age of the patient, the stage of the disease, and the amount of lung involvement may be factors in the effectiveness of tuberculin therapy and in the changes in the proportions of the leucocytes that result from it. When we have studied a sufficiently large number of cases, we hope to be in a position to speak with greater precision on these questions.

PATIENTS AT PHILADELPHIA JEWISH SANATORIUM FOR CONSUMPTIVES, EAGLEVILLE, PA.



Case 5, F. M., Stage II, Class 1, stationary. Received tuberculin bouillon filtrate by mouth in ascending doses. Gained 6 lbs. in 3 months. General condition remained about the same.

Case 6, L. S., Stage II, Class 1, stationary. Received tuberculin "old" by mouth in ascending doses. Gained ¾ lb. in 1 month. General condition remained about the same.

——— = Multinuclears. ..... = Lymphocytes. — — — = Classes I and II of Arneth.

At present, without drawing any inferences, we can merely state that:

1. In all our cases there was an increase in the proportion of multinuclear cells with one and two nuclei during tuberculin treatment; in two cases, however, being preceded by a fall.

2. In four of our six cases the lymphocytes were increased during tuberculin treatment, a slight intermediate fall, however, occurring in one after three months on the same dosage.

3. Tuberculin given by the mouth in very small doses, very gradually increased, apparently pro-

duces an alteration in the proportions of the different forms of leucocytes.

We desire to thank Dr. Solomon Solis-Cohen for permission to use two of his patients, and his assistant, Dr. Isadore Kaufman, for obtaining the blood.

REPORTS OF CASES.

Case I. E. H., female, aged forty-two years, stage III, class 3. Stationary, capable, nontoxic, a patient of Dr. Solomon Solis-Cohen at the Rush Hospital, Philadelphia. The patient was given tuberculinum purum hypodermically, commencing December 30, 1910, with a dose of 0.002 mg., the dose being doubled at almost each injection. The patient improved, gaining four pounds in a month. The blood was not examined until eighteen days after tuberculin treatment was begun. Two counts were made, with the folowing results:

	January 17, 1911. Per cent.		February 16, 1911. Per cent.	
Multinuclear neutrophiles	78		89	
Multinuclear neutrophiles, with one nucleus.	11	61	14	66
Multinuclear neutrophiles, with two nuclei..	42		52	
Multinuclear neutrophiles, with three nuclei.	38	39	34	34
Multinuclear neutrophiles, with four nuclei.	1		0	
Multinuclear neutrophiles, with five nuclei..	0		0	
Lymphocytes	21		11	
Uninuclear cells	0		0	
Transitional cells	1		0	
Eosinophile cells	0		0	

Case II. A. M., aged twenty-nine years, female, stage III, class 3. Improving, capable, nontoxic, a patient of Dr. S. Solis-Cohen at the Rush Hospital, Philadelphia. The patient was given tuberculin T.R. hypodermically, beginning January 21st with a dose of 0.0001 mg., each subsequent dose being increased by 0.0001 mg. The patient improved and gained three pounds and a half in one month. The blood was examined a few days before the first injection of tuberculin and one month later.

	January 17, 1911. Per cent.		February 16, 1911. Per cent.	
Multinuclear neutrophiles	83		91	
Multinuclear neutrophiles, with one nucleus.	11	57	10	65
Multinuclear neutrophiles, with two nuclei..	46		55	
Multinuclear neutrophiles, with three nuclei.	43	43	35	35
Multinuclear neutrophiles, with four nuclei.	0		0	
Multinuclear neurtophiles, with five nuclei..	0		0	
Lymphocytes	16		9	
Uninuclear cells	1		0	
Transitional cells	0		0	
Eosinophile cells	0		0	

Case III. G. N., aged forty-one years, female, stage III, class 3. Stationary, capable, nontoxic, a patient of one of us at the Home for Consumptives, Chestnut Hill, situated about 500 feet above sea level.

The patient was given tuberculin O.T. by mouth, commencing February 18th with 0.0001 mg., which was increased to 0.0002 mg. on May 13th. The patient lost one pound and a quarter in three months, and her condition remained stationary. The leucocytic counts were as follows:

	February 6, 1911. Per cent.		March 6, 1911. Per cent.		May 17, 1911. Per cent.	
Multinuclear neutrophiles	80		61		67	
Multinuclear neutrophiles, with 1 nucleus.	12	75	10	68	11	75
Multinuclear neutrophiles, with 2 nuclei..	63		58		64	
Multinuclear neutrophiles, with 3 nuclei..	22	25	32	32	25	25
Multinuclear neutrophiles, with 4 nuclei..	3		0		0	
Multinuclear neutrophiles, with 5 nuclei..	0		0		0	
Lymphocytes	15		32		33	
Uninuclear cells	2		5		0	
Transitional cells	1		0		0	
Eosinophile cells	2		2		0	

Case IV. L. G., aged twenty-six years, female, stage II, class 2. Stationary, capable, nontoxic, a patient of one of us at the Home for Consumptives, Chestnut Hill. The patient was given tuberculin O. T. by mouth, beginning on February 27th with 0.0001 mg., which dose was increased May 13th to 0.0002 mg., June 5th to 0.0003 mg., June 10th to 0.0005 mg., and June 17th to 0.001 mg., the last dose being given June 24th. The patient lost four pounds and a quarter during four months, and was not so well when treatment was stopped as she was when it was started. The blood counts were as follows:

	February 6, 1911. Per cent.		March 6, 1911. Per cent.		May 17, 1911. Per cent.		July 17, 1911. Per cent.	
Multinuclear neutrophiles..	76		70		78		58	
Multinuclear neutrophiles, with 1 nucleus	19	78	7	68	11	72	3	77
Multinuclear neutrophiles, with 2 nuclei	59		61		61		74	
Multinuclear neutrophiles, with 3 nuclei	22	22	31	52	28	28	23	23
Multinuclear neutrophiles, with 4 nuclei	0		1		0		0	
Multinuclear neutrophiles, with 5 nuclei	0		0		0		0	
Lymphocytes	24		30		22		33	
Uninuclear cells	0		0		0		8	
Transitional cells	0		0		0		1	
Eosinophile cells	0		0		0		0	

Case V. F. M., aged five years, female, stage II, class 1. Stationary, capable, nontoxic, a patient of one of us at the Philadelphia Jewish Sanatorium for Consumptives at Eagleville, Pa., situated about 600 feet above sea level. The patient was given tuberculin bouillon filtrate by mouth, commencing May 8th with a dose of 0.00002 mg., each subsequent dose being increased by 0.00002 mg., and later by 0.00005 mg. The patient gained 5¾ pounds in three months and a half, but her condition remained about the same. The blood counts follow:

	April 9, 1911. Per cent.		May 7, 1911. Per cent.		June 16, 1911. Per cent.		July 16, 1911. Per cent.	
Multinuclear neutrophiles, with 1 nucleus	5	60	9	65	7	77	6	78
Multinuclear neutrophiles, with 2 nuclei	55		56		70		72	
Multinuclear neutrophiles, with 3 nuclei	40	45	35	35	23	23	22	22
Multinuclear neutrophiles, with 4 nuclei	5		0		0		0	
Multinuclear neutrophiles, with 5 nuclei	0		0		0		0	
Lymphocytes	18		21		35		59	
Uninuclear cells	6		3		0		0	
Transitional cells	0		2		0		0	
Eosinophile cells	2		3		0		0	

Case VI. L. S., aged ten years, female, stage II, class 1. Stationary, capable, nontoxic, a patient of one of us at the Eagleville sanatorium. The patient was given tuberculin "old" by mouth, commencing June 17th with 0.000025 mg., each subsequent dose being increased at first by 0.000025 mg., and later by 0.00005 mg. The patient gained three quarters of a pound in one month, her condition remaining stationary. Three counts were made before treatment was begun, and one a month later.

	April 9, 1911. Per cent.		May 7, 1911. Per cent.		June 18, 1911. Per cent.		July 16, 1911. Per cent.	
Multinuclear neutrophiles..	75		68		71		57	
Multinuclear neutrophiles, with 1 nucleus	4	54	8	69	2	66	11	75
Multinuclear neutrophiles, with 2 nuclei	50		61		64		64	
Multinuclear neutrophiles, with 3 nuclei	43	46	31	31	36	63	25	25
Multinuclear neutrophiles, with 4 nuclei	3		0		0		0	
Multinuclear neutrophiles, with 5 nuclei	0		0		0		0	
Lymphocytes	20		24		0		40	
Uninuclear cells	1		6		0		3	
Transitional cells	0		0		0		0	
Eosinophile cells	1		2		0		0	

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THE EVOLUTION OF THE OPERATING TABLE; ADDITIONAL DATA.

By William Seaman Bainbridge, M. D.,
New York.

In the New York Medical Journal for November 4, 1911, pp. 909-918, I endeavored to trace the evolution of the operating table from the earliest times to the present. For purposes of convenience of description the development was divided into arbitrary epochs or stages, the more important steps within each stage being given.

For purely historical reasons more space was given to the earlier stages, and to the earlier steps within the last stage, than to the more modern expressions of table development. For the same reason more illustrations of these older tables, now forgotten or soon to be forgotten, were reproduced than of the more recent tables, with which surgeons are more or less familiar.

As a consequence of this antiquarian feature many excellent modern tables were omitted from the list with descriptions and illustrations. A number of those which were mentioned, but not pictured, may be said to mark distinctive steps, and, had space permitted, would have been given. Conspicuous among these is the Boldt table, mentioned in my communication on page 916, one view of which is given herewith in Fig. 1. This table, which was devised in 1896, is often referred to as the progenitor of practically all later American general operating tables, having a sectional top swinging in a stationary frame to facilitate the Trendelenburg posture without a bend at the neck.

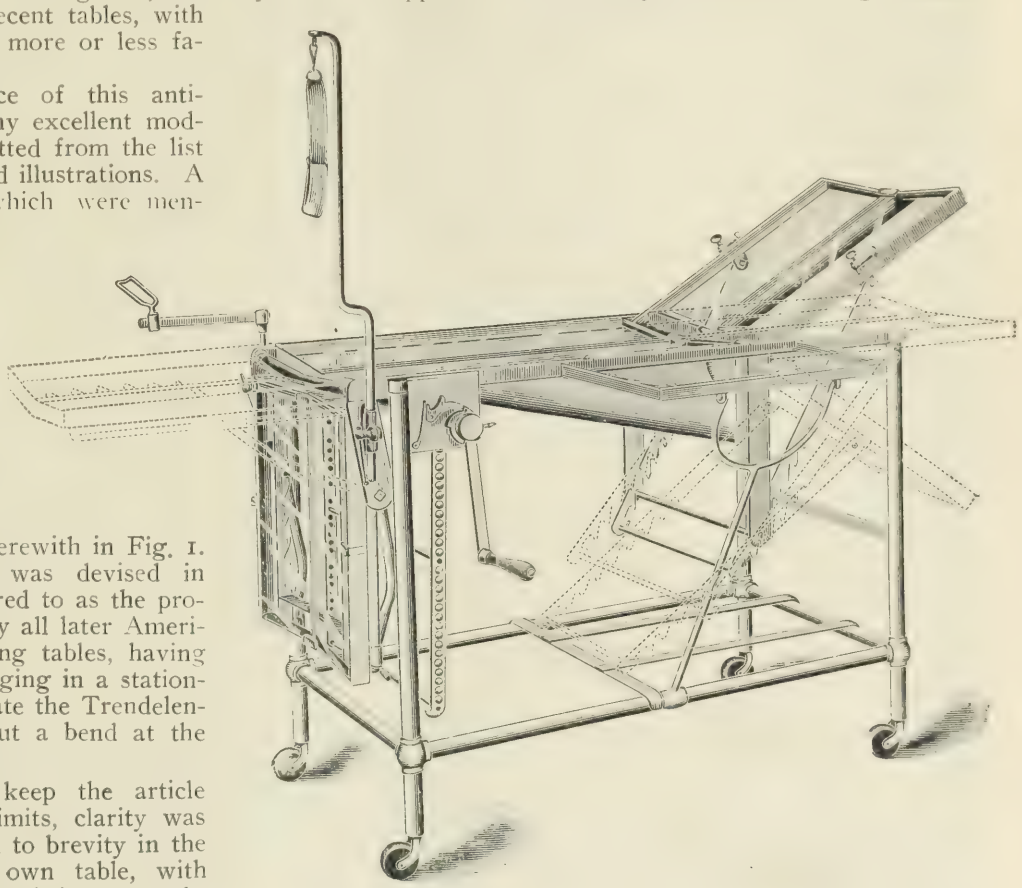


Fig. 1.—Boldt's original stationary table.

In the effort to keep the article within reasonable limits, clarity was apparently sacrificed to brevity in the description of my own table, with which may article ended, as may be judged from an article which appeared in the Journal for December 23, 1911, p. 1276.

In the article mentioned, Doctor Hartley and Doctor Murray say that I described a table (meaning my own) which is "identical" with one devised by them over six years ago, and that, with the exception of the Brown's goitre attachment, they are unable to find among the modifications, adaptations, and additions a single one which was not part of their table in 1908.

The description of my table must have been deplorably incomplete, or else my esteemed colleagues must have read my article in a superficial and careless manner, quite out of harmony with their accustomed scientific accuracy. It is hardly conceivable that they took the trouble to examine my table, or they would have noted at least a sufficient number of differences to have eliminated from their minds the thought of identity between the "Bainbridge table" and the "Hartley-Murray table," as the latter is described in the article cited above.

In reviewing the subject of operating tables, I confined myself entirely to the usual channels of medical and surgical literature, not having recourse, naturally, to the voluminous catalogue literature of manufacturing establishments. However, the fact that "a description of it has never appeared in any medical journal" would not have deterred me from mentioning the Hartley-Murray table, with which I have been familiar since its first appearance, had it impressed me as being sufficiently distinctive to warrant its being so chronicled. In the second paragraph of my original article I distinctly stated that no attempt had been made to cover the entire field of medical and surgical literature in the endeavor to trace the evolution of the operating table, and that it was not maintained that a complete sequence of steps in this development was given.

Inasmuch as Doctor Hartley and Doctor Murray have raised the issue of identity, I have accepted the courtesy of the Journal for the purpose of epitomizing the specific differences between the two tables, and for the reproduction of two addi-

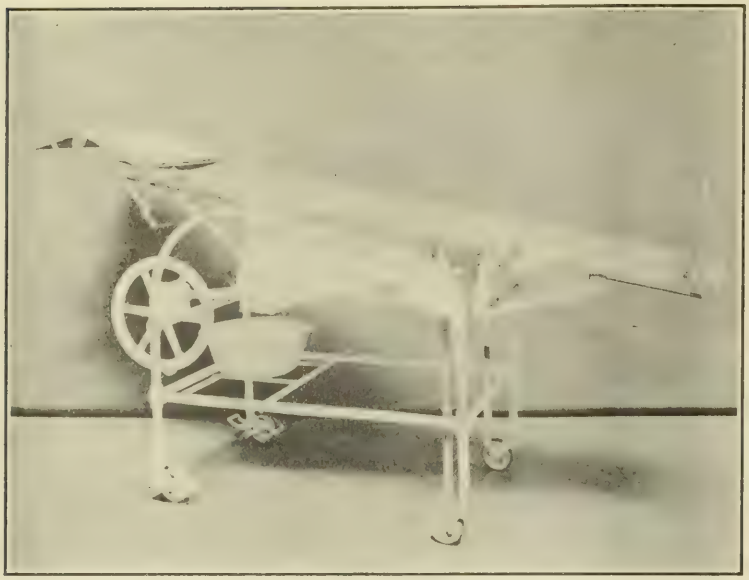


Fig. 2.—Bainbridge table, foot brake released, partly reversed Trendelenburg position with tray used to support feet during goitre work.

tional views of my table, which may help to emphasize these points of variance. It is not with the desire of precipitating a controversy—certainly not a "claim to priority" dispute—that this is done.

The following features of my table, some of which are surgical and some mechanical, do not appear in the Hartley-Murray table, as described by them in the article cited: 1. The divided foot end; 2, the side arm extension, attached by one of its short sides, for holding the arm at right angles during amputation of the breast; 3, the wider range of adjustment of the shoulder rests to prevent the patient from slipping back when in the lithotomy position; 4, the double attachment for the swinging instrument tray to either side of the table; 5, the more rigid straight bars for elevating the table instead of the long curved ones; 6, the foot brakes to lift the wheels from the floor instead of clamping the rubber tire; 7, the attachments of the etherizer's screen to both the operating table and the goitre attachment; 8, the modification of the foot rest by turning up its edges to make it serve as a perineal instrument tray; 9, the drainage outlet at the extreme head of the table when in the Trendelenburg position; 10, the complete tubular frame, eliminating the square metal and giving a gain in strength and freedom from the chipping of enamel: 11, the removable kidney elevating bridge, which leaves a smooth, unimpeded top, as shown in Fig. 2; 12, the metal top, and the adoption of this as a conductor of electricity.

The importance of the differences mentioned may be a matter of individual opinion. To me, and to many others who have either examined or used my table, they are not inconsequent, but are sufficient to give to the table an identity of its own. There is virtually nothing within the range of surgery as it is now practised which cannot be comfortably done on this table; it has a universal range of position from the extreme Trendelenburg to the reversed Trendelenburg; while its parts are many, it is easy of manipulation; there is no part of the table which cannot be easily cleansed, its smooth surfaces and absence of grooves being in keeping with the most modern hospital furniture construction.

Operating tables, like automobiles, embrace certain fundamental mechanical features common to all. The working out of these, and the assembling of the more important with the more minute details of construction, lead to as many combinations as there are mechanicians endeavoring to express, in operating table or automobile, what is conceived by the individual to be the most perfect for his needs. What seems to one inconsequent may seem to another important; each must choose for himself.

34 Gramercy Park.

A CASE OF THORACIC TUMOR AND ANEURYSM OF THE DESCENDING THORACIC AORTA, TREATED WITH SALVARSAN.*

By G. Reese Satterlee,
New York.

The patient is a man, fifty years of age, by occupation a chef, and married. As a child, the patient had measles. In 1874, he had yellow fever. Twenty-five years ago, he had a severe attack of jaundice with pain; the illness was of nine months' duration and the jaundice lasted nearly

*Presented before the Section in Medicine, New York Academy of Medicine, October 17, 1911.

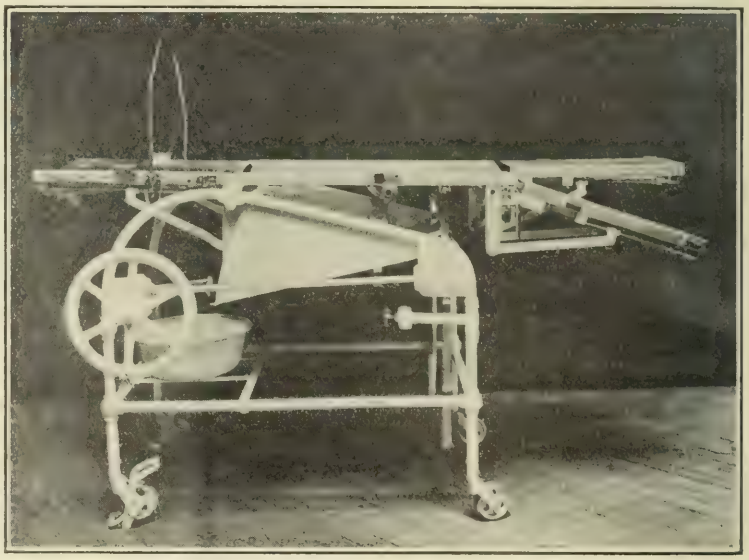
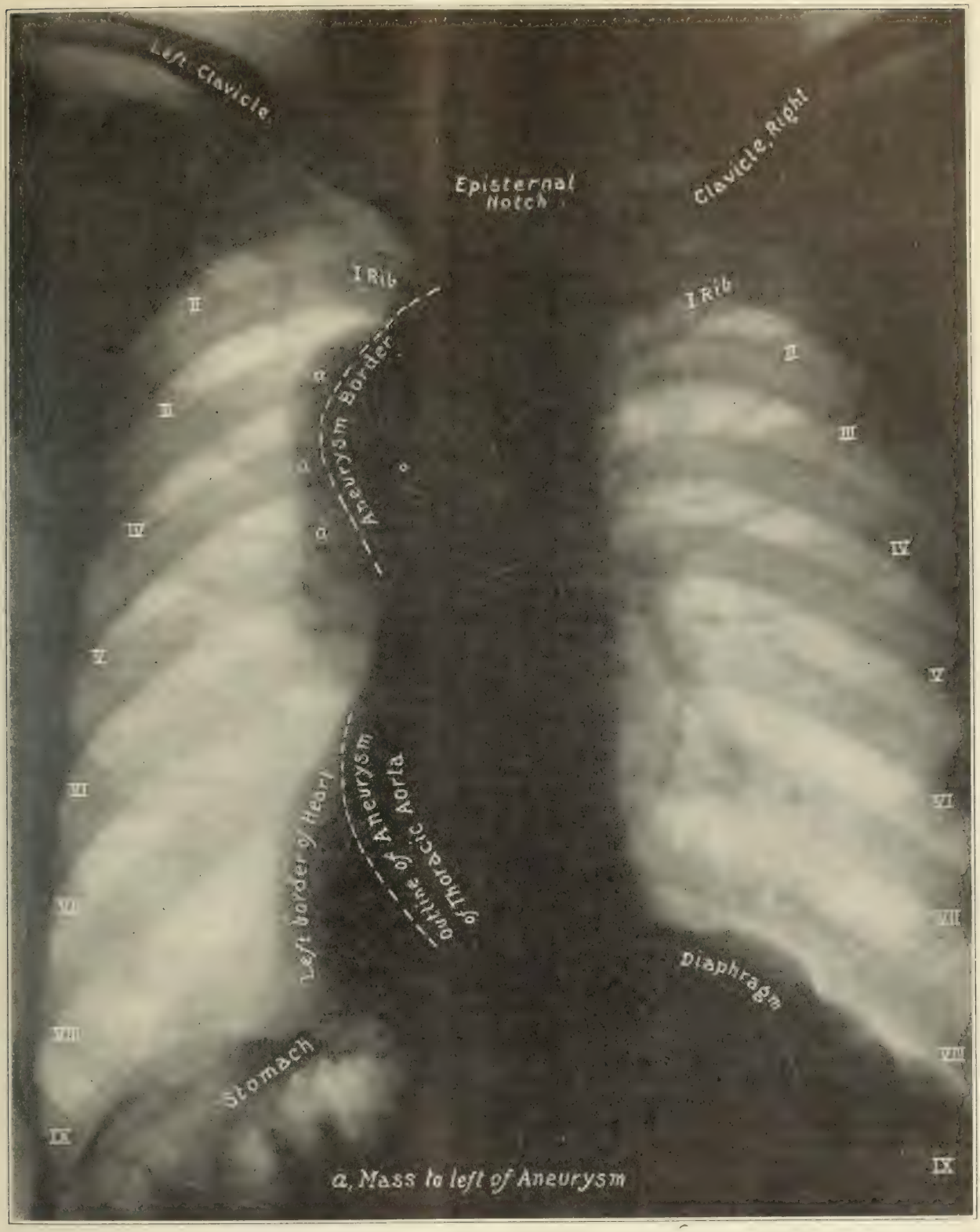


Fig. 3.—Bainbridge table, extended, showing foot end divided into two sections.



two years. His habits during the latter part of his life have been good.

Venereal history. Thirty years ago the patient had an attack of gonorrhea with a chancre, said to have been a soft one. He had noticed no eruption and did not know that he had syphilis. There is no further history of acquired venereal disease.

His present illness began about three years ago with "indigestion," for which he was treated in the outpatient department of the New York Hospital. At the same time he had pain in the back and dyspnea. He was then treated in the tuberculosis clinic of the Department of Health and his condition was diagnosticated as pulmonary tuberculosis. He was sent to Otisville, where the pain became severe and he could not work. On further medical advice, he went to Denver and later to Colorado Springs. There he became much worse, with severe pain in the back and dyspnea. He said that he was told that he had pulmonary tuberculosis.

In May, 1911, when I first saw him, he came in com-

plaining of hoarseness and aphonia. He also had severe pain in the left side of the chest, in the epigastrium, and in the left shoulder. The pain was continuous and prevented him from lying on the back. He had dyspnea on exertion, but no cough.

Laryngeal examination showed a paralysis of the left vocal cord, but no local syphilitic manifestations. Physical examination showed a man of good frame, but considerably emaciated. The superficial veins on the anterior surface of the left side of the chest and on the left shoulder and arm were engorged and tortuous, with thickened walls. The heart showed a moderate degree of hypertrophy with normal action and sounds. There was a distinct area of dulness, two and a half inches in diameter, in the first and second interspaces, merging with the area of cardiac dulness. No murmur, pulsation, nor thrill was evident. The left radial pulse was absent. The eyes were normal. The Wassermann complement fixation test was positive.

A tentative diagnosis was made of thoracic tumor, near the arch of the aorta, possibly an aneurysm, and an active tertiary syphilis.

Dr. L. T. Le Wald, at the Edward N. Gibbs x ray laboratory, made a stereoscopic radiograph of the chest, which revealed an interesting condition. The accompanying plate shows a round tumor mass, situated in the neighborhood of the arch and beginning portion of the descending thoracic aorta. The outline of the shadow of this mass is smooth and spherical, the density of the shadow less than that of the aorta. Subsequent radiographs, both anteroposterior and lateral views and fluoroscopic examination, fail to fully convince us that the tumor is only an aneurysm. There is, however, a distinct aneurysmal dilatation of the thoracic aorta at the level of the lower third of the heart, extending below the lower third of that organ. The lungs show no evidence of tuberculous deposits. He has had no sputum to be examined for tubercle bacilli.

A few doses of salicylate of mercury were given intramuscularly and then 0.4 gramme of salvarsan suspended in oil of sesame was injected into the substance of the gluteal muscles. The injection of the salvarsan caused considerable pain, but the results were very satisfactory. Two and a half days after the administration of the salvarsan the patient experienced a feeling of return of the circulation of the blood in the left forearm and hand. Examination showed the left radial pulse to be present where it had previously been absent. The voice also began to steadily improve and the man's general physical condition showed a vast improvement. One grain of salicylate of mercury was given intramuscularly, twice weekly, and potassium iodide up to the toleration point until August 5th. On this date 0.3 gramme of salvarsan was given intravenously, followed by a decided feeling of improvement in the general condition and of the pain. The urine has always been normal and the blood pressure averaged 160 mm. of mercury.

On October 13th, the laryngeal examination showed a slight weakness of the left vocal cord, a condition, the laryngologist says, of decided improvement. The Wassermann test on this date was negative. The heart has been acting well, as evidenced by normal polygraph tracings.

The diagnosis at the present time seems to point to an aneurysm of the descending thoracic aorta and to one of the arch, with a syphilitic deposit in the neighborhood. It seems probable that the pressure on the left subclavian artery and on the left recurrent laryngeal nerve was caused by the aneurysm of the arch, indirectly through the surrounding mass. This pressure must have been relieved by the action of antisyphilitic treatment in resolving some of this deposit, presumably syphilitic in nature. It hardly seems probable that the size of the aneurysm could be much diminished in so short a time. In comparing the early and late radiographs, no marked diminution in size of the aneurysm can be noted. Salvarsan was undoubtedly a powerful agent in the relief of this man's condition, but had to be administered in a small dose and with care and combined with treatment by mercury and the iodides. I feel that in these cases Ehrlich's valuable remedy should not be neglected, and if given in repeated small doses will obviate the possible danger from a large dose in aortic disease and aneurysm. The presence of an active syphilis should naturally be ascertained. The blood pressure, in my experience, if it does rise after salvarsan, is not elevated more than five millimetres, so that danger from this source can probably be eliminated.

125 West Fifty-eighth Street.

A NEW MUSCLE RESECTION OPERATION FOR SQUINT.

By Robert G. Reese, M. D.,
New York,

Professor of Ophthalmology, Cornell University Medical College, New York; Junior Surgeon, New York Eye and Ear Infirmary; Consulting Ophthalmologist, Bellevue, General Memorial, Nursery, and Child's Hospitals.

One naturally hesitates to publish a new operation for strabismus when there are so many methods. The mere fact, however, of there being numerous ways to the same goal bespeaks dissatisfaction.

The writer has purposely refrained from reporting this operation before, in order that the postoperative results could be studied, although he has been performing it for the past ten years and has operated in two hundred and fifty cases.

Wherever possible I have kept in touch with these cases, and I think I can justly offer an operation that has, in my hands, been most satisfactory. The cases operated in comprise all degree of squint and varieties of refraction; and all degrees of amblyopia to amaurosis.



Fig. 1.—Reese's forceps for operation in squint.

The forceps I have devised and used is so constructed that it will hold the cut muscle firmly, and when properly introduced the groove on the centre of the blade will indicate the middle of the muscle. The inverted catch prevents the forceps releasing its grasp if the finger accidentally touches it. In fact, the more the finger is pressed against the clasp, the firmer the hold, and the only way to release it is by pushing it back from its lower surface.

Practically all of the cases were operated in at the New York Eye and Ear Infirmary and were treated as outdoor cases. In some instances, however, the patients were kept in the hospital for twenty-four hours.

For the sake of brevity, the description of the operation below will be confined to the external and internal recti.

Cocaine hydrochloride, four per cent. solution, and adrenalin, one to 1,000, are instilled every few min-

utes for fifteen minutes before operating and a general anesthetic is seldom required.

OPERATION.

The lids and brow are first washed with soap and the eye is irrigated with four per cent. boric acid solution.

For the external and internal rectus, make a vertical incision in the *conjunctiva* six millimetres from the corneoscleral margin, commencing at the level of the upper corneal border, and extending to the horizontal plane of the lower border.

At the upper and lower limits of the incision just made, grasp the tissue anterior to the sclera with forceps and open with scissors, directing their point away from the muscle. This procedure allows the passage of the strabismus hook under the entire muscle.

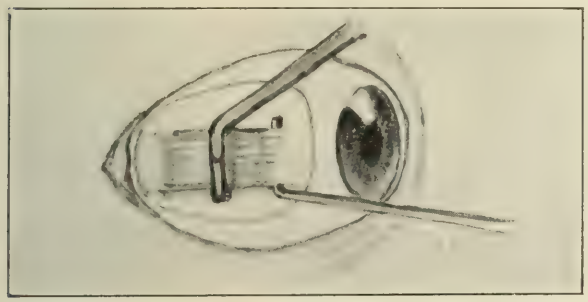


Fig. 2.—Passage of the strabismus hook under the entire muscle.

When the muscle is held on the hook, dissect all conjunctival and subconjunctival tissue back to the canthus, exposing the bare muscle completely.

The lateral invaginations of Tenon's capsule, which are attached to the tendons of the ocular muscles, must be dissected free and clear.

One blade of the resection forceps is then inserted beneath the muscle at a right angle to its course, so that the groove on the blade lies directly over the middle fibres of the muscle. Clamp the forceps to the last notch, and do not let its grasp include anything but muscle.

Sever the muscle two millimetres from its scleral attachment, leaving a stump, so that the resected end can be sewed to its original insertion. Free the belly of the muscle from any scleral adhesions. Three sutures are necessary.

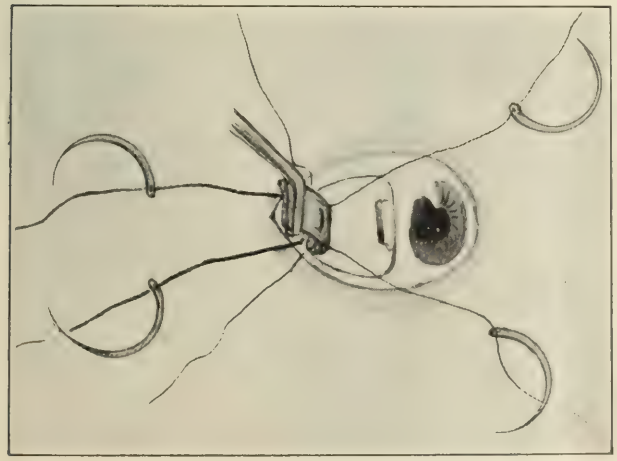


Fig. 3.—Showing the three necessary sutures.

Put the sutures in, commencing with the middle, which is a No. 3 braided silk with a needle on each end. Pass one needle through the scleral surface of the muscle posterior to the blade of the forceps and four millimetres back of the point of resection, and one millimetre to the side of the groove on the forceps; then pass the other needle the same way, but to the other side of the groove, making a loop with the suture on the scleral surface of the muscle. As the needles pierce the muscle let them include the dissected edge of subconjunctival and conjunctival tissues.

The two wing sutures are No. 5 silk with a single needle passed *first* through the upper and lower part of the dissected conjunctiva and episcleral tissues, including the superior and inferior border of the muscle, and slightly posterior to the loop made by the middle suture.

Cut the muscle anterior to the sutures, leaving at least two millimetres in front of the loop.

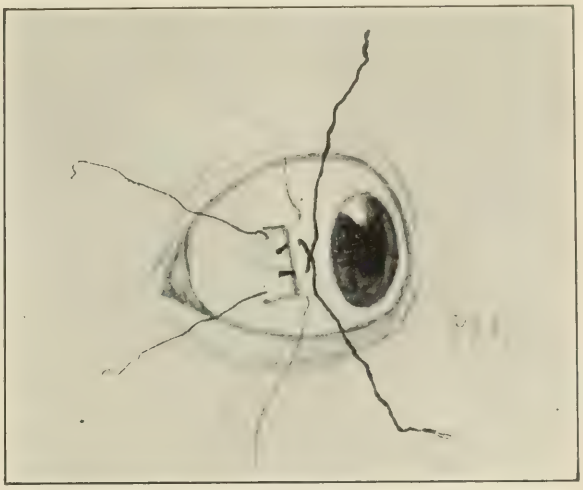


Fig. 4.—Showing cutting of the muscle.

Insert the two needles attached to the middle suture two millimetres apart, through the centre; and the other two needles through the upper and lower edges of the scleral stump. These needles should include the conjunctiva as they pass from behind forward.

Tie the middle suture first, in a loop; and do not use a surgeon's knot, as it will not pull up well. The lateral sutures are next tied. No supplementary conjunctival sutures are necessary.

The middle suture is removed in ten days, and the others can be taken out any time after forty-eight hours, or if left in they soon fall out.

The eye operated upon only is bandaged and is dressed daily for five days, when boric acid bathing, three times a day, is ordered, and if the eye is not overcorrected, the correcting lenses are ordered for constant use. On the other hand, if there is an undercorrection, a mydriatic is used and the proper glass is worn constantly.

The operation consists in resecting the muscle only, and not cutting out any of the other tissues of the eye. It is a myectomy, because in no degree of squint, however slight, will removing the tendinous portion of the muscle be sufficient.

OBSERVATIONS.

As Motais has pointed out, "the sheaths of the recti muscles at the equator become continuous with the capsule of Tenon, and in front of the equator the capsule passes forward under the conjunctiva and over the tendons of the recti, to blend near the margin of the cornea with the episcleral and subconjunctival tissues; into this blended mass the tendons of the recti send prolongations." So, to accomplish the resection of the muscle alone a free dissection is necessary.

Müller says "that advancement of the muscle is a very imperfect operation and has no analogue in general surgery. It is impossible to tell how much the movable conjunctiva will yield to the tonic pull of the distended muscle during the hours immediately succeeding the operation, and that is why the operator always tries to get a much greater effect than he ultimately wants, because he does not know how much of the primary effect will be lost."

I have often demonstrated that an advanced muscle always becomes adherent to the original insertion. So why not sew it to the insertion in the first place?

It is very important to leave the insertion of the tendon in the bulb intact, so as to avoid displacement of the tendinous insertion if the line of union is irregular. The reaction in resection by this method is practically nil because your sutures are six millimetres from the circumcorneal vascular zone and the sclera is not injured by the needles. The loop formed by the middle suture precludes the possibility of the suture pulling out, by the fact that in the space intervening between the upper and lower limits of the loop there are many muscular fibres, and the more the traction, the more the free ends of these fibres will turn under. By dissecting the conjunctival and subconjunctival tissues back to the canthus and not cutting any off, the limitation of the motility of the eye in the opposite direction is prevented and the so called unsightly "bridle," due to shortening the conjunctiva and underlying tissue, usually seen in advancement operations, is avoided.

For a few days the patient will not move the eye with the resected muscle. This may startle the operator; it is due, however, solely to the pain it causes and in a week the motility is perfect. While I should not perform the combined operation on any one under ten years of age, I would not hesitate to resect the muscle any time after six years of age if the amount of squint warranted it and nonoperative methods proved futile.

Failures with this method have been few. I believe any eye can be straightened, and from considerable observation and experience with other methods, I have no hesitancy in saying that if the operation is done with any degree of dexterity, as here described, it is the easiest and most uniformly satisfactory. I have never had any infection, nor had the muscle included in the loop to slough.

I have often, on occasion, resected the same muscle twice, allowing at least a month's interval between the operations. These cases showed a broad, firm, muscular attachment to the sclera at the original insertion. I know of no sure means of measuring the amount of muscle to be resected, but rely solely on the motility, error of refraction, and vision. I have never had a permanent overcorrection and the mistake usually made is not taking off enough muscle. I always resect first and tenotomize the opposing muscle if necessary.

In amblyopic eyes, endeavor is made to straighten the eye by confining all operative measures to that eye, but in eyes with good vision both external or internal recti, as the case may be, should be resected. I never tenotomize the opposing muscle if it can be avoided, except in divergent squint, when the external rectus is cut, even though the resection has given an apparently perfect result. Many years ago I discarded tenotomies alone.

SUMMARY.

The essential features of the operation are as follows:

1. The line of incision is six millimetres from the circumcorneal vascular zone, thereby avoiding any marked reaction.

2. The free dissection of the muscle from all tissues of the globe makes the operation a myectomy.

3. The sutures are put in the scleral stump, avoiding traumatism by not sewing the sclera proper.

4. The manner of placing the middle suture precludes the possibility of its pulling out.

5. The "bridle" seen in advancements is avoided; motility is not limited and a better cosmetic effect is given.

6. The muscle is sutured to its original insertion and not to the corneal margin. The same result is eventually obtained in advancements, as the belly of the muscle becomes attached to the original insertion.

7. The motility is increased in every case.

8. The manner of placing the forceps insures the holding of all the fibres and the groove on its blade indicates the middle of the muscle.

147 West Fifty-seventh Street.

RHEUMATISM AND AN UNQUESTIONABLE REMEDY.

By Lambert Ott, M. D.,
Philadelphia,
President Northern Medico-Legal Society, Etc.

The curtailment of the duration of rheumatism, better than by the salicylates recognized by the pharmacopeia, was the purpose of my paper on *Rheumatism and an Unquestionable Remedy* which was published in the *Medical World* for January, 1911.

The fact was there made plain that the consensus of the medical writers representing the teaching of medicine was to the effect that salicylate of sodium and other salicylates do not influence the duration of the disease. This was illustrated by a quotation from the works of one universally recognized and highly respected authority, Osler's *Practice*, page 277: "Salicyl compounds, which were regarded so long as specific in the disease, are now known to act chiefly by relieving pain. R. P. Howard's elaborate

analyses show that they do not influence the duration of the disease."

In evidence that it is not the pain relieving or analgetic properties of acetylmethylenedisalicylic acid that cause the rapid subsidence of the *swelling*



FIG. 1.—Showing hands before treatment.

and fever and the consequent abatement of the pain, but that the duration of the attack of acute inflammatory rheumatism could be curtailed, and that the recovery would not have occurred just as promptly without medical aid, I submitted in evidence the clinical report on three patients, two of whom, one aged seventy-two and the other thirty-four years, presented a most positive history of joint rheumatism from past generations. During every year of the previous ten, they had both been most persistently subjected to severe recurrent attacks of articular rheumatism, in the acute form, averaging a duration of four weeks and an interval of recurrence of every three or four months. The effects of these repeated attacks upon the finger joints of those patients were also mentioned in detail.

Those patients, and another one almost exactly similar in character, have not had one recurrent attack during the past year! Two of them did have the suggestion of an approaching attack, but the prompt use of full doses of acetylmethylenedisalicylic acid prevented any recurrence.

It is the importance of this fact in so pronouncedly increasing the interval between attacks that proves the reliability of my statement that in the chemical composition of acetylmethylenedisalicylic acid we have a veritable antitoxine especially destuctive to the rheumatic poison.

It is so trustworthy in preventing a recurrence



FIG. 2.—Showing hands during treatment.

that those of my patients who were formerly subjected to these attacks of rheumatism, invariably carry several ounces of it in their trunks when away on a vacation or trip from home.

In those chronic rheumatic conditions where the joints have become stiff and almost ankylosed from the enlargements following persistent rheumatic involvements and the consequent thickening of the synovial membranes and the surrounding structures, there are none who will admit that restored mobility of these joints, in conjunction with the reduction in their size, could occur spontaneously. In these conditions the prolonged use of acetylmethylenedisalicylic acid for six months or a year, in daily amounts of ninety to 120 grains, has produced especially beneficial results. Where these conditions have not been made permanent through the destruction of some of the tissues or by the shutting off of the nutritional processes of the parts, improvement can be confidently looked for, and with the assurance that at least there will be no further progress of the disease. The following case is no exception to the rule. It serves to illustrate the facts. I do not wish to weary the reader by repeating.

CASE. Man, aged sixty-nine years. For forty years the joints of his fingers and toes gradually became more stiff and painful. Not by a direct continuation in the increasing of the size and painful movements, but through recurrent attacks, usually lasting from eight to ten days, that became more frequent and protracted. In July, 1910, he suffered the most severe and prolonged attack of any that



FIG. 3.—Showing hands after treatment.

he had ever had, which placed him in bed helpless. His finger joints and wrists were swollen to over double their normal size. Pain stopped mobility. His then attending physician gave him frequent hypodermic injections of morphine and sodium salicylate to the full extent of toleration. While in this distressing condition and before any abatement had become manifest, a change was made in doctors and he received acetylmethylenedisalicylic acid in twenty grain doses, four times a day. The next day the swelling was reduced and the pain was much less, with no desire for the use of the morphine. On the fifth day of this treatment he had recovered from this attack. He then stated that he felt some improvement in the mobility of his stiffened joints and was in general more easy. He continued on in the use of the remedy. In three weeks he noticed that the enlargement of the finger and toe joints, that had been growing worse for two decades, showed signs of reduction, with an increase in their flexibility. He persisted in the use of acetylmethylenedisalicylic acid for one year, averaging about ninety grains a day. He is now in better health and much more free of rheumatism than at any time in the past ten years. He did not have one recurrent attack during the year, the first year without one in forty years. He is now working at his occupation as a jeweler, in which he had gradually become incapacitated. The photographs of his two hands show the joints fairly restored to normal size. The carpal and metacarpal joints had been for a long time considerably increased in size. There are still some effects of disfigurement of the first fingers from the thickening of the capsule of the joints and the adhesions formed between them and the ligaments and other surrounding structures. Now there is movement in every joint, without crepitus, thus manifesting a thickening of the capsules of the joints without any destruction of the articular car-

tilages. This important diagnostic distinction of true rheumatoid arthritis is made clear by the use of acetylmethylenedisalicylic acid, and serves to distinguish from that other condition where the articular cartilage has been destroyed beyond repair and callus material thrown out to produce further deformity, and where there is no lubrication in the synovial capsule.

In giving for publication my experience in obtaining beneficial results, I am returning what I received from others who brought me knowledge on the subject, and patients who had been recommended to me by those who had had their attacks of rheumatism, sciatica, and gout abbreviated by me with this treatment. I do it without fear, for the facts are readily confirmed.

831 North Broad Street.

A COMBINATION OF AUTOPSY TRAY AND WARMING STAGE TO FACILITATE THE BLEEDING OF RABBITS FROM THE POSTAURICULAR VEIN.

By G. A. Rueck, M. D.,
New York.

Every one who has inoculated rabbits and taken blood cultures from the ear at certain intervals in order to determine the relation of temperature of the inoculated animal to its resistance to the artificially produced bacteremia or to find the opsonic index at different stages of a disease, or for any other scientific purpose, must know how difficult it sometimes is, especially toward the fatal end of the disease, to get the desired small amount of blood for the experiment. Even healthy rabbits are sometimes very difficult to bleed.



Fig. 1.—Autopsy Tray and Warming Stage on an easel, the afferent rubber tube being attached to a hot water faucet and allowing the hot water to enter the stage through a vent in the middle of the upper short wall, and the efferent tube leading the water from a vent in one of the long side walls of the stage directly into the sink.

Now it is a long known fact that elevation of temperature will dilate the vessels and facilitate the flow of blood from them when severed. An incubation of the rabbit in a thermostat at +37.5° C. will sometimes bring the desired result. But this procedure is uncertain and weakens the sick animal very much, as would the immersion of the rabbit into warm water.

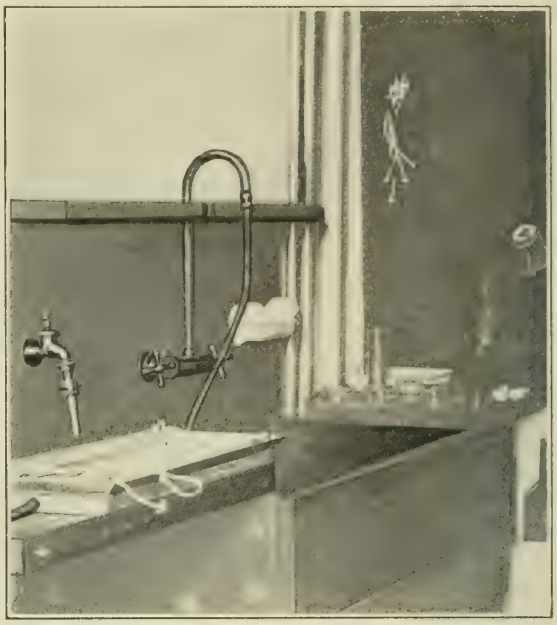


Fig. 2.—Autopsy Tray and Warming Stage in horizontal position and connected with a hot water faucet.

Doctor Wadsworth, of the College of Physicians and Surgeons, New York, has devised a large warm bottle made out of rubber which is put on an autopsy tray under the back of the experimental animal. The autopsy tray with the warm bottle and rabbit on it are then placed on an easel. The device is excellent; the blood will flow freely from the ear in most cases. But it also happens that the bottle will slide down on the tray into the neck of the rabbit, compressing the arteries which supply the veins of the ear and naturally retard or prevent the free flow of blood. Besides the rubber bottle will get leaky with advancing age and make its use the cause of an inundation of the table and laboratory floor as I have frequently experienced

Recently, a metallic hot box has been devised by a gentleman in Brooklyn. It has a hollow bottom and three hollow vertical walls which are to be filled with hot water. The animal is placed into the box. A vertical slide, acting as a shutter and as the posterior end wall of the box, can be put in different grooves of the long walls and so adjusted as to hold the rabbit snugly. A horizontal metallic plate forming the cover of the box and sliding in horizontal grooves of the long walls, is moved from behind over the back of the rabbit whose head sticks out through a hole partially cut into the cover and also into the upper margin of the anterior end piece of the box. The box holds the rabbit like a vice, but it is not as convenient to handle and to be placed on an easel as the old fashioned autopsy tray. Besides, the rabbit has to be taken out of the box

each time the temperature is taken. It is ideal for the inoculation of rabbits but a failure for the bleeding of them.

I myself, when in a hurry, alternately and quickly bring near to and away from the ear to be bled, the flame of a Bunsen burner, the rabbit being held by an assistant. In many cases I have good results and without singeing the ear of the rabbit.

Some months ago, I had a tinsmith solder to the under surface of a medium sized autopsy tray a metallic box, one inch high, and of the width and length of the tray, this warming stage having two vents so arranged as to allow a continuous stream of hot water to run through it.

The tray with the attached warming stage can be used as readily and with as much convenience as the ordinary autopsy tray in common use.

The stage will keep warm for hours. In order to make this simple combination of an autopsy tray and warming stage still more effective, the rabbit is covered with a blanket made out of two layers of flannel, extending about four fingers' width beyond the long sides of the tray, reaching to the neck of the rabbit, and hanging over the upper end of the tray.

My autopsy tray with warming stage is also a very convenient device to study the rise of internal temperature of rabbits through the influence of the elevation of external heat—or to study the influence of the elevation of temperature on infectious diseases in regard to leucocytosis (opsonic index), agglutinins, etc. For this purpose the tray in horizontal position may be kept at an evenly high temperature by a *slow stream* of hot water. The rabbit remains in the same position during the experiment and is not weakened by much handling. Its temperature per rectum can be taken readily.

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THE PRESENT STATUS OF GONOCOCCUS INFECTION,*

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In the past much has been done to establish the etiology, pathology, diagnosis, and treatment of gonorrhea, but very little has been accomplished in its prophylaxis. To-day its spread through the chronic, or supposedly cured cases is worthy of our most serious consideration. My attention has been called to this phase of the subject by the following case, which illustrates so many of the sequelæ of a latent gonorrhea.

Mrs. X., aged thirty-three years, married nine months, appendicitis several years ago which was cured by operation, otherwise always in good health. Since marriage more or less bladder irritation, at times frequent and burning urination. Recently a leucorrhea and attacks of pain in both sides of lower abdomen. Examination revealed a double salpingitis, which responded to local and tonic treatment. During the next twelve months there were recurrent attacks and gonococci were demonstrated in the cervical discharge.

The husband had an uncomplicated gonorrhea which was treated by a specialist and he was discharged as cured eight months before his marriage. Since that time, three years and five months, he was unaware that he had any disease of his genitourinary organs. On examination no discharge could be obtained from his urethra; but after a thorough massage of his seminal vesicles and prostate a rather profuse discharge was obtained which revealed numerous intracellular diplococci. Several hours later he had a very severe chill and a marked urethritis developed. At the end of three months, by a weekly massage and deep instillations of freshly prepared five per cent. argyrol, there was no further evidence of his chronic gonorrhea.

Previous to this time his wife had never been pregnant, but in the following thirteen months she aborted twice and I operated upon her for ectopic gestation in the right tube. After a few months, I lost sight of the patient, but about a year later was informed by another surgeon that he had operated upon her twice, first for an ectopic gestation on the left side, and some months later for a supposed ectopic gestation located on the right. I did not learn, however, if a pathological examination substantiated the clinical diagnosis as was the case when I operated.

This case impelled me to look up the statistics of gonococcus infection as it confronts us to-day. The available statistics are from public sources, and are consequently high, but they will give us some idea of the extent and far reaching possibilities of this infection. The number of gonorrheics in New York city is estimated at from 225,000 to 800,000. Gerrish (1) in a recent article says that syphilis and gonorrhea kill more people than tuberculosis and that, in 1900, 225,000 was a conservative estimate for New York city. Morrow (2) cites the fact that on October 24, 1855, one third of the patients under treatment at Bellevue Hospital had been affected with venereal disease—of males one in 2.27. About the same time, at New York Hospital, about one half had had, or were then under treatment for venereal disease. It is of interest to compare these statistics of fifty-six years ago with those recently reported by Cabot (3), who found in a hospital population of 8,000 males, over eighteen years of age, thirty-five per cent. gave a history of gonorrhea.

Hoff (4) cites that from 1899 to 1905 there was an increase of nearly fifty per cent. of venereal disease in the United States army. In the last five years, ending 1910, there has been a decrease of venereal disease of only 1.04 per cent. per mille of admissions to the army hospitals.

The Committee of Seven (1901) report that thirty per cent. of all venereal infection occurring in women, in private practice, in New York city, was communicated by their husbands. The Section in Hygiene and Sanitary Science of the American Medical Association reported in 1901 that many leading gynecologists of America and Europe found forty per cent. of the cases of pelvic inflammation under their care was due to gonorrheal infection. And Wolbarst, in his recent book *Gonorrhea in the Male*, states that seventy per cent. of all married women seeking treatment for diseases of the pelvic organs are suffering from gonorrhea or its complications acquired innocently from their husbands.

Gonorrhea is thought to be the commonest disease of the male, being estimated by some observers as occurring in about fifty per cent. of adults. The proportion of men to women in New York city in 1901 was fifteen to one. The complications following gonorrhea, in France, with the old methods of

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treatment used in the male, are given by Motz (5) as orchitis in from fifteen to eighteen per cent., prostatitis in from thirty-five to sixty per cent., and vesiculitis in thirty per cent. He thinks that these complications may be the cause of debility, sterility, impotence, and neurasthenia, and says that recently gonorrhea is considered as one of the causes of enlarged prostate. He further says that we now have at our command energetic and trustworthy methods for correcting the infection and preventing its various complications. Another complication which is found more often in men is gonorrheal arthritis. Hahn (6) says its occurrence is estimated at two to three per cent. of all cases of gonorrhea, that it is a sequela of the chronic stage, and is probably hematogenous in origin, and that its source of entrance may be even through the conjunctiva. Cases of so called persistent articular rheumatism in his opinion are due to gonorrheal infection. Still another complication, more frequent in men, though rare, is gonorrheal infection of the kidney. Nixon (7) has been able to collect but twelve authentic cases in both sexes, excluding those associated with general septichemia, six pure cultures and six mixed.

Although the gonococcus is a surface germ and has not the penetrating powers of the streptococcus, it has been found far distant from its orignal seat of entrance, as in the heart, the kneejoint, and the fourth ventricle of the brain. It also causes local inflammatory changes in the ears, mouth, and rectum, as well as septichemia and pyemia. A number of observers have found it in the blood during life. Some recent work of Filipo Lofaro (8) is most interesting. He examined sixty-seven cases of ordinary gonorrheal urethritis, and found the gonococcus in the blood in thirty-nine, all deep seated chronic cases. He does not explain the mode of entrance and says he believes that it is only where the germs are specially virulent and the soil is appropriate that they enter the circulation.

In chronic urethritis, supposedly of gonorrheal orign, it is often hard to demonstrate the gonococcus. Van Wald (9) maintains that the majority of chronic cases of urethritis are due to a special streptococcus which resembles the gonococcus and under certain conditions can behave like the gonococcus, i. e., it can set up an acute, contagious discharge and give rise to the various local complications of acute gonorrhea, together with arthritis. Under ordinary conditions it does not cause complications beyond chronic prostatitis and rarely epididymitis, and does not lead to cystitis and metastases. On the other hand, Corner (10), in an examination of fifty cases of chronic urethritis, found the gonococcus in thirty-three per cent. unmixed with other organisms.

In the female the effects of gonococcus infection is more far reaching in its results than in the male. Wolbarst says that seventy-five to ninety per cent. of all gynecological operations are the direct or indirect result of gonorrheal infection. This estimate seems very high, but if we recall the number of cases occurring in our own practice due probably to this cause, we must admit that the gonococcus ranks high as an etiological factor. A number of observers, among whom are Noeggerath (11), Wertheim, Neisser, Guthrie, Menge, and in observations at the clinic of Martin, the gonococcus has been found to be the most frequent organism present in salpingitis and pyosalpinx. Chipman (12) in 164 operations for *pelvic mass,* found the gonococcus present in 113, and Donald Duff (13) thinks this organism is responsible for thirty-four per cent. of pyosalpinx, and Gellhorn (14) says that two thirds of all tubal occlusions are due to this organism.

It is estimated that from thirty to ninety per cent. of the cases of sterility in women are due to gonorrhea. Rongy (15) in a recent study of 120 cases summarizes as follows:

1. Sterility due to inflammatory process of gonorrheal origin in fully seventy per cent.

2. Seventy per cent. of husbands of women who suffer from sterility have had gonorrhea and in forty per cent. the infection extends to the posterior urethra and neighboring structures and is incurable. Thirty per cent. who were infected with gonorrhea suffer from azoospermia. He concludes that eighty per cent. of all patients suffering with sterility remain uncured.

If a woman escapes an operation and apparently recovers from a gonorrheal inflammation of her annexa, she is still confronted with an ectopic gestation as a result of her infection. Dührssen (16), Mandl and Schmidt, Kustner, Petersen, Runge, and others were able to obtain a history of gonorrheal salpingitis or inflammatory conditions of the appendages in two thirds of their cases. C. D. Williams (17), who ascribes to false diverticula in the tubes the cause of fully ninety-five to ninety-eight per cent. of the cases of ectopic gestation, was able to find a previous inflammation in the tubes due in most cases to gonorrhœal infection. Rabinowitz (18), in a recent study of ectopic gestation, says that the most frequent cause is a previous salpingitis of gonorrheal origin.

During the child bearing period, a woman is subject to further complications of gonococcus infection as set forth by Hirst (19) in a recent article. He enumerates as follows: "The possible effect of an antecedent infection upon conception; the consequences of coincident infection and impregnation; the virulent character of the inflammation in a pregnant woman; the comparatively frequent occurrence of so called gonorrheal rheumatism; the predisposition to streptococcic autoinfection directly after labor; the tendency to streptococcic necrosis of the pelvic organs in such mixed infections; and the frequent necessity of radical surgical treatment to save the patient." Krönig (20) was the first to demonstrate that the gonococcus played a part in puerperal infection and his claims have been confirmed by other observers. Taussig (20) found that probably one sixth and Stone and McDonald (20) that probably one tenth of all rises in temperature in the puerperium are the result of gonococcus infection. Little (21) and Harrar (22) report that forty per cent. of women with an abnormal puerperium had gonococci in their lochia. Harrar (22) also found that in a series of cases examined at the Lying In Hospital that one sixth of pregnant women had the organism in their secretion. Little (21) showed that in his series at Johns Hopkins Hospital twenty per cent. of women who passed through a normal confinement had gonococci in their lochia. Vineberg

(23) has called attention to the fact that the gonococcus may be the cause of a certain number of cases of pyelitis of pregnancy and notes that Mirabeau also found this to be the case.

Among other complications of gonococcus infections we find ophthalmia and vulvovaginitis of the utmost importance. Howe (24) says that gonorrheal ophthalmia and other ocular diseases which result from venereal disease has changed from five tenths of one per cent. twenty years ago to only about three tenths of one per cent. to-day. In a study of the present prophylactic measures for ophthalmia neonatorum Cragin (25) says: "In a hospital service of 1,500 confinements per annum, in which emergency and ambulance cases were received, one must expect from fifteen to twenty-five cases of ophthalmia in each 1,000 confinements." As the rate of occurrence in private practice Lapthorn Smith (26) reports that he has had but ten cases of suppurating eyes in an obstetrical practice of a little over 1,500 cases. Edgar (27) estimates that ophthalmia of the newborn occurs in about one to 200 births. Woodruff (28) thinks that approximately two thirds of all cases of ophthalmia are due to the gonococcus. He cites the recent report of the Committee on Ophthalmia Neonatorum of the American Medical Association based on statistics of ten schools for the blind in eight States of this country and from the Province of Ontario which shows that one fourth of the whole number admitted to these schools were blind from a cause that was preventable. The high percentage is due in part to careless midwives. Commissioner Darlington (29) estimates that fifty per cent. of the births in the United States are attended by midwives and says that during the last six years in New York city they have reported forty-two per cent. of all births. Lobenstein (30) thinks that among the Italians the percentage is ninety to ninety-three per cent. But, as Edgar says, "The burden of the blame cannot all be placed on the midwife." For Woodruff (28) reports that in Massachusetts through an investigation made by the Boston School for Social Workers that out of ninety-seven doctors visited, with reasonably large obstetrical practice, only twenty-seven used a prophylactic, forty seldom did so, twenty-eight never used a recognized preventive, although these last sometimes used warm water, lemon juice, citric acid, lard, chamomile tea, etc. Further, Stevenson (31) says that a social study of 116 cases of ophthalmia neonatorum in the wards of the Massachusetts Eye and Ear Infirmary, from October, 1908, to October, 1909, showed that only two of the cases had been attended by midwives and then only until a physician could be secured and that physicians had attended all other cases throughout.

Vulvovaginitis is another complication of gonococcus infection which occurs in about one per cent. of little girls treated in the clinics. The source of this infection, in the majority of cases, is through the contaminated hands of an infected adult, through bed clothing, towels, or a common bath tub. According to Kelly (32) some observers have found the gonococcus present in the secretions four years after the primary infection. Ward (33) cites that Koplik found cervical involvement not uncommon and that Currier thinks gonorrhea is often responsible for lack of development of the uterus and may be the primary cause of many cases of infantile uterus.

These statistics of the occurrence and sequelæ of gonococcus infection are appalling and yet represent the facts as we find them in our recent literature. Thus we are forced to recognize that gonorrheal infection even in private practice is an etiological factor of the utmost importance. The fact that this infection is still so pregnant with sequelæ is not due to our ignorance of its course or lack of remedies to combat its progress, but rather to our neglect to use the diagnostic means at our command and to apply remedies in the acute stage when they will accomplish the best results; or by discontinuing treatment before we have exhausted every test of a cure.

From a diagnostic standpoint, an acute gonorrhea is easily determined and the treatment is comparatively simple if conscientiously carried out and persisted in for a sufficient time. However, patients too often present themselves after they have used advertised nostrums, consulted the druggist and used his cure, or have been treated by quacks. This state of affairs, in no small part, is due to our neglect to enlighten the laity on the seriousness of an acute attack and to correct the fallacy that a cessation of a discharge is an evidence of a cure.

A diagnosis of a cure is often most difficult, although Huhner (34) states, as a clinical axiom which has never failed him, that "whenever a person has kept his urine in for twelve hours, and there is repeatedly found no discharge after several separate examinations, that person is cured." He also says that the genitourinary organs cannot harbor gonococci for any length of time without producing symptoms. However, the textbooks and the literature are full of exhaustive tests, and if only a few of the more important ones were conscientiously carried out we should do much to lessen the spread of gonorrhea through the medium of a chronic condition. Anderson (35) says that many of the cases of gonorrheal prostatitis present few of the symptoms of a gleet and that "the physician thinks of lumbago, sciatica, renal colic, vesical calculi, or some grave nervous disease or mental condition, but the cause, in at least a few of these people, is a chronic prostatitis, the origin of which goes back to a long forgotten gonorrhea."

Acute gonorrhea is seldom seen in woman, except in the prostitute. Ordinarily an acute urethritis is manifested by mild symptoms of frequent and burning urination. This is often overlooked, as a woman is accustomed to more or less bladder disturbance at each menstrual period, and she is apt to think her new discomfort due to "cold in her bladder." If a leucorrhea develops soon after marriage, she may consult some woman friend, and is most often told that it is a natural consequence of her marriage relations. If, however, she consults a physician, he too often, through modesty or carelessness, fails to inspect the external genitals, much less make an examination of the discharge. Many times the routine bichloride douche is ordered, the discharge washed away, and an apparent cure is made, whereas it is more often the

means of extending the infection. By such treatment or the lack of treatment gonorrheal infection is first discovered when a woman develops a salpingitis or pyosalpinx. If an operation is indicated, the general surgeon and frequently the gynecologist will remove the tubes and ovaries without giving thought to a probably diseased uterus and glands of Skene and Bartholin. Thus a woman is sent out into the world to spread the infection.

TREATMENT.

The treatment of gonorrhea has changed very little in recent years and is still based on principles of absolute cleanliness, a nonstimulating diet, free water drinking, and the use of drugs for their diuretic, sedative, antiseptic, and bactericidal action. Among the newer remedies are lactic ferments, vaccines, and serum therapy. The treatment of gonorrhea by lactic ferments is too recent to draw conclusions. However, Watson (36), who used a fluid of skimmed milk cultures of lactic ferments, reports very favorable results in the female. In the most favorable cases the secretions are normal in a few days, in other cases the cure is completed in two or three weeks. He found that when there was tubal trouble it was benefited and patients were able to leave the hospital earlier. Still more recently Mason (37) advocates the use of a crayon which has incorporated in it authentic cultures of *Streptobacillus lebenis* and *Streptococcus lebenis*. The theory of their use is that lactic ferments have been proved in the laboratory to inhibit the growths of certain pathogens.

Vaccine and serum treatment of gonorrhea have been used for some time and, in a recent article, O'Neil (38) reviews most of the literature up to 1910. He says, quoting Ebright, "the only lesions that respond with sufficient uniformity to put the treatment on a secure plane are the joint lesions." Keyes (39) says that they are also useful in epididymitis, and probably useful in other inflammatory conditions of local gonorrhea. In systemic gonorrhea, i. e., acute arthritis or iritis, they are useful and in chronic arthritis very useful and that in sepsis they are sometimes a specific.

Hamilton (40) thinks that vaccines have a place in the treatment of vulvovaginitis, although Keyes thinks they are of doubtful action.

Vaccines, however, seem to have given us a new clinical diagnostic reaction. O'Neil cites the fact that "Irons found that no reaction took place in eight nongonorrheal patients, even after the administration of large doses (500 million), and that some suspected cases all showed reaction and a focus of a gonorrheal infection somewhere." From some recent work of Schwartz and McNeil (41) it seems that in the complement fixation test we have a valuable means of diagnosis. In a study of 324 cases they conclude that . . . "the complement fixation test (using a multivalent antigen) for gonorrheal antibodies, will have a definite field of clinical pathology as an aid in differential diagnosis between the various chronic conditions arising from gonorrheal infection and similar conditions due to other causes." In acute anterior gonorrheal urethritis they were unable to get the reaction. If these observations are substantiated by further examinations, it seems that we have reached the time when a diagnosis of chronic gonorrhea is reasonably sure in every case. Thus the greatest factor in the spread of gonococcus infection will be under our control.

For years the medical profession has endeavored to limit the spread of venereal disease, and recently, international sanitary congresses have suggested inspections, segregation, and moral education as a means to this end.

Morrow (42) says that curative treatment, by sterilizing sources of contagion, constitutes one of the most effective measures of prophylaxis. He holds that this is not being accomplished to-day, as "there are no special hospitals for this class of diseases; few general hospitals receive them in early curable stage; still fewer have special venereal wards; even the dispensary services are not organized with special adaptation to the needs of venereal cases; few have night classes, and the working people who go to the dispensary must lose half a day, which often means the sacrifice of their employment. . . . As a consequence, they resort to quacks or the use of nostrums. They are not cured, but go on spreading the seeds of contagion."

PROPHYLAXIS.

Until we arrive at a solution of the venereal peril, it is well for us to consider the question from the standpoint of personal prophylaxis. Since the experiments of Metchnikoff, which showed that thirty-three per cent. calomel ointment would prevent syphilis in apes and monkeys, many methods have been suggested for the prevention of gonorrhea. This has taken form in the U. S. Army under the name of the "K" or "A and N" packet. Recently Maus (43) has found that twenty-five per cent. calomel in seventy-five per cent. ordinary lard is all that is required to prevent infection by any of the three venereal diseases (syphilis, gonorrhea, or chancroid) if properly used in a reasonable time after sexual contact. From the moral standpoint, this would be a doubtful remedy to use indiscriminately. However, we all see cases where illicit sexual intercourse is inevitable, and to these patients we are justified in recommending personal prophylaxis.

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233 WEST EIGHTY-THIRD STREET.

THE OCULAR MANIFESTATIONS ASSOCIATED WITH SOME FORMS OF CHRONIC CYANOSIS,

*WITH ESPECIAL REFERENCE TO CONGENITAL HEART DISEASE.**

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It is well known that extensive and serious ocular changes are frequently associated with certain conditions in which cyanosis, in a more or less chronic form, is a conspicuous symptom. Clinically, under certain circumstances, some of these conditions are at times confusing, especially the cases of congenital heart disease and the condition first described by Vaquez and variously designated as polycythemia, splenomegalic polycythemia, or, erythremia, and also certain forms of intoxications developing either as the result of the ingestion of certain drugs, such as coaltar antipyretics, or by the absorption of certain poisons elaborated in the intestines, the so called enterogenous cyanosis.

As indicated by the title, the following remarks will be devoted particularly to congenital heart disease with brief reference to erythremia and certain intoxications.

CONGENITAL HEART DISEASE.

While it has been known for many years that definite intraocular changes occur in cases of congenital heart disease with cyanosis, the large number of these cases now on record show that comparatively few of them have been subjected to an intraocular examination. About a year ago the following case came under the writer's observation.

CASE I. William J., aged three years, was admitted to the Phoenixville Hospital, April 26, 1909, with the following history: At the time of the birth of the patient the labor was perfectly normal. The child was the seventh of eight children and was breast fed until the eighth month. The other children of the family were living and well. The parents were also healthy and there was no history of tuberculosis or syphilis. The patient seemed perfectly healthy until the tenth month, at which time it was noticed that the feet and hands were cyanosed. The cyanosis of the extremities then became more marked and finally general in character. Following this, there developed paroxysms of coughing and dyspnea. Aside from this the patient never had any severe illness, nor did he have convulsions of any type. During his stay of six months in the hospital his temperature ranged from 97° to 100° F., there frequently being an afternoon rise; the pulse ranged from 80 to 100, at times reaching 160, while the respiration varied from 26 to 38, but during his dyspneic attacks ran as high as 56 to the minute. During this same period he had twelve paroxysms of dyspnea, hypodermics of morphine usually giving relief. During the last month of his stay there seemed to be some improvement in the cyanosis. On November 29, 1909, the patient, who was under the care of Dr. Charles Fife, was transferred to the University Hospital. At this time the face was markedly cyanotic and there was a distinct cyanosis of the entire body. The mucous membrane of the mouth was a deep purple color and became almost black when the patient cried. The hands and feet were decidely blue and the nails purplish. The fingers and toes were distinctly club shaped. The superficial veins were distended, especially about the temples, bridge of the nose, and upper part of the chest. Briefly stated, the examination of the heart revealed a distinct enlargement, especially marked to the left. There were no murmurs, but both pulmonic sounds were accentuated, especially the second. While the patient was at Phoenixville, Doctor Fife had found a loud systolic basic murmur which could be heard over the whole chest, but was not transmitted into the great vessels of the neck. Despite repeated examinations this murmur was never heard while the patient was under observation at the University Hospital. Two skiagraphs of the heart taken by Dr. H. K. Pancoast showed that the heart extended far out to the left with but little extension to the right. The shadow likewise extended high up on the left side of the sternum. The lungs gave a superresonant note and the breathing was emphysematous. The spleen was not palpable but the liver extended two fingers' breadth below the costal margin. The urine was negative aside from a very slight trace of albumin. During the time the patient was under observation at the university he had several attacks of epistaxis that developed after attacks of crying, and in one of these he was unconscious for a half hour, during which time the breathing was extremely labored and short, the pulse very rapid and weak, the eyes open and glazed, the pupils dilated, and the cyanosis extreme. Under the hypodermic use of morphine and atropine and oxygen inhalations he gradually regained consciousness, and after vomiting profusely, went into a quiet sleep. The temperature, pulse, and repiration were much the same as noted during his stay at Phoenixville. About two weeks prior to his death, which occurred February 13, 1910, an otitis media developed. The condition was regarded as being dependent upon a defect of the interauricular septum. The blood examination during this period were as follows:

June 6, 1909—Red cells 7,410,000, white cells 7,120.
November 28, 1909—Red cells 9,010,000, white cells 17,[illegible] H = 110 per cent.
December 1, 1909—Red cells 8,080,000, white cells 7,800. H = [illegible] per cent.
January 26, 1910—Red cells 9,020,000, white cells 9,280. H = 12 per cent.

This child was under ocular observation for about five months, and while all the examinations were made with considerable difficulty owing to the age of the patient, as well as the tendency for any excitement to provoke a coughing paroxysm, no decided change could be noted in the condition of the fundus during this period. There was a distinct enlargement of the veins of the lids. No definite degree of exophthalmos could be said to be present, but the eyes seemed to be prominent, probably dependent upon the widening of the palpebral fissure as the result of his dyspnea, and possibly assisted by the engorgement of the orbital veins. The ocular conjunctival vessels were slightly distended and of a chocolate color. The palpebral conjunctiva, especially toward the margins of the lids, was purplish in color. The bluish tint of the sclera was exaggerated, but no pronounced discoloration of this structure was present. In each eye the media were clear and the fundus was darker than one would expect to find in a blond, but hardly as dark as one sees in a negro. The disks were oval, dusky red in color, and the edge, while blurred, were not completely obscured. Many fine vessels, not ordinarily observed, could be noted on the disk. The veins were enormously distended, extremely tortuous, and almost black in color and all of the larger branches presented a pronounced reflex stripe. The arteries were also somewhat darker in color, larger in calibre and more tortuous than normal, but here the changes were very much less marked than in the veins. No free hemorrhages or exudates were observed.

While atresia and stenosis of the pulmonary artery are stated by Hochsinger (1) to be the most

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common of the congenital heart lesions, it is interesting to note the results of the statistical study of 400 cases of congenital heart disease made by Abbott (2). In this series, the writer calls attention to the fact that while defects of the interventricular septum were present at the base only in thirty-two cases as a solitary lesion, in combination with other anomalies it proved to be the most common of all malformations, being present in 149 instances. True patulous foramen ovale was present in 134 cases, while patent ductus arteriosus existed in 106 instances. It was also pointed out that this last condition was rarely found in association with pulmonary stenosis, but was frequently found in conjunction with pulmonary atresia. Humphrey (3) states that cyanosis is present in ninety per cent. of cases of congenital heart disease and is most prominent in cases of transposition of the vessels and in atresia and stenosis of the pulmonary artery, whereas in defects of the auricular septum and in patent ductus arteriosus it is usually absent. In Abbott's analysis cyanosis was said to be absent in most of the cases of defect of the interauricular septum and was not marked in any of them, while a moderate degree was fairly common in defects of the interventricular septum, but only to a marked degree in three. Marked cyanosis was seen chiefly in the cases of transposition of the arterial trunks, pulmonary stenosis with defect of the interventricular septum and pulmonary and tricuspid atresia. It was usually slight or absent in cases of patulous ductus arteriosus and in coarctation of the aorta of the adult type. In six cases of defect of the interauricular and in four cases of defect of the interventricular septum, the cyanosis was terminal, appearing only a few weeks before death.

The cause of this cyanosis has always been a matter of considerable discussion. Morgagni's theory of venous stasis while applicable in some cases has not been generally accepted. The theory of admixture of venous and arterial blood has also had its adherents, but many objections to this view have been offered by various clinicians. Thus, Humphry states that in many cases of single ventricle no cyanosis occurs, while Baquis refers to the cases of Kussmaul and Wintrich where there existed marked pulmonary stenosis and a defective interventricular septum and still no cyanosis developed. The same writer also refers to von Breschet's interesting case. Morrison believes that the main factor in the production of cyanosis is the inadequate aid afforded the circulation by diminished lung function. Carpenter (4), however, states that even an admixture of the venous and arterial blood associated with impaired lung function may not produce cyanosis, as was shown by his cases of defective interventricular septum, patulous ductus arteriosus, and pneumonia. He expresses the view that one theory cannot explain all cases, but believes that in many instances the cyanosis developed, not because the lungs cannot oxygenate properly, but because they are prevented from dealing with a sufficient proportion of the total quantity of venous blood throughout the whole body by reason of various defects in the pulmonary region, perhaps combined with weakness of the heart muscle. However, he states that this will not explain all cases, for at times the lung capillaries are so wide and tortuous as to prevent proper aeration. Under these circumstances, in addition to the difficulty of getting the blood to the lungs to be aerated, there would be added the difficulties of proper aeration when it got there. He concludes by saying that he believes the cyanosis to be due to deficient oxygenation from whatever cause arising and not necessarily to impaired lung function.

Doctor Lees (5) believes that the amount of cyanosis is a direct measure of the extent to which aeration of the blood has been hindered. Holt also believes that in many cases deficient oxygenation is the underlying factor. Since von Krehl in 1889 pointed out the polycythemia or erythrocytosis that is associated with this condition, some observers have regarded this as responsible for the cyanosis, and Humphry suggests that when the cyanosis is constant it may be due to the high red count and when the cyanosis occurs only on exertion it may be due to deficient aeration. Calabrese considers the erythrocytosis due to the irritation of the blood-producing organs by the overloading of the blood with carbonic acid gas, while Holt (6) believes that this condition compensates for the diminished oxygen carrying power of the blood, as does Anders (7) in speaking of polycythemia with splenic enlargement.

Since 1905 when Posey (8) reported his personal observation and that of Doctor Swindells, together with sixteen cases collected from the literature, I have succeeded in finding additional reports of eight cases of cyanosis retinæ. Tyson (9) in 1908 reported the history of a twelve year old child who first became cyanosed at the age of two years.

Case II. At the time the patient came under observation the cyanosis was general and the fingers clubbed. The heart was slightly enlarged to the right and a systolic murmur and thrill could be detected over the base; the liver and spleen were barely palpable. The urine was negative except for an excess of indican. As to the result of the blood examination, the hemoglobin was estimated to be 120 per cent., the red cells 8,080,000, and the white cells 9,800. The palpebral conjunctiva was cyanosed, the ocular conjunctiva injected. The fundus was of violet tinge, the disk red, both sets of vessels dilated and tortuous, the veins were blue black in color, while the arteries were of the usual color of the veins. The sensation of the cornea was diminished and the color fields markedly contracted. The vision was 20/20. The author also states that the cyanosis retinæ varied with that of the general cyanoderma. The case was diagnosticated as one of pulmonary stenosis associated with a patent foramen ovale.

In the same year Baquis (10) reported his most interesting case history together with the autopsy and microscopic findings:

Case III. The patient was a male child of eleven years, who had a general cyanosis with clubbing of the fingers and for a month prior to the time of observation, severe dyspnea. Further examination showed a dilatation of the superficial veins, pulmonary emphysema and a palpable liver and spleen, but no edema. The blood was brown in color, showed 112 per cent. of hemoglobin, 8,500,000 red, and 23,000 white cells. The blood pressure was between 145 and 150. The vision of the right eye was reduced to light perceptions while with the left eye the patient could discern hand movements at thirty centimetres. Exophthalmos was present and the lids were bluish brown in color, while the bulbar conjunctiva was cyanotic and presented thick and almost black veins. The pupils were slightly dilated and reacted feebly to light. The irides were blue in color, the right having a slightly yellowish tinge. Owing to a probable vitreous hemorrhage, no fundus examination of the

right eye was possible. In the left eye the disk borders were completely obscured, the posterior pole being covered by a delicate grayish veil, while the retina showed a swelling of seven diopters. The retinal arteries were markedly contracted and only visible near the disk, while the retinal veins were enormously distended and tortuous, almost black in color, and in places presented sacular dilatations. Numerous hemorrhages were present in the macular region and throughout the eyegrounds. Ten days after admission the iris of the right eye was noted to be brown in color, the eye somewhat tender and injected. Five days later the left eye became painful and injected, the pupil was contracted, and the iris, which previously had been distinctly blue, was now brown in color. The examination with the corneal microscope revealed a marked dilatation of the iris vessels. Fifty-five days after admission the patient died and immediately after death the irides regained their original blue color. The autopsy revealed pulmonary emphysema and bronchial catarrh, but no tuberculosis. The liver and spleen were much enlarged, the kidneys, while passively injected, did not reveal any anatomic changes. There was a small quantity of fluid in the pericardium and peritoneum. The heart showed a total hypertrophy and the pulmonary artery a hypoplasia, this vessel not attaining the usual calibre of the femoral artery. The ventricles of the heart were enormously hypertrophied and there was a large defect in the upper part of the interventricular septum.

Lesieur and Froment (11) in 1908 reported the history of a man, aged twenty-one years, whose cardiac lesion was first noted at the age of thirteen:

Case IV. At the time of his admission to the hospital there was marked cyanosis and infantilism. The blood examination revealed 8,500,000 red cells per cubic millimetre. The fundus examination, made by Rollet, revealed disks that were unduly red, and large and tortuous retinal veins. There were no hemorrhages and no venous pulse could be observed. The diagnosis of the cardiac condition was pulmonary stenosis.

Case V. The late George Carpenter has referred to a man aged thirty-four years, who first consulted him owing to severe hemorrhages. There was slight cyanosis and clubbing of the fingers. The patient was first aware of the cause of his symptoms at the age of twenty-seven. Stephenson, who made the ocular examination, reported the disks as hazy, like the sun seen through a fog; the retinal veins dilated to three or four times their ordinary width and filled with dark blood, while the arteries also revealed some change. In this case the cardiac diagnosis was not stated.

Case VI. Parkinson (12) has reported the history of a female child with a slight chorea, who exhibited a cyanosis of the face and extremities with distention of all the superficial veins, especially about the temples, breast, and abdomen. Blood: Hemoglobin 100 per cent., red cells 6,000,000, white cells 12,000. In this case no murmur could be detected at any time. Stephenson, who also examined this patient, stated that the fundus changes were not as pronounced as in the patient observed by Carpenter. The cardiac diagnosis was pulmonary stenosis and patent interventricular septum.

Case VII.—In 1906, Bie and Maaf (13) cited the history of a boy, nineteen years old, who first became cyanotic at the age of fourteen years. For three or four years before coming under observation he complained of dizziness, shortness of breath, and palpitation of the heart after the slightest exertion. During the last month of this time there had been nose bleeds and blood stained expectoration. The conjunctivæ were brighter red than normal, while the pupillary reflexes were of normal character. The fundus examination revealed thick but not tortuous retinal veins which were extremely dark and of a brownish hue. The arteries were of normal calibre and color. Aside from the conditions just stated, the fundus of each eye was said to have been otherwise normal. The cardiac diagnosis was stenosis of the pulmonary artery associated with a patulous ductus arteriosus and a probable defect in the interventricular septum.

Case VIII. Whipham (14) has cited the history of an infant, twenty-one months old, in whom a cyanosis developed on the tenth day. The digits were clubbed, the heart generally enlarged, and at times a soft systolic bruit could be heard to the left of the sternum. An ophthalmoscopic examination revealed abnormally large vessels with "a distinct difference in the appearance of the veins and arteries." There was also present a congenital bilateral ptosis. The condition was attributed to some abnormity in the origin of the great vessels from the heart associated with a septum defect.

Case IX. In January, 1910, Krämer (15) reported the case history of a boy, nineteen years old, who had marked cyanosis, with clubbing of the fingers and who gave a history of hemorrhages after coughing. There also existed a spinal curvature. Albumin was found in the urine while the blood count showed a presence of 9,160,000 red cells and 6,000 white cells to the cubic millimetre. The tarsal conjunctiva of the lower lid was markedly cyanosed and presented tiny convolutions of dilated vessels that appeared as dark spots; the discolored bulbar conjunctiva bleached with adrenalin revealing dilated and tortuous ciliary vessels. The fundus reflex was darker than normal, the retinal veins were black, tortuous, and dilated to four times their usual size, while the larger and smaller branches presented a marked reflex stripe. The arteries were violet in color, about twice their normal calibre, and there was scarcely any exaggeration of the reflex line. No localized irregularities in calibre could be noted in the course of the vessels. The disks were dark red in color, and while not sharply bordered there was no striation. The vision of the right eye was 6/18, of the left eye 6/15. No apparent cause could be determined for the reduction of the vision of the right eye. The color fields were normal. The autopsy showed that the pulmonary artery was contracted to the size of a lead pencil, while there existed a patulous foramen ovale and a defect in the interventricular wall associated with an endocarditis. The lungs showed old tuberculous foci and a fresh infarct that was responsible for the fatal hemoptysis.

If the cases cited above are included with those previously reported by Posey, we have a total of twenty-seven cases[1] of cyanosis retinæ that have been observed among the numerous cases of congenital heart disease which have been reported, still further, in a number of these cases the available ocular reports were too brief to make a statistical study thoroughly reliable, however, if such a procedure serves for no other purpose than to call attention to the desirability of a complete ocular examination in all cases of congenital heart disease with cyanosis, the writer will feel fully repaid for presenting data of such uncertain value. Ocular changes have also been observed in the absence of general cyanosis, as in the case history cited by Babinski and Tonfesco (17).

Often in these cases the veins of the lids and adjacent structures will be found enlarged, the conjunctiva will be discolored, and in the pronounced cases the sclera as well. Exceptionally some discoloration of the iris may occur, while a change in the color of the whole fundus may be noted, at least in the more advanced cases.

The risks in the majority of the cases referred to were hyperemic and the disk margins blurred in varying degrees. In the cases cited by Knapp (18), Posey, and Baquis, the margins were completely obscured and this was also probably the case in Loring's (19) patient, as the condition had been previously regarded as a choked disk. Stephenson, in speaking of one of Carpenter's cases, described the disk as hazy as if seen through a fog. Posey has referred to the condition of the disk, existing in his patient, as a neuroretinitis. In six of the cases

[1]The writer did not have access to the volume containing the case history reported by Bahr (16) so that the number of [illegible] twenty-six cases was accepted.

the condition of the disk was not referred to, while in the cases history reported by Bie and Maar, Rollot reported the disk as normal.

The condition of the retinal arteries was not stated in three cases, while in the histories reported by Liebreich (20), Litten (21), Hirschberg (22), and Bie and Maar, they were described as normal. In the patient whose case history was reported by Baquis the arteries were markedly contracted, while Stanglmeyer (23) refers to them as extremely narrow as compared with the veins. In the remaining cases the arteries were dilated and in many of them tortuous as well. Many of the reporters, Leber (24), Loring, Tyson, Krämer, etc., also commented upon the darker color of the arterial blood which was generally described as appearing venous in character. While in two of the cases, the reports at the disposal of the writer failed specifically to mention the condition of the veins, these vessels are always dilated, often enormously so, and then usually distinctly tortuous. In Baquis's case saccular dilatations were present. In the writer's cases where the veins were frequently crossed by the arteries, the former vessels appeared in many instances like curved spindle shaped dilatations and all the venous branches exhibited a very noticeable reflex stripe, a condition also referred to by Krämer. The color of the venous blood has been variously described as violet, brownish, violet brown, and "almost black." Venous stasis has been advanced by some writers to explain the dilatation of the retinal vessels, but this has not been universally accepted. Other observers believe these changes to be dependent upon alterations in the vessel walls, the result of poor nutrition in consequence of defective oxygenation of the blood. The studies of Baquis have shown what local changes may occur, and with his observations in mind future cases should be studied with renewed interest.

In the cases of Stanglmeyer, Goldzieher (25), Galezowski (26), Posey, and Baquis, retinal hemorrhages were described, while a hemorrhage into the vitreous was also undoubtedly present in the cases of Goldzieher and Baquis. These two last observers also report the interesting phenomena where the previously clear blue iris—Goldzieher, left eye, Baquis, right eye and left eye—became brown in color while under observation, and in Goldzieher's case this was associated with hemorrhages into the iris structure, and in Baquis's case the original blue color returned after the death of the patient. The latter observer attributes the brown discoloration to arterial contraction with marked venous stasis and the subsequent return of the blue color after death, to the emptying of the veins into the larger neighboring channels. He further adds that had life been prolonged, thrombosis and hemorrhagic extravasations would have doubtless occurred.

In five of the cases whose histories have been reported, hemorrhages can be definitely excluded, and I dare say that they were absent in the remaining cases or their presence would have been definitely stated. Krämer takes exceptions to Posey's statement that hemorrhages are frequent in this condition and points out that in the cases of Stanglmeyer and Galezowski the hemorrhages were observed shortly before death and suggests the possibility of their terminal origin. In the series under consideration it will be recalled that three other cases, a total of 18.5 per cent. of the cases observed, presented similar lesions. In view of the fact that the patient cited by Baquis died within two months after admission to the hospital and inasmuch as I have been told that the boy whose history was cited by Posey died a month or so after he came under observation, I think our present knowledge would warrant the statement that hemorrhages are usually a late manifestation in this condition, and if this is true, their frequency would depend upon the time the case came under observation. Considering the persistent and high degree of stasis that is present in many of these cases for protracted periods of time, it is really remarkable that hemorrhagic extravasations are not more frequent. If the views of Baquis are correct, hemorrhages in the absence of other local conditions are not prone to occur in the cases manifesting but a mild asphyxia, but are more apt to develop when the asphyxia becomes severe and prolonged. Still further, good vision has been maintained in many cases over long periods of time, but the histological studies of Baquis have now shown how seriously the retinal elements may be injured as the result of hemorrhages and edema dependent upon the excessive vascular changes.

Exophthalmos, or undue prominence of the globes, was referred to by Posey, Baquis, and the writer. This was probably dependent upon two factors, the dyspnea and the probable engorgement of the orbital tissues.

In Goldzieher's case the left eye was stony hard and ultimately ruptured spontaneously in the upper equatorial region. Baquis believes that glaucoma can develop in these cases as the result of a chronic inflammation of the tissue at the iridocorneal angle resulting in a complete obliteration of this filtration area. Three years before coming under observation in Stanglmeyer's patient a severe spontaneous inflammation of the left eye developed that was associated with excessive pain, redness and lacrymation, and terminated in blindness after a period of six weeks. The patient stated that the eye had been perforated.

Of the twenty-six cases here considered those of Knapp, Litten, Stanglmeyer, Carpenter (27), Krämer, and Baquis were examined post mortem. Knapp's case failed to show any valvular lesions, but exhibited a general enlargement—hypertrophy—of the whole vascular system. Stanglmeyer's patient had a patulous foramen ovale and ductus arteriosus as well as pulmonary stenosis and endocarditis. The other four cases revealed defects in the interventricular septum associated with anomalies of the great vessels as well as other malformations. In those cases where ante mortem diagnoses were made, the majority regarded a pulmonary stenosis either alone or in conjunction with other conditions as the underlying lesion. Loring states that "an exhaustive examination by an expert failed to bring to light any disease of the heart or any abnormity in its sounds." In one of Carpenter's cases there was also an absence of a bruit, while concerning the personal observation men-

tioned above, Doctor Fife stated that a well marked murmur completely disappeared in the later course of the affection.

Baquis is the only observer to my knowledge who has had an opportunity to study microscopically the ocular changes in cyanosis retinæ due to congenital heart disease, and his findings and conclusions are of the utmost interest. As might be expected, he found that the greatest changes occurred in the retina which showed numerous hemorrhages and marked edema, especially about the posterior pole. Within the eye the retinal vessels showed extensive alterations, varying from incipient changes to complete obliteration, these changes being especially marked in the peripheral and mid zones. The arteries were contracted, due in part to swelling of the intima but mostly to a thickening of the media. Baquis believes the changes must have begun in the smaller arteries while the alterations in the veins were secondary. As a result of these extensive changes the retinal elements were severely injured, the ganglion cells being almost entirely destroyed. In the papilla the arteries were also affected but to a much less extent, and mostly from pressure of the edema, which, as stated above, was greatest about the posterior pole. A thrombosis in the central vein was excluded. In fact throughout the eye, chorioid, sclera, and iris, the arteries were contracted through thickening of the media. In the iris there were no changes in the walls of the veins, but the anterior layers of this membrane were thickened. The trabeculæ of the iridocorneal angle were densely packed with cells, which condition, Baquis believes, resulted from a chronic inflammatory condition set up by irritating products contained in the aqueous as a result of intraocular degenerative changes. He believes that the primary cause of the extensive ocular changes was a spastic contraction of the finer arterial branches. In explanation of this he states that during the period of general cyanosis a slight asphyxic condition is associated with a slight irritation of the bulbar vasoconstricting centres. This produces a contraction of the smaller visceral branches and the blood is driven to the peripheral organs, including the eye, and produces a general vascular dilatation. Later, as a result of failing compensatory processes, the bulbar centres are further stimulated, which calls forth a severe contraction of the smaller branches including the ramifications of the central artery of the retina; this effect is also enhanced by the direct action of the accumulating carbonic acid. Hence a further impediment is added to the circulation which has been maintained with difficulty owing to the impaired function of the heart. At this stage an ophthalmoscopic examination would show an almost total disappearance of the arterial ramifications, and a condition has developed which is favorable to venous thrombosis and similar secondary changes in the finer arteries. During the course of these circulatory disturbances, hemorrhages occur in the retinal tissue. He explains the absence of these changes in the other organs by pointing out the mechanical conditions which there tend to promote the circulation, and states that it is only in the retina that we have a condition where active or passive movements fail to augment the venous circulation, and this retardation is further favored by the bending which the vessels undergo at their entrance into the nerve. The fact that the retinal artery is a terminal vessel and its great distance from the heart are cited as contributory factors.

POLYCYTHEMIA OR ERYTHREMIA

In a recent monograph, Senator (28) discussed the two primary types, polycythemia rubra megalosplenica and polycythemia hypertonica, as well as the secondary types of polycythemia, while Jackson (29) has but recently made a careful study of the ocular manifestations of true polycythemia so that it has not seemed advisable to review the literature in reference to this subject. Jackson stated that as far as he was aware, his case was the first to show retinal hemorrhages. A year ago Parker and Slocum (30) reported the histories of two other cases and in one of these a retinal hemorrhage was noted, here induced by the rupture of a small saccular venous dilatation. The writer has seen but two cases of this kind, one of these being in the patient whose history was reported by de Schweinitz (31), and in this case the veins were dark, tortuous, and dilated, but no changes were associated with the arteries and no hemorrhages were present. The other case was in a patient who is at present under the care of Dr. Alfred Stengel, and it was through his courtesy and that of Dr. W. T. Shoemaker, that I had the opportunity to examine the patient. In this case the cyanosis was but slight at the time of examination and the patient had improved while under observation.

The fundus changes exhibited were of the mild type, that is, the discs were dusky red with hazy margins and the veins moderately distended and dark in color, the distention being more pronounced in the veins of the right eye. No distinct tortuosity of these vessels could be noted and no arterial changes or hemorrhages were observed.

In the past, in cases of congenital heart disease, attempts have been made to utilize the condition of the retinal circulation as an aid to the diagnosis of the cardiac condition. Thus, Nagel (32) thought that two types of retinal vascular changes might be distinguished. If the retinal veins were dilated and tortuous and apparently darker in color, without associated change in the color of the arterial blood, it would seem to contraindicate a communication between the two sides of the heart. If, on the contrary, the arterial corresponded to the venous changes, he believed such a communication would be indicated. Stephenson (33) in later years, expressed a similar opinion. Carpenter (34) has stated that if there is considerable cyanosis of the retina, as sometimes is the case, without the associated appearance of curly retinal vessels, it would suggest, but not positively prove, that the pulmonary tract was either not involved, or that right sided muscular compensation was sufficient to overcome the obstruction.

Since more cases of true polycythemia have been subjected to fundus examinations, it has been shown that from our present knowledge the fundus picture produced by this condition cannot be distinguished from the changes that may be produced by congenital heart disease with cyanosis, as in both we may

have similar disc and vascular changes, although I am inclined to believe that the congenital heart cases as a group would tend to show more extensive intraocular changes than those encountered in cases of true polycythemia, and as far as I am aware, the case histories so far recorded would substantiate such an opinion.

Recently Behr (35) has contributed an important article bearing on the ocular changes in polycythemia and his report includes the results of the microscopic examination of the eyes. In his case, in addition to the cyanosis, enlarged liver, and albuminuria, there was a slight rise of blood pressure, but no demonstrable splenic enlargement or cardiac signs, although later on a cardiac insufficiency developed. The etiology was obscure. When first seen the vision, fields, and color sense were normal and the fundus presented the picture of an optic neuritis with overfilled and moderately tortuous vessels. The patient was under ophthalmoscopic observation for five years, and during the last two years a choked disc was present.

Microscopically, the ocular veins were shown to be dilated and filled with red cells, although there were but few cells in the canal of Schlemm and this channel was not dilated. The retinal capillaries presented spindle formed dilatations, but the vessel walls were without demonstrable pathological changes. Throughout the vascular coat there existed a round cell infiltration.

Behr states that as a result of the dilatation and loss of elasticity in the walls of the vessels, an extravasation of blood plasma occurs, and if the lymph streams of the optic nerve are not sufficient to handle this overproduction, we have the picture of an optic neuritis that may go on to that of a choked disk, which cannot be distinguished from that induced by endocranial causes. He states that his case is the first in which a typical choked disk has been observed in polycythemia and suggests that the disk changes described as a neuritis in the cases of Hirschberg, Posey, and Harms were not due to inflammatory processes, but to edema.

This case naturally reminds us of the case of congenital heart disease described by Loring, for in this case a previous observer had regarded the condition as a choked disk, and while Loring describes the vascular changes, he unfortunately has failed to refer to the disk manifestations.

INTOXICATIONS.

Any reference to the intoxications through the administration of various drugs or poisons immediately takes us into the realm of the toxic amblyopias, so but brief mention will be made of these conditions. It is universally known that certain drugs, including some coaltar products, such as aniline, nitrobenzol, dinitrobenzol, and the much used drugs phenacetin, antipyrin, and acetanilid, when taken into the body in poisonous doses, may produce cyanosis, usually in association with a methemoglobinemia, and at the same time distinct ocular symptoms may result.

Fortunately, but few cases of poisoning due the first group have been reported in this country, but there appears to be an increasing number of cases of poisoning due to the latter group, owing to the excessive or habitual use of various headache preparations. Some months ago, in conjunction with Dr. G. E. de Schweinitz, I had occasion to go over the American literature of the toxic amblyopias for the past five years, and while no report of nitrobenzol amblyopia was found, one history of such poisoning was cited by Ames, but unfortunately no ocular examination was made, or at least recorded.

Litten's (36) well known case of nitrobenzol poisoning is here of especial interest because the fundus picture markedly resembled that found in so called cyanosis retinæ. In this case there existed a violet discoloration of the eyeground, both sets of vessels were filled with blood that was almost black in color, and small hemorrhages were present in proximity to the veins.

Stengel (37) has called attention to the possibility of confounding cases of chronic acetanilide poisoning with true polycythemia and further states that a splenic enlargement is frequently associated with the former condition. It is also interesting to note that the symptoms of the patient whose case history was reported by Stengel and White (38) had been previously attributed by other observers to a serious valvular heart lesion, a mediastinal growth, and a tear in the interventricular septum as the result of a fall.

Naturally, most of the cases of poisoning resulting from coaltar antipyretics have been acute cases, but a considerable number of chronic cases due to the local or internal use of acetanilid are on record, but inasmuch as the ocular manifestations, if present, are not as striking or alarming as in acute poisoning, it seems that but few of these have been subjected to an eye examination, at least I have not been able to find such records in a cursory review of the convenient literature.

In one of Stengel's (39) cases of chronic poisoning as well as in Strickland's (40) case no fundus changes were noted; while in the case history cited by Herrick and Irons (41) the pupils were described as sluggish, the sclera presented an icteric tint, but no retinal changes were present "some time after admission." An ocular examination was likewise negative in Cabot's (42) case of chronic acetanilide poisoning, and this patient had an associated secondary polycythemia, a condition also cited by Herrick and Irons as present in a case of poisoning by orangeine, a preparation reported to contain acetanilide. While these few cases failed to show any alterations in the fundus structure, it would seem that inasmuch as this drug appears to have a special predilection for the cardiovascular system and tends to produce a well marked anemia in conjunction with a distinct change in the color of the blood itself, that in those distinctly toxic cases associated with a marked cyanosis, there should be some alteration in the fundus picture, at least the retinal circulation should show some variation in the color of the blood stream and also possibly in the calibre of the vessels themselves.

While much would depend upon the severity of the toxic symptoms and the associated general conditions, the time of observation must necessarily be an important factor. In a recent case examined by me at the University Hospital on the service of Doctor Musser and Doctor Piersol, no changes were noted aside from narrow retinal veins, but in this

case the patient was not seen until several days after admission when the acute symptoms, which had responded promptly to appropriate treatment, had subsided. The toxic symptoms in this case developed after the use of royal headache powders, to which the patient had been addicted for several years, usually taking six to seven packages a week As far as I am aware, too few cases of chronic acetanilide poisoning have been studied under the proper conditions, to draw any definite conclusions as to the association or character of intraocular changes.

As to the manifestations of acute poisoning, Hilbert's case, referred to by Lewin and Guillery (43), may be cited. This patient took three grammes of acetanilide within an hour, and there developed a marked reduction of vision, pallor of the disks, and contraction of the retinal vessels with reduction in the size of the fields. Instances of transient amblyopia following the use of antipyrin have been recorded, but in Hotz's (44) case, where the symptoms were attributed to the use of this drug, the changes were similar to those mentioned as cited by Hilbert, and in addition, a central scotoma was present. Lester (45) has noted marked transient amblyopia without fundus changes following the use of phenacetin.

Before leaving this subject I wish to refer to another substance capable of producing cyanosis under certain conditions, and concerning which but little can be found in ophthalmic literature; I refer to bismuth, especially the subnitrate. In recent years, owing to the use of this substance in large quantities in x ray work and as injections in the form of petrolatum paste, a number of cases of poisoning have been recorded, and in a few instances with fatal results. In this country, Worden, Sailer, Pancoast, and Davis (46), David and Kauffman (47) and Beck (48) have recorded such cases and the subject was thoroughly discussed in 1909 in an excellent paper by the last named author. In some of the cases the metallic bismuth seems to have been the toxic element, while in other instances, the symptoms were those of nitrite poisoning, as in Sailer's cases. Beck concludes that in large doses of the subnitrate by mouth and rectum, acute nitrite poisoning may be produced, characterized by cyanosis, collapse, and methemoglobinemia, and that this condition is to be regarded as a distinctly separate affection from the more chronic bismuth absorption.

Lewin and Guillery (49) briefly refer to this subject and state that in one instance obscuration of vision developed on the second day after the ingestion of eight grammes of bismuth subnitrate. In reviewing about a dozen cases of different types of poisoning by this drug, I failed to find any mention of an intraocular examination having been made, but in a fatal case following the injection of petrolatum paste recorded by Eggenberger (50), the development of a nystagmus was mentioned.

In 1902, Stokvis (51) and Talma (52) first called attention to the rare and interesting condition now referred to as enterogenous cyanosis, in which the characteristic symptom has been in some instances attributed to methemoglobin, in others to sulphemoglobin. According to van der Bergh (53) the former substance was produced through the action of nitrites, while the latter was due to the absorption from the intestines of sulphuretted hydrogen. In 1908, West and Clarke (54) tabulated the thirteen cases that were then on record, but among these as well as in the subsequent cases reported by Wynter (55) and Clarke and Curts (56), I could not find any reference to an intraocular examination.

Incidentally it may be mentioned that Russell (57), doubtless influenced by the fact that his patient's condition had been previously regarded as due to congenital heart disease, has suggested that some of the cases with cyanosis and without murmurs attributed to congenital cardiac conditions, may really be cases of enterogenous cyanosis. Although it has been repeatedly shown that the ocular structures are influenced in many instances after the ingestion of certain drugs producing acute nitrite poisoning, it is possible, or even probable, that in these particular cases due to autointoxication that no definite ocular changes developed, but the relation between the eye and disturbed metabolic processes is now generally recognized and has been the subject of a number of worthy discussions and investigations, in this country, notably by de Schweinitz (58) in association with Edsall (59) and Fife (60).

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1810 CHESTNUT STREET.

PERIAMYGDALAR SUPPURATION.

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The term periamygdalar abscess, strictly speaking, does not fully express the condition; it is a suppurative inflammation accompanied by a *purulent infiltration* of the tissues surrounding the tonsils. The process originally begins in the tonsillar substance, but when fully developed, it has invaded the majority of the neighboring structures, presenting the tonsils themselves in a dormant or slightly congested state with a pronounced acute inflammation of the circumtonsillar structures. It is very difficult to define the exact limitations of the pus collection, although on examination one can readily discern the location of the most intense changes.

The attack may arise as an acute amygdalitis running the usual course for a short time until an aggravation of the local symptoms sets in; or we may observe a slight tendency to tonsillar involvement from the start with rapid but steady changes outside the tonsils. The symptoms then become so numerous and depressing that the patient finally decides to apply for treatment. The picture presented by such patients is one of the most characteristic of acute suffering, especially as the respiratory function may be encroached upon. The facial expression of agony, the pain and inability to open the mouth, with a dribbling of frothy saliva, the painful swallowing and otalgia, constitute a typical symptom complex which often enables the physician to make the diagnosis without an oral examination.

In acute amygdalitis we find streptococci and staphylococci invariably present in large numbers. The germs may exist in their most virulent form, and yet on account of the unfavorable local habitât no pus is formed. As soon as a sufficient quantity of germs escape into any of the surrounding tissues they multiply rapidly and produce a suppurating focus. The most frequent starting point is just between the tonsil and the anterior faucial pillar, the pus burrowing thence in an upward direction towards the soft palate and uvula. An advanced case presents a double or one sided intense scarlatinal angina, with a fullness or distention of the tissues, and frequently a whitish or pale red spot, showing where the pus is about to reach the surface. The production of this spot is favored by the loose connective tissue that permits of extensive infiltration. A case of circumtonsillar suppuration observed at frequent intervals shows that the process starts just outside the tonsil and gradually diminishes in severity in a direction away from the tonsil. The inflammation may be so severe and extensive as to involve every throat structure, including the soft palate, uvula, both faucial pillars and the pharynx.

From a symptomatic standpoint, suppurative periamygdalitis seems to be a local condition only. In the ordinary run of cases the temperature is not very high, 100° or 101° F., and the patient may be up and about and otherwise apparently in good physical condition. Each attempt to swallow is accompanied by a wince of pain, and only cold liquids can be taken with any ease. The local symptoms, however, are more pronounced than in acute amygdalitis. In severer cases hardly any nourishment whatever can be swallowed. The swelling in the pharynx together with the accumulation of mucus interferes with nasal breathing and causes an unlimited amount of suffering and discomfort.

Circumtonsillar disease may be divided into the inflammatory and the suppurative stages. The former is a nonsurgical condition, requiring active measures to prevent it from advancing to the second or suppurative stage. The treatment is the same as that for acute amygdalitis and should consist of energetic local astringent agents applied to the entire surface to overcome the congestion. Strong silver nitrate applications made twice daily, with a hydrogen peroxide spray used during the intervals, will in many instances control the situation and may prevent or ameliorate the occurrence of the suppurative stage.

When pus is detected or its presence suspected, the condition is a distinct surgical one calling for active surgical interference. Where patients suffer repeated attacks, steps should be taken during the quiescent period to remove any existing pathological rhinopharyngeal lesions that may act as contributing etiological factors. Nasal obstruction is commonly present, necessitating the escape of the secretions through the pharynx, and thus saturating the pharyngeal structures with infected material. In almost every instance the tonsils are chronically hypertrophied. They should be removed immediately after an attack. Susceptible individuals who thus neglect the treatment of their throats, invariably return with the same trouble in a more aggravated form. It is remarkable to note the regularity with which some patients get the attack. One patient, a male, about thirty-five years old, who refused to have amygdalotomy performed, reported at the clinic every six months with a new attack, the last one having been a double quinsy!

The physician is often in doubt as to just when to use the knife, since the transitory stage between tonsillar and circumtonsillar inflammation and circumtonsillar suppuration is ill defined. Early incision and a thorough evacuation of pus, if present, give quick relief and stop the further spread of the suppurative process. If pus is not present the effect of the incision is also favorable, and justifies the inconvenience of the operation. A ten per cent. cocaine solution, either applied or sprayed over the swollen area, diminishes the pain of the operation. A small bladed knife should be introduced where the greatest bulging is visible, the incision being carried deeply to reach the main pouch of pus. With a small pair of angular seizing forceps, the cavity can be dilated and emptied of its contents. If the abscess cavity is thus left, it may close up again and pus reaccumulate, so that a thin strip of iodoform gauze should be inserted to act as drain. A very efficient method of treating an extensive circumtonsillar suppuration is to make the double incision. The knife is first introduced at the most prominent bulging nearest the tonsil, is then withdrawn, and again quickly inserted about half an inch above this. The suffering on the part of the patient is no greater than with the single incision if the

operation is performed quickly. The advantages of this method are that the cavity needs no gauze drain, does not close up again, and heals more readily. I have seen almost complete recoveries in a day or two following such treatment.

Circumtonsillar disease is a condition requiring the careful observation and care of the practitioner in private practice and of the specialist in dispensary practice. It is a disease most prostrating in its immediate effects and yet infrequently accompanied by complications. The location of the trouble in the respiratory and alimentary paths makes it urgently necessary to resort to early and quick remedial measures.

90 East 116th Street.

DEEP PENETRATION OF THE THIGH BY A CROCHET NEEDLE.

By F. Griffith, M. D.,
New York.

Recently the writer was called to see Mme. V., a Frenchwoman, aged about thirty-five years, wife of a performer. As I entered her apartments, the patient attracted instant sharp attention by her pose, in a room not in the least degree disordered. Doctors can often instinctively at that first glance or from mere mental sensing alone when walking into strange surroundings gain very comprehensive information —thus the sight of a basin of blood excites different thoughts and projected activities than those awakened by some subtle perfume emanating from a headwrapped, silk pajamaed female toying with a bottle of smelling salts; in the latter instance, however hurriedly he has been called, the physician knows there is time to remove his hat and gloves. Fully dressed, this patient, a woman of fair complexion and good figure, sat rigid in a chair, but keeled over like a beached shallop and, from the fixity of her pose and purpose to retain nice balance, the writer can compare the sight only to descriptions of a corner at the ancient Salpêtrière hospital nerve clinic in elder Charcot's palmy days. As I approached the patient she informed me she had been knitting, had risen for a moment, but when returning to her place missed the knitting needle. Upon sitting down to examine her skirt, if perchance it had fallen in its folds, she was made suddenly aware of the needle entering her body, but did not dare to move for fear of breaking it off or projecting it still farther in. There was no sign of a hole in her garments to guide one, nor was she very specific as to the exact location, yet she was very positive as to its presence in her body, although she complained of no pain.

The writer encouraged the lady to rise to her feet. Going to her bedroom, he had the patient remove her clothing and from very necessity, due to their make and close connections, all her garments were finally discarded. Turned over on her side, the steel handle of the needle was easily seen sticking out an inch and a half from the surface of the back of the woman's left thigh. The steel bar firmly lodged was directed upward, backward, and inward toward the pelvis. It took the strongest pull to withdraw the object, which eventually came away intact though the fine hook, having to be torn out through strong connective tissue filaments, seemed always breaking. The operation was bloodless and left merely a dark red spot at the site of puncture. The surface wound was treated with hydrogen peroxide and a small fluffed pad of gauze held by an adhesive strap; it healed quickly and there was no after effect.

Upon examination the needle proved to be a bright new one of solid steel, five inches long, one-eighth of an inch in diameter, tapered to the point but having a flattened part for finger grip. The depth of penetration was three inches and a half.

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Correspondence.

LETTER FROM EDINBURGH.

The National Insurance Act.—Discussion on Vaccine Therapy.—Measuring of Mental Processes.—Sir John Struthers Lectures.—Research Defence Society.—Red Cross Society in Scotland.—New Lectureship in Aberdeen University.

Edinburgh, December 27, 1911.

The National Insurance Bill is now an Act, that is to say it has become law, and it now remains to be seen how it will work. Protests have been entered from all sides, and the medical profession throughout Scotland have shown a united front and have pledged themselves not to accept any service under the act unless the "six cardinal points" formulated by the British Medical Association are granted. A medical writer in *The Scotsman* for December 19th discusses national insurance from the doctor's standpoint. He points out that the opposition of the medical profession to the measure may seem disconcerting and perhaps selfish, but he explains the reasons why the doctor, as the man who has to deal most intimately with sickness and suffering, is really the best able to judge of its probable effects on the community. "When, therefore (he continues), the doctor is asked for his experience of the results of such legislative efforts, he will answer that while he rejoices at the good effects of legislation directed to improve the conditions under which the people live and work, and while he would be glad to see more drastic legislation for the relatively few flagrant instances of social delinquency, he yet recognizes that legislation has its limits, and that if those limits are overstepped, no matter how laudable the motives of the legislators may be, harm and not good is certain to result. That these legislative limits have been time after time overstepped, he has regretfully to assert, and while he could bring forward numerous illustrations of this overstepping, both as regards bodily and social ails, probably no instance more appropriate for the doctors' purpose at the present time could be selected than the legislation of some forty years ago against ignorance—viz., the State Education Act."

An interesting discussion on Vaccine Therapy was opened by Dr. James Ritchie at a meeting of the Edinburgh Medico-Chirurgical Society on

November 29th. Doctor Ritchie, after briefly recapitulating the principles and *modus operandi* of vaccine therapy, proceeded to deal with the results of the treatment, discussing certain of them in detail. He said that in chronic suppurative conditions there was universal agreement that good results had been obtained, the only qualification being that the success in the treatment of acne had not been of such a striking character. Good results had also been obtained in gonorrheal arthritis and in gonorrheal vulvovaginitis in children. In summing up, Doctor Ritchie stated that the application of vaccine therapy was limited, first, by the limitation of the capacity for antibacterial response in the human body; second, by the existence of individual peculiarities of disease manifestations; and third, by the fact that they were still in the dark as to the means to be adopted for bringing out the highest degree of antibacterial response. In this new therapeutical procedure practice was in advance of scientific knowledge, but the success attending the treatment of such conditions as furunculosis suggested that with further knowledge regarding the pathology of infection, a similar success might attend the treatment of other diseases. The present situation was not final, and a definite case had been made out for further work. An essential condition was that every vaccine procedure must be looked upon as of the nature of a scientific experiment, often of a tedious character. There had been a tendency in certain quarters to apply vaccine treatment to disease whether or not there was any scientific ground for supposing that the condition was of bacterial origin. The empiricism of such procedures was to be utterly deprecated, and would discredit not so much vaccine therapy as the whole practice of medicine.

At a recent meeting of the Royal Society of Edinburgh, a communication was read from Dr. G. R. Jeffrey, of Glasgow, on A New Method of Measuring Mental Processes in Normal and Insane People. The object of this research was to ascertain whether or not any definite characteristic of the mental working capacity could be detected to the disease known as manic depressive insanity. As a basis for the test the act of simple addition was used—the test consisting in the addition of digits in pairs as rapidly as possible. Each pair is taken to represent a constant unit of mental work. By plotting the number a minute of these mental units upon a curve the progress of the mental working capacity is objectively shown, mental work, therefore, being demonstrated in the same way as muscular work. A normal standard was first of all established, with which the manic depressive cases as a group were compared. Curves were also obtained from patients in the quiescent, depressed, and excited phases of manic depressive insanity, and several striking differences were apparent. The author suggested that the curves obtained might be of diagnostic significance, and also thought that the reckoning test had a distinct therapeutical value in psychiatry.

The first of the Sir John Struthers lectures was delivered in Edinburgh on November 17th by Dr. Arthur Keith on Anatomy in Scotland during the Life and Times of Sir John Struthers. The lecture pointed out how greatly anatomy had progressed during Sir John Struthers's life. When Sir John Struthers began the study of medicine in 1841, the majority of anatomists were followers of Palet; the development of the human embryo was almost unknown; the body was supposed to consist of "textures" and "humors"; deeper and more vital parts were supposed to lie beyond the surgeon's endeavor; fossil remains of man were unknown. He lived to see all these things changed. One by one the anatomists became followers of Darwin; little by little the history of the human embryo became known, and its stages modeled. In surveying those in Scotland who were making a special study of the human body when John Struthers began the study of medicine in Edinburgh, there was no need to go beyond the bounds of Edinburgh. The Scottish anatomists were centred in Edinburgh; only Berlin and Paris could show a group of workers that could stand comparison with those then working in the Scottish capital. From 1860 onward the anatomists of Scotland came more and more under the influence of the evolutionary movement.

As an instance of what scientific research has to contend against, a letter appeared in the *Scotsman* a few days after the meeting in Edinburgh of the Research Defence Society reported in my last letter. The communication referred to is signed "Forbes Winslow, M. B., LL. D. (Cantab), D. C. L. (Oxon)," and takes the chairman of that meeting to task for his remarks. Doctor Winslow states (without adducing proof) that ninety-five per cent. of the medical profession are nonvivisectors, that of this ninety-five per cent. by far the majority are antivivisectionists. Sir Thomas Clouston's reply is worth quoting in part. He says: "It is true that only a very small proportion of the 29,000 British medical men themselves engage in original researches for the relief of human pain and the cure of disease by experiments on animals. Yet they all, with infinitesimal exceptions, approve of and encourage such experiments. . . . Those men form a true league of mercy, to which mankind owes more than it can ever repay. Their opponents, represented by Doctor Winslow and his like, form a league of cruelty that would arrest preventive and curative medicine and doom humanity to suffer on, hopeless and unhelped. . . . Doctor Winslow, in contradiction to my assertion, states that there is not one single case of mental disease that owes its cure to anything that vivisection has shown us. He must know, but perhaps he is so occupied with the propaganda that he and his fellows are engaged in that he has no time to inquire into such recent medical facts,—that the mental and nervous diseases due to myxedema, for example, have been absolutely cured and abolished through the knowledge gained by experiments of Horsley on the thyroid gland. If he had been keeping in touch with recent work in psychiatry, he might also have known that the true nature of general paralysis and of the toxic insanities—a very large group—has been made known by researches on animals, and that their cure by the same means is now in sight. His ignorance also prompts him to deny and disparage the magnificent work which Doctor Mott

has done in the London County Council laboratory for the elucidation and mitigation of mental and nervous diseases—a work which the whole medically educated world recognizes."

The annual public meeting of the Scottish branch of the Red Cross Society was held in Edinburgh on December 4th. The Lord Provost, who presided, complained of a want of interest in the movement on the part of citizens generally, and pointed out how the Society had for its object the assistance of the British army and navy in time of war.

Under the will of the late Mr. John Thompson, of Aberdeen, the sum of £2,000 is left to found and maintain a lectureship on The Structure and Functions of the Human Body in order "to afford information to young persons as to the due care of the body in early life with a view to its healthy development and the prevention of its abuse by intemperance, etc." The lectures are to be given by a member of the university teaching staff during the winter session of each year and are to be given free to the public in the buildings at Marischal College.

Therapeutical Notes.

Local Anesthesia for Use in the Ear.—In the recent edition of Ballenger's work, *Diseases of the Nose, Throat, and Ear*, the author calls attention to the fact that Dupuy recommends the following mixture as a reliable local anesthetic in eardrum and middle ear operations:

℞ Aniline oil,
Alcohol .....āā 5i;
Cocaine hydrochloride .....gr. vi.
M. Sig.: Drop into the meatus and middle ear.

This mixture does not always produce local anesthesia, and its use is sometimes attended with a certain degree of danger in that cyanosis occasionally follows.

The author finds the following mixture more reliable and less dangerous:

℞ Cocaine hydrochloride,
Menthol crystals,
Carbolic acid crystals, ...āā 5i.
M. Sig.: Drop into the meatus or middle ear, and in twenty minutes anesthesia is complete.

The absorption is greatly facilitated by first macerating the drumhead with peroxide of hydrogen.

Pruritus Ani.—In a letter to the *Journal of the American Medical Association* for January 6, 1912, G. W. Johnson describes a plan of treatment he has found useful in this condition, especially in cases associated with excess of moisture about the anus and where due attention is not paid to absolute cleanliness of the parts: After a thorough cleansing with water and a bland soap, if necessary, he applies a weak solution of phenol, and dries the surface thoroughly. He then takes a piece of gauze, one thickness only, about four or five inches square, places one or two ounces of bismuth in the centre, gathers the edges together and ties in such manner as to make a loose bag. The patient is directed to "spat" the surface freely, while in squatting position, until the skin is thoroughly dusted over. The dusting is repeated as often as the part becomes moist enough for more of the bismuth to adhere, but the washing is done only once a day or after defecation.

Treatment of Inflammatory Diseases of the Accessory Nasal Sinuses.—G. Killian, in *Deutsche medizinische Wochenschrift* for April 20, 1911, abstracted in *The Laryngoscope* for November, 1911, states that he has found an electrical bath for the head extremely useful in treating acute inflammations of the frontal, sphenoidal, and maxillary sinuses. Four incandescent lights in a box shine directly on the patient's face, the eyes being protected by a leather bandage. The action of the active hyperemia thus induced is enhanced by small doses of sodium or potassium iodide, rest in bed, and from 0.5 to one gramme of acetyl salicylic acid half an hour before the electric bath, to promote sweating. Unless there is some obstruction in the nose to drainage from the sinus, recovery is complete in a week or two.

Diarrhea in Infants.—Lereboullet, in *Paris médical* for December 2, 1911, praises a plan of treatment devised by Weill, Lumière, and Péhu. A ten per cent. solution of sterilized gelatin in physiological saline is made into a jelly and kept in a closed tube. Before each feeding, the solution is melted on a water bath and ten cubic centimetres of it are poured into the bottle containing the milk. At the fourth or fifth stool, after the beginning of the treatment, the feces show marked improvement, the odor disappearing and the color and consistence approximating the normal. The gelatin facilitates digestion of the milk by causing the clots to break up into fine particles, and as a result the stools are rendered more solid in consistence. The measure gives especially good results in light forms of diarrhea. The necessity of stopping milk entirely may thus be avoided. Similarly, when feeding with milk is resumed, after suspending it for a time in the more pronounced cases, the use of gelatin is indicated. In severe diarrheas of choleraic type, however, gelatin is of little value, as it has no power to counteract the infectious process present.

Chronic Constipation.—Believing the sphincter ani muscle to be an important factor in keeping up chronic constipation, H. A. Bray (*American Journal of Gastroenterology* for January, 1912) makes it a practice to examine this muscle in such cases. If the sphincter is found to be irritable or hypertrophied, he divulses it and follows this up by colonic flushings. A light diet is ordered, with plenty of fruit containing citric acid, such as oranges, figs, apples, and stewed prunes. The citric acid has a tendency to increase the secretory function of the small intestine. In case of slight fecal impaction, copious enemata of warm soapsuds, containing oil and glycerin, suffice to enable the patient to empty the bowel. If the mass has been in the rectum for some time and is large, hard, and nodular, it is necessary to break it up with a scoop or with the fingers.

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FUNCTIONAL STIMULATION OF THE SUPRARENALS.

It has generally been considered that the internal secretions are concerned with the slower processes of nutrition, growth, and the chemical defenses of the organism, rather than with the more rapid nervous and muscular reactions. The fact, however, that at least some of the internal secretions are more or less under the control of the nervous system suggests that they may also have an important part in the more rapid adjustments of the body to its surroundings. That this is actually the case as regards the suprarenals is shown by recent experiments of Cannon and his coworkers (*American Journal of Physiology,* April and December, 1911), who find that fright, anger, asphyxia, and the stimulation of sensory nerves, all cause an increased secretion of epinephrin into the blood. They show also that the glycosuria which so often occurs in experimental animals is due to an increased secretion of epinephrin resulting from emotional or painful states; this is probably a factor in the "emotional glycosuria" of man which may follow great grief or anger and in the aggravation of diabetes caused by worry, etc.

The authors consider that the glycosuria is dependent upon a state of hyperglychemia and that the latter may have a teleological significance: the natural reaction to fear or anger is muscular activity of some form, and for the prompt and effective development of this an ample supply of available sugar is necessary.

The increased secretion of epinephrin in asphyxia is of interest, not only in connection with the influence which this substance is believed to exert on physiological oxidations, but also with the recent observations of Falta and Priestley (*Berliner klinische Wochenschrift,* November 20, 1911) on the effects of epinephrin upon the distribution of the blood in the body. It was found that even when the drug did not cause a rise of general blood pressure there was an increased flow of blood to the brain, lungs, and heart due to a constriction of the vessels in the less vital organs of the body. Thus the body is, to a certain degree, prepared to meet the emergencies of asphyxia by diverting, through the increased secretion of epinephrin, a larger proportion of the blood to the vital organs; the continuous secretion of epinephrin throughout life serves to maintain the normal blood supply to these organs.

In commenting upon their experiments, which show that simulation of sensory nerves causes an increased secretion of epinephrin, Cannon and Hoskins state that "the similarity between surgical shock and the condition of an animal after removal of the adrenal glands suggests that possibly in surgical shock the injury to large nerve trunks may discharge the adrenal glands to such a degree that they are unable to continue their normal functioning."

REID HUNT.

TOXIC EFFECTS OF SALVARSAN.

Last year, Lesser (*Berliner klinische Wochenschrift,* January 23, 1911) urged that we should strive to excite the formation of antibodies by administering small doses of salvarsan (0.1 gramme, suspended in oil of sweet almonds, injected weekly until the Wassermann reaction becomes negative) rather than attempt to destroy the spirochetes with a single full dose, which he deems dangerous. The wisdom of this advice is sustained by the following cases recently reported by Gaucher (*Bulletin de l'Académie de médecine,* November 21, 1911), and brought to his notice, respectively, by Oltramare, of Geneva, and Caraven, of Amiens:

The first patient was an obese man, forty-eight years of age, whose infection with syphilis dated back fifteen years. No cardiac, renal, or central nervous disorder could be found previous to the injection. On the third day, after an intravenous injection of 0.6 gramme of salvarsan, slight headache was complained of, and on the morrow the patient was found prostrate, unconscious, with

slight convulsive movements, hyperthermia, and facial cyanosis. This condition persisted a day more; the pulse and respiration became more frequent, and the pupils were first dilated, then contracted. The temperature rose to 40.5° C. (104.9° F.) and death occurred during the night. The autopsy showed leptomeningitis, fatty changes in the heart, chronic purulent bronchitis, and bronchopneumonic areas, evidently of agonal origin.

The second patient, a man of twenty-one years, had received two injections of 0.6 gramme at an interval of one week. Two days after the second injection headache began. Forty-eight hours later there were symptoms of meningitis, followed by coma. Lumbar puncture yielded a turbid, amber colored fluid, and the urine, obtained by catheterization, showed albumin. In the afternoon there were profuse sweating, Cheyne-Stokes respiration, pyrexia (40.1° C.), and cardiac acceleration (140). Death took place in the evening. The autopsy showed intense cerebral and pulmonary hyperemia; the kidneys were red and soft; the liver was of normal appearance; the stomach showed numerous small hemorrhagic foci.

Gaucher, who considers salvarsan inferior to mercury and far more dangerous, also reports two personal cases, illustrating the false sense of security likely to arise in patients treated with salvarsan. Because of the brilliant results immediately following the injection they believe themselves to be cured. In the cases reported this resulted in transmission of the infection to a number of other individuals.

Allowing for the prejudice which Gaucher shows against the use of salvarsan, the fact remains that the dangers of full doses should not be overlooked. It is well to remember also that, as advised by Hirschfelder (*Journal of the American Medical Association*, November 18, 1911), salvarsan should not be employed after other arsenic preparations have been used, nor in severe affections of the brain or heart, in putrid bronchitis, in severe diabetes, and in all conditions of decrepitude.

A CURIOSITY IN THE HISTORY OF BLOODLETTING.

All American lawyers of the best type, beginning with the President of the United States himself, admit that the crying evil of our present administration of justice is the extreme slowness with which legal procedure is carried forward in this country and the shameful way in which the true intent of the law is often tampered with by construing it as to the letter rather than as to the spirit. Scores, nay hundreds, of murderers and other criminals have been allowed to go scot free on a technicality, and the judicial findings of the legal luminaries in these cases are admittedly a disgrace to themselves and their courts. All of us know that we are far behind England in this respect and, in our futile attempts to check the adulteration of food by light fines, we might take a lesson from Germany, where the difficulty was resolved long since by means of the simple expedient of putting the offender behind bars for a period long enough at least to make him repent of his ways. It is interesting to note that one of the earliest instances of a clash between the letter and the spirit of the law is intimately connected with the history of medicine, although it has hitherto escaped the attention of medical historians. In his famous *Commentaries*, Blackstone says explicitly that the most universal and effectual way of discovering the true meaning of the law, when the words are dubious, is by considering the reason and spirit of it and the cause which moved the legislature to enact it; and he gives an instance from Cicero of a law to the effect that those who deserted a ship in a storm forfeited all property therein, the ship and cargo belonging to those who were plucky enough to remain on board. This law was put to a critical proof in a case in which all took to the boats in a dangerous storm except a sick man, who was unable to move, but eventually came into port in the drifting ship and thereupon laid claim to the property on statutory grounds. Puffendorf[1] gives a still more remarkable instance of an ancient law of Bologna, which enacted that if any man drew blood in the streets (*sanguinem elicuerit*), he was to be punished with the utmost severity. It fell out one day that a certain barber surgeon of Bologna attempted to relieve a man taken sick in the streets by means of venesection and, the statute being invoked, he was haled before the courts and adjudged in peril of his life by the legal wiseacres of the period, because the law itself declared that its strict construction and literal interpretation were to be enforced. After lengthy debate, it was finally decided that the letter of the law did not obtain in the barber's case and the benefit of its spirit was accorded him. This historic instance might find many a counterpart (inversely, however) in the absurd parodies of justice in our own time and country.

[1] Vide Marselaer Legato L. I. c. 38: Cons. Everhardus II. Legal. 8, *ab absurdo*, ubi memorat Bononiæ fuisse statutum, ut quicunque in platea alteri sanguinem elicueriť, gravissimas pœnas daret. Ex ea lege delatus aliquando fuit barbitonsor qui alicui in platea venam secuerat. Qui inde in non mediocri periculo fuerat, quod in statuto esset additum: verba esse præcise, et citra omnem interpretationem intelligenda. Puffendorf, *De Jure Naturali*, liber v, Caput 12, §8. See also Black. *On the Interpretation and Construction of Laws*, Second edition, St. Paul, Minn., 1911.

THE COMMITTEE OF THE ACADEMY OF MEDICINE ON PUBLIC HEALTH, HOSPITALS, AND BUDGET.

The medical profession at large and the community in general in New York city are to be congratulated upon the fact, just made public, that that very conservative body of representative physicians, The Academy of Medicine, is to take an active part in municipal health problems. Through the establishment of the Committee on Public Health, Hospitals, and Budget there will be provided a body, which, through its own careful study of existing conditions, will be in a position to render the best medical opinion upon such matters as the provision for contagious disease, school sanitation, the most judicious use of public funds in the maintenance of public health, and many other kindred matters of inestimable value to the community and to the individual. Its scope and wide field of usefulness may best be seen by the following outline of its purposes and endeavors:

Public Health: a. To maintain a bureau for the collection of facts in regard to public health, sanitation, and hygiene. b. To endeavor to establish an active cooperation with all public health activities in the city. c. To keep the medical profession advised of current public health conditions. d. To render to the public authorities and to the community at large an authoritative medical opinion on public health matters. This is to include frequent conferences with officials of various city departments, the holding of public meetings, the giving of lectures, the distribution of literature, and other methods of publicity. e. To undertake and suggest special researches looking to the solution of vital public health problems. . . . f. To make a comparative study of methods and results of public health activities in other cities both in this country and abroad. . . .

Municipal Budget: a. To utilize facts obtained by the study of public health and hospitals for practical application in the preparation of the annual municipal budget. b. To assist actively the various departments of the city government which relate to public health and hospitals in the preparation of their tentative budgets. c. To take an active part in the budget hearings before the Board of Estimate and Apportionment.

Hospitals: a. A study of hospital and dispensary conditions in New York city, including public and private institutions in all boroughs, . . . from a standpoint of: 1. Construction; 2, equipment; 3, administration; 4, medical efficiency. b. To plan for the future development of hospitals and dispensaries according to the distribution of population, and to further the efforts already being made to raise the standards of dispensary work. . . .

This committee, chosen from among the representatives of what is best in the medical profession in the city, is, through the financial support given by Mrs. E. H. Harriman, to have the services of an able statistician to aid in the work of accumulating much information of great public value. The committee is to hold aloof from all matters of a political character and, in expressing an opinion, will seek only to advise that which shall be of most service to the community as a whole. There will be special efforts made along certain lines of a general educational nature by means of public meetings to teach the laity how to minimize such conditions as conduce to the increase of occupational diseases, or the spread of those less readily communicable. By meetings and publications there will be an endeavor to educate the practising physician in matters of municipal health and to interest him in public conditions relating to sanitation and hygiene. At the present time, when the relation of the medical profession to the community has already shown a strong tendency to consider the importance of the health of that community as a whole, this powerful representative body, which can study the actual conditions in their broadest aspects, as well as in their details, should be able to exert the greatest possible influence for good.

Among the many problems it has before it, two stand out with especial prominence at the present time. One is the consideration of the health of our school children. There is much to be accomplished in this field in the matter of hygiene, of physical education, of school buildings, and of the abuse of overcrowding, of which we now hear so much. The other is of no less immediate importance and is concerned with the hospitals and dispensaries. There still exists much medical abuse of the dispensaries, which may well be rooted out by the good efforts of this committee after withstanding the individual efforts of many disinterested men. The marked overcrowding of some hospitals and clinics could be in great measure remedied by the proper districting of the city, much as is now done in the case of the tuberculosis clinics. The subcommittee on hospitals could here be of service in bringing this about through its intimate knowledge of the conditions to be met. Again, its information would find an application in the question of the location of new hospitals to the best advantage of the people. The problem of district nursing and social service could be greatly simplified, and this most valuable phase of modern endeavor to relieve suffering could reach wider fields, if guided by the facts gained from the studies of this committee.

By the creation of the Committee on Public Health, Hospitals, and Budget, the Academy of Medicine has provided a means of keeping in touch with the current problems of public welfare and has placed in the hands of the community a source of expert medical knowledge to which it may turn with the certainty of obtaining opinions and advice based upon the conditions as they actually exist. Of what value all this may be we cannot as yet tell.

but if the purposes are in any great measure accomplished the good done will exceed our means of computation. We wish the committee all manner of success and we offer our congratulations to the Academy of Medicine upon its interest in the public welfare.

FOURTH REPORT OF THE WELLCOME TROPICAL RESEARCH LABORATORIES AT KHARTOUM.

The fourth *Report of the Wellcome Tropical Research Laboratories* at Khartoum has just been issued, and presents the same high class work as we have been accustomed to see in these books. This fourth report is larger than the previous three and has therefore been divided into two volumes, volume A being dedicated to medicine, while volume B treats of general science; a second *Review on recent advances in tropical medicine* has been added. The report as published by the Gordon Memorial College is a splendid testimony to human skill, labor, and industry, and if General Gordon could have seen into the future he would have known that the sacrifice made by him would not only be avenged but would also lay the foundation of the future greatness of a city and uplifting of a race which long had been kept in fearful submission. The contents of the medical volume are manifold. We find articles on sleeping sickness in the Sudan, on animal trypanosomiases, on spirochetosis, on kala-azar, on tropical diseases, on hygiene, etc.; it is really impossible to give more than a partial review of the richness of the contents.

INTERNATIONAL LIST OF CAUSES OF DEATH.

A *Manual of the International List of Causes of Death*, based on the second decennial revision by the International Commission, held in Paris, July 1 to 3, 1909, has been published by the Department of Commerce and Labor, Bureau of the Census. It is a very interesting book, containing about 300 pages, to which E. Dana Durand, of Washington, as director of the bureau, has signed his name. We hope that the nomenclature used and proposed in the book will be adopted by our Medical Association, as has been done in the reports of the Bureau of Census. Our late editor, Dr. Frank P. Foster, spent much time during the past five years in assisting to place the nomenclature upon a scientific philological basis, and it was his greatest regret that he was not able to accept our government's invitation to attend the meeting in Paris. Mr. Durand and the other members of the commission are to be congratulated on having produced such a valuable book, which should receive the unanimous support of the profession.

THE NEW HEAD OF THE MARINE HOSPITAL SERVICE.

The Public Health and Marine Hospital Service is to be congratulated and the profession generally will be gratified at the appointment by the President of Dr. Rupert Blue to be Surgeon General. He is still a young man, being only in his forty-fifth year, but he has distinguished himself since his appointment to the service in 1892 by his accomplishments when in charge of the crusade against the bubonic plague on the Pacific coast, and for his work at Genoa, Naples, New Orleans, and in various countries of South America in further studies of this scourge and of yellow fever. We feel that the important and increasing duties of his new position will be in safe hands and that the high traditions of the services will be subserved by a skillful and brilliant chief.

HERNIA CURED BY THE BITE OF A FISH.

In *Presse médicale* for December 20, 1911, a case is reported from the *Annales d'hygiène et de médecine coloniales* of a twelve year old child who was attacked while bathing by a tetrodon or smooth puffer, which included in its bite the contents of an umbilical hernia from which the child was suffering. The tetrodon, it appears, frequently attacks bathers and has more than once borne away the generative organs of unfortunate natives of Anam, the scene of this particular event. The victim was quickly taken to a hospital, where examination showed the presence of a sort of epiploic fringe, six centimetres in length and attached to a pedicle as large as the tip of the little finger, which seemed to come from the bottom of the navel. The pedicle was tied, cut, and reduced, and the wound closed with wire, with the result of a perfect cure.

"PYOPAGUS."

Friends who have written, asking what the nature of "pyopagus" twins may be, are unkind; the many important changes made in our issue for January 6th must be accepted as a reason if not an excuse for permitting such a barbarism to escape both editorial and proofreading eyes, and to appear in our usually carefully reviewed editorial columns. The charitably inclined knew that *pygopagus* was meant.

Obituary.

ALGERNON COOLIDGE, M. D.,

of Boston.

Dr. Algernon Coolidge died at his residence in Boston on January 4th, in his eighty-second year. He was born in Boston in 1830, being a great grandson of Thomas Jefferson on the spindle side, and received his preliminary education abroad. He graduated from Harvard Medical School in 1853, took part in the Civil War, and was a member of the Sanitary Commission, subsequently becoming surgeon to the Chesapeake Hospital, the Portsmouth Grove, R. I., Hospital, and the Massachusetts General Hospital, whence he resigned in 1873. He is survived by a widow and several children. He received the degree of A. M. from Harvard in 1869.

News Items.

Change of Address.—Dr. William Bedford Brown, to 11 East Forty-eighth Street, New York.

A Chair of Bacteriology at the University of Edinburgh.—Announcement is made that the University of Edinburgh has received from the trustees of the estate of Mr. Robert Irvine the sum of £30,000 for the establishment of a chair of bacteriology in the university.

Typhoid Fever Epidemic in Philadelphia.—It is reported that an epidemic of typhoid fever prevails in the Germantown section of Philadelphia, and that the number of cases increases daily. It is believed that the outbreak is due to a break in the water supply main which furnishes water to Germantown.

Resignation of Dr. George B. Shattuck.—*The Boston Medical and Surgical Journal* announces in its issue for January 4, 1912, that Dr. George B. Shattuck has resigned as editor of that publication, a position he has held for over thirty-one years. The *Journal* expresses the hope that it will still have the benefit of the advice of Doctor Shattuck in the supervision of its columns.

The Health of Chicago.—During the week ending December 30, 1911, there were reported to the Department of Health of Chicago 617 cases of communicable diseases, as against 818 for the corresponding week last year. The total deaths from all causes numbered 610, corresponding to an annual death rate of 13.95 in a thousand of population. The death rate for the last week of the year 1910 was 16.0.

International Congress of Applied Chemistry.—The Executive Committee of the Eighth International Congress of Applied Chemistry, which is to be held in Washington and New York, in September of this year, has issued a set of twenty-six rules governing the presentation, discussion, and publication of contributions to this congress. Copies of the pamphlet may be obtained from the secretary, Mr. Bernhard C. Hesse, 25 Broad Street, New York.

The Use of Common Towels Prohibited.—The Board of Health of the City of New York has adopted a resolution amending the Sanitary Code to forbid the use of common towels. The new section of the code states that "No person, firm or corporation having the management and control of any public lavatory, washroom, or public comfort station shall maintain in or about such lavatory, washroom, or public comfort station, any towel or towels for use in common."

An Endowment Fund of $1,000,000 for Western Reserve University.—The completion of the $1,000,000 fund for the endowment of the medical department of Western Reserve University has been announced. The money was obtained in a little more than a year after Mr. John D. Rockefeller offered the university $250,000 on condition that $750,000 in addition could be raised before December 31, 1911. Nearly all this money has been given by Cleveland men and women, Mr. H. M. Hanna duplicating Mr. Rockefeller's gift.

The Superintendency of Matteawan.—Dr. John W. Russell, first assistant superintendent of the Matteawan State Hospital, has been designated acting superintendent and will take charge of the institution until a regular superintendent has been appointed to succeed Dr. James V. May, who has been appointed president of the State Commission in Lunacy, to succeed Dr. Albert Warren Ferris.

Course in Ophthalmology in Denver.—The first course in ophthalmology to be given by the University of Colorado, in Denver, will begin June 23d and extend to August 2, 1912. The instruction will be open to all graduates of accredited medical colleges, but those desiring to take a degree will be required to show one year of work in an eye clinic, beside a certain amount of mathematics and physical optics, an acquaintance with the literature of ophthalmology, also to pass an examination.

A Case of Leprosy in Indianapolis.—Dr. Nelson D. Brayton, of Indianapolis, has confirmed by clinical and bacteriological examination the diagnosis of leprosy in the case of a woman in that city. This is said to be the first case of the disease found in Indianapolis. Dr. Woods Hutchinson visited the patient with Dr. A. W. Brayton, Dr. Nelson D. Brayton, and Dr. J. N. Hurty, and pronounced the case a typical one of tubercular leprosy. Dr. Ralph Hopkins, of New Orleans, has gone to Indianapolis to take charge of the case.

Vital Statistics of New York.—The first week of the New Year opened auspiciously from the viewpoint of public health, giving promise of a continuance of the average low death rate, 15.13 in a thousand of population, which prevailed in 1911. During the week ending January 6, 1912, the total deaths from all causes numbered 1,405, giving a death rate of 14.17 in a thousand of population, while the death rate for the corresponding period in 1911 was 17.77. The following cases of, and deaths from communicable diseases were reported: Pulmonary tuberculosis, 396 cases, 167 deaths; diphtheria and croup, 264 cases, 20 deaths; measles, 595 cases, 7 deaths; scarlet fever, 239 cases, 8 deaths; chickenpox, 173 cases, 0 death; typhoid fever, 65 cases, 11 deaths; whooping cough, 22 cases, 3 deaths; cerebrospinal meningitis, 3 cases, 3 deaths.

Personal.—Dr. John M. Swan, formerly of Philadelphia, has resigned as medical director of the Glen Springs, Watkins, N. Y.

Dr. Charles H. Mayo, of Rochester, Minn., who was operated upon for appendicitis at the Presbyterian Hospital, New York, on December 16th, and seven days later for acute cholecystitis, with gallstones, was discharged from the hospital as cured on January 6th.

Dr. Elbert M. Somers has been appointed medical superintendent of the Long Island State Hospital, at Flatbush, succeeding the late Dr. Robert E. Doran.

Dr. Matthew Woods, of Philadelphia, who has made a special study of epilepsy for a number of years, will sail for Europe on February 8th, where he will visit the epileptic colonies and sanatoriums on the Continent and in Great Britain. It is reported that when Doctor Woods returns he will open a free dispensary for epileptics in Philadelphia.

Meetings of Local Medical Societies to be Held During the Coming Week:

Monday, *January 15th.*—New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York (annual); Hartford, Conn., Medical Society.

Tuesday, *January 16th.*—New York Academy of Medicine (Section in Medicine); Psychiatric Society of Ward's Island; Tri-Professional Medical Society of New York; Medical Society of the County of Kings (annual); Medical Society of the County of Westchester; Syracuse Academy of Medicine; Binghamton Academy of Medicine; Clinical Society of the Elizabeth, N. J., General Hospital.

Wednesday, *January 17th.*—New York Academy of Medicine (Section in Genitourinary Diseases); Women's Medical Association of New York; Medicolegal Society, New York; New Jersey Academy of Medicine (Jersey City); Buffalo Medical Club; New York Society of Internal Medicine; Northwestern Medical and Surgical Society of New York.

Thursday, *January 18th.*—New York Academy of Medicine; German Medical Society of Brooklyn; Newark, N. J., Medical and Surgical Society; Æsculapian Club of Buffalo.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

December 28, 1911.

G. Elliott Brackett and Robert B. Osgood: Popliteal Incision for the Removal of "Joint Mice" in the Posterior Capsule of the Knee Joint.
Freeman Allen: Ten Years' Work in Anesthesia.
Arthur M. Dodge: Intravenous General Anesthesia.
P. E. Truesdale: A Parasitic Multilocular Ovarian Cyst Weighing Ninety Pounds.

1. The Popliteal Incision for the Removal of "Joint Mice" in the Posterior Capsule of the Knee Joint.—Brackett and Osgood state that although the presence of "joint mice" and foreign bodies in the posterior portion of the knee joint is undoubtedly rare they have met with several cases. Their removal by any of the classical, quickly repairing incisions into the knee joint is difficult if not impossible, owing to the very small connection between the anterior and posterior capsules of the joint, which also prevents the bodies from migrating into the anterior capsule when they are of any considerable size. They have therefore approached the joint through a linear incision, ten centimetres long in the popliteal space, centring over the joint line and slightly to the inside of the median line. The vessels are retracted outward and the incision is carried down to the posterior ligament by blunt dissection. A clear, workable space is opened up and the position of the mouse or foreign body can be detected by palpation. The capsule is so tense while the knee is extended, and the posterior joint space so circumscribed that there is little danger of pushing the movable body out of range. When an incision is made through the posterior ligament and capsule the bodies usually present, owing to the tension of the capsule. Four successful cases are reported.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

January 6, 1912.

1. Whitridge J. Williams: Medical Education and the Midwife Problem in the United States.
2. Charles Bolduan and W. Carey Noble: Typhoid Bacillus Carrier of Forty-six Years' Standing.
3. James M. Phalen: Vaccine Inoculation, Prophylactic and Curative, of Typhoid Fever.
4. Leo Newmark: Occurrence of a Positive Wassermann Reaction in Two Cases of Nonspecific Tumor of the Central Nervous System.
5. W. E. Musgrave: Treatment of Intestinal Amebiasis.
6. H. D. Arnold and R. C. Larrabee: Purin Content of Common Articles of Food.
7. Alfred C. Reed and George B. Wallace: Disorders of Purin Metabolism.
8. C. B. Ingraham: Pernicious Vomiting of Pregnancy.
William Cuthbertson: Cacodylate of Soda in the Treatment of Recurring Erythema Multiforme (*Erythema perstans*).
9. F. Shoemaker: Obstetric Experiences among the American Indians.
11. David B. Robinson: Aneurysm of the Palmar Arch.
12. L. F. Long: A New Tonsil Hook.
13. Charles Eaton Phillips: Knee Joint Amputations.
14. C. S. Lawrence: Case of Intussusception Complicated by Volvulus.

3. Vaccine Inoculation, Prophylactic and Curative, of Typhoid Fever.—Phalen calls our attention to the fact that the theory of immunization by bacterial vaccination is nearly as old as the science of bacteriology itself, dating from Pasteur's experiments with the anthrax bacillus in the early eighties of the last century. Twenty-five years ago Frankel and Simonds immunized rabbits against typhoid, and fifteen years ago Pfeiffer and Kolle, and Wright, almost simultaneously gave the first typhoid inoculations to man, but it is only within the past five years that the practice has been put on a sound footing, first as a prophylactic measure and more recently in treatment, and it is proving its worth in both fields. The U. S. Army type of vaccine is prepared in the surgeon general's office in Washington. The organism used is from an old culture which has ceased to be pathogenic and which produces abundant growth on agar. After eighteen hours' incubation the agar cultures are washed off with the normal salt solution, put into flasks and the culture killed by subjecting to 55°-56° C. (131°-133° F.) over a water bath for one hour. While sterilization is taking place, a count is made of the bacterial suspension for the purpose of standardizing, after which it is diluted with normal salt solution, so that one c.c. shall contain one billion bacilli and 0.25 per cent. tricresol is added. It is tested by bacteriological methods for both aerobic and anaerobic bacteria and as a further measure of safety inoculations are made into guineapigs. It is then put up in sealed ampoules containing one to 25 c.c. The immunizing dose of the vaccine is given in three injections at intervals of ten days. The first injection is 0.5 c.c., while the second and third are of one c.c. each. The injection is given with an ordinary hypodermic syringe into the deltoid muscle near its insertion. The site of the inoculation may be previously sterilized by any of the ordinary means, but in the military service it is customary to paint the skin with tincture of iodine before the inoculation, and touch the needle wound with the same solution afterward. The reaction following the inoculation is usually not severe. Locally there is an area of hyperemia around the needle wound, and more deeply there is a sharply circumscribed area of induration, which is somewhat tender. Movements of the arm involving the deltoid are painful, and there is some stiffness. Exceptionally there is some swelling and tenderness of the axillary glands, but no case of suppuration has ever been reported. Sloughing around the needle wound never occurs. An urticarial rash, one of the less common results, usually involves the chest and abdomen and may persist for a week or more. Herpes facialis has been reported a few times. Some constitutional disturbance is usual, though frequently absent, feverish sensations and malaise in the lighter cases. The more severe reactions, classed as moderate, show a fever up to or above 101° F., chills, slight nausea, profuse perspiration and some nervous disturbances. Hysterical attacks have been reported and several cases of dyspnea, apparently hysterical. The onset of the reaction is usually within six hours, it is at its height in twelve hours, and has subsided in twenty-four hours, leaving slight stiffness of the arm. Reaction is more constant and more severe after the first injection than after the subsequent ones, though the reaction after the second is often the more severe on account of the increased number of bacilli. Children, though complaining of the local pain, have usually little general reaction.

4. The Occurrence of a Positive Wassermann Reaction in Two Cases of Nonspecific Tumor of the Central Nervous System.—Newmark reports two cases, one a gliosarcoma of the brain and the

other an intradural psammoma, in which the Wassermann test gave positive results both with the blood serum and the cerebrospinal fluid. In neither case was there evidence or suspicion of syphilis. The writer recalls that a positive Wassermann reaction with a fibroma situated in the cerebellopontine angle has been reported by Oppenheim in one case and by Marburg in another. Toby Cohn also reported a case of cerebral tumor in which three positive Wassermann reactions with the blood serum were obtained. In none of these cases was there a history of syphilis. These experiences, the author states, will justify a disinclination to regard a positive Wassermann reaction in similar cases as absolutely decisive.

5. The Treatment of Intestinal Amebiasis.—Musgrave, after a thorough discussion of the subject, concludes that whatever the form of treatment used in amebiasis, the old adage to "treat the patient rather than the disease" applies with particular force. Amebaphobia and overtreatment are two factors in preventing recovery. Amebaphobia may not be confined to the patient, but too often it influences the judgment and actions of the physician to the patient's harm. Overtreatment is a very common error and comes from a desire to destroy all the amebas. It probably would be dangerous to consider any patient cured so long as the amebas are discharged with the bowel contents, but with the patient in a satisfactory clinical condition no alarm should be caused, because the accidents and complications of the disease are extremely rare in patients who have undergone a thorough preliminary treatment and whose clinical condition is kept in a satisfactory state by subsequent intermittent treatment. Each case must decide as to choice of methods of treatment. The irrigation treatment is the writer's main reliance in the average or usual cases. Ipecac is particularly valuable, in the presence of clinical dysentery, either alone or combined with bowel irrigation. When satisfactory progress is not being made, the substance used in enemata should be changed. With proper care, the prognosis is good as to recovery, and, while the treatment usually covers several months, patients may, in the majority of cases, continue their regular vocations during treatment, with an occasional rest and diet for a few days during exacerbations with clinical dysentery. In emaciated patients with old chronic cases of long standing who have had no treatment and in cases complicated by mixed infections and otherwise, the prognosis is not so good, and close attention to treatment is required.

8. Pernicious Vomiting of Pregnancy.—Ingraham is of the opinion that the characteristic vomiting of pregnancy, moderate or severe, is probably always of autotoxic origin. There is abundant evidence of the relation of certain glands of internal secretion (thyroid, parathyroid, adrenal) to the toxemias. The liver lesion alone does not explain the urinary picture, while metabolic studies on the influence of the thyroid and parathyroid glands show analogies to explain the urinary changes. The importance of the neurotic element may be explained by the nervous influence on glandular activity: On the assumption that the high ammonia nitrogen, after thorough administration of dextrose by enemata, is an indication of insufficient ureagenic function, it is urged that this test be given a trial in determining the indication for obstetric interference. To further substantiate the evidence of liver destruction the glycogenic function may be determined by the experimental production of alimentary glycosuria using definite quantities of sugar. The clinical picture and liver lesion are against the probability of eclampsia and pernicious vomiting being one toxic process. Whether the differences are to be explained by such additional factors as kidney involvement, loss of calcium, or differences in the perversion of metabolism by glandular influences, remains to be proved. When operative interference is indicated in the toxemias of pregnancy, chloroform is contraindicated. The liver destruction following its use is heaping insult on injury. In view of the evidence of the relation of the thyroid, parathyroid, and adrenal glands to the toxemias a complete therapeutical trial of their extracts is urged.

MEDICAL RECORD

January 6, 1912.

1. Charles Lester Leonard: Compensation by Displacement of the Thoracic Viscera in Pulmonary Tuberculosis.
2. Herman B. Sheffield: Pediatric Memoranda. Myelocystocele. Spina Bifida Occulta.
3. J. Bentley Squier: Acidosis Following Nephrectomy.
4. John Bethune Stein: Martinus Van Hille and His Treatment of Gonorrhea and Syphilis in the Seventeenth Century.
5. Aspinwall Judd: Postoperative Treatment of General Suppurative Peritonitis.
6. Abraham Levinson: Practical Points in the Diagnosis and Treatment of Diphtheria.
7. Samuel Horton Brown: Retrobulbar Optic Neuritis.

1. Compensation by Displacement of the Thoracic Viscera in Pulmonary Tuberculosis.—Leonard, in a series of 100 cases, found twenty-six displacements of the heart and aorta with three cases of pneumothorax. In seventeen cases the heart was displaced to the right, in four to the left, and in five a rotation took place with an upward displacement of the heart and the aorta, so that the heart assumed an anteroposterior position. In two cases a superficial pneumothorax was found overlying the lower left lung, and in one case an acute hydropneumothorax of tuberculous origin was shown. Those cases of the series in which no displacement of the viscera was present were early lesions in which no fibroid change had taken place or the lesions were not extensive and symmetrical, or the heart was bound down by adhesions between the pericardium and the diaphragm. The unequal elevation of the two halves of the diaphragm (William's sign) was present in less than one half of all the cases, and was not present where displacements of the endothoracic viscera had occurred. The irregularities seen in the cases (twelve in number) illustrating the author's paper are due to adhesions between the pulmonary and diaphragmatic pleura. These pathological variations in the position of the thoracic viscera can be clearly shown only by the rapid röntgenogram that eliminates the heart's motion. Their exact position and endothoracic relations can be fully appreciated only by the rapid stereoröntgenogram. The pathological displacements of the thoracic viscera in pulmonary tuberculosis are the result of compensation for the destruction of expansive normal lung tissue. The

displacing force is the result of one or two changes or the combination of both, or as in the case of acute pneumothorax from the rupture of the lung. The consolidated lung area may undergo fibroid change and contraction, the contracting tissues drawing the heart and aorta with them, while the emphysematous lung on the opposite side assists in their displacement. That these two causes can act separately or together is shown in the illustrating cases by the writer. In some the heart and aorta are displaced in a direction entirely different from that of the pressure exerted by the emphysematous lung, even where a marked emphysema is absent. Again, a displacement is present and an extensive emphysema alone accounts for it. The series of cases illustrating the paper in tracings, stereoröntgenograms, and lantern slides shows the contribution which röntgenology has made to the knowledge of the pathological displacement of the thoracic viscera produced by the lesions of pulmonary tuberculosis.

2. Pediatric Memoranda. Myelocystocele. Spina Bifida Occulta.—Sheffield reports in this paper two very interesting cases. The myelocystocele was found in a child three weeks old, weighing nine pounds, and unusually bright and active for its age. It was the first child of strong Irish parents, apparently free from syphilis, tuberculosis, or other constitutional taint. At the lower lumbar region of the child's vertebral column was a protrusion about two inches in diameter with a broad base. The covering skin was greatly distended, but normal in color. The tumor was not translucent, and was of a semisolid consistence. Compression of the tumor reduced its size, but gave great annoyance to the patient, apparently by upward pressure upon the brain. There were also present a funnel shaped eversion of the rectum, owing to paralysis of the levator and sphincter ani; rectangular curving of the femurs at the hips; right talipes varus, and cohesion of the fingers and toes (syndactylism). The motor and sensory functions of the lower extremities being but slightly disturbed and the absence of bluish discoloration of the skin aided in the exclusion of myelocele and it differed from meningocele by being neither pedunculated nor translucent. The spina bifida occulta occurred in a boy of seven years, who was admitted to the hospital for protracted cystitis and congenital *enuresis diurna et nocturna*, with strangury, rectal tenesmus, severe pain, pyuria, and hematuria. Treatment resulted in no noticeable improvement except as to relief of pain. Rectal digital examination failed to reveal a vesical calculus or tumefaction. Accidentally, as the writer happened to see the boy bending over a bedchamber, trying hard to expel a few drops of urine, he noticed a small prominence at the sacrolumbar region. When the child stood erect the swelling flattened and was barely noticeable. A small spinal cleft was found hidden under a mass of fat. The child's gait was somewhat dragging and awkward. These symptoms are those of spina bifida. Hypertrichosis, usually associated with this form of spina bifida was absent. The writer now examines every case of recalcitrant enuresis or cystitis for spina bifida. In doubtful cases he uses the x ray. In view of the gradual appearance of graver symptoms, the writer advises operative interference, the separation of the adhering strands of the cord from the covering skin. If left alone, the symptoms gradually grow worse, since owing to the normal ascent of the cord with increasing age of the patient, there is a corresponding increase in the spinal tension.

6. Practical Points in the Diagnosis and Treatment of Diphtheria.—Levinson insists that not enough care is exercised by physicians in taking cultures from sore throats. He advises that a culture be taken from every sore throat, no matter whether a membrane is present or not, because, after all, the finding of Klebs-Loeffler bacillus is the only positive diagnostic point of diphtheria. Four precautions should be observed: 1. The swab and tongue depressor should be perfectly sterile; 2, the swab should be rubbed over the membranes, in the nose, the tonsils, the fauces, or the uvula, and, if no membrane is present, it is best to rub the swab over the tonsils or between the tonsils and the anterior pillars, or if nasal diphtheria is suspected, the swab should be carried backward to the nasopharynx; 3, no antiseptic or caustic should be applied to the tonsil at least an hour before the culture is taken, as it will cover up the bacilli and give a negative culture; 4, the culture medium should be inspected before using, for if it is dry, no growth will take place, and if its surface is rough or drawn over with a film (as happens when a growth of another bacterium has already taken place), the culture will be contaminated. The culture requires at least eight hours of incubation, but when possible, wait about twelve hours. If no incubator is at hand, use the vest pocket as such. Beside the laboratory diagnosis there are several clinical points: 1. Odor: very characteristic, like that of feces, extends at least two feet from the patient, most pronounced in nasal, less in tonsillar, but present in all; 2, temperature: any sore throat with a temperature higher than 101.5° F. is probably one of tonsilitis. No case of diphtheria has a temperature above 101.5° F. A very severe case, especially if nasal, shows hardly any rise in temperature, most nasal cases having but 99° F. The administration of antitoxine may raise the temperature to about 102° F. or more, but this disappears in a few hours. The average temperature in diphtheria is as follows: Tonsillar, 101° F.; pharyngeal, 101.5° F.; nasal and laryngeal, 99° F.; 3, membrane; though not positive, the presence of a membrane can be taken as one of the best clinical diagnostic points; the absence of membrane does not exclude diphtheria, but the presence speaks for it; 4, retraction of epigastrium; if present the case is almost certainly one of laryngeal diphtheria, and antitoxine should be administered immediately; very often a laryngeal diphtheria is mistaken for pneumonia and death results from a failure to intubate; 5, nasal discharge; all nasal discharges in children should be suspected as due to diphtheria. A culture in all these cases is desirable. As to doses of antitoxine, Levinson lays down the following rules:. 1. As prophylactic, not less than 5,000 units; 2, curative

doses in tonsillar diphtheria, not less than 10,000 units; 3, curative doses in nasal and laryngeal cases, not less than 25,000 units. Never fear giving too much antitoxine. If the heart does not degenerate as a result of the diphtheria toxine the antitoxine will do it no harm. Cases receiving 85,000 units, and recovering without any bad effects on the heart, are on record.

7. **Retrobulbar Optic Neuritis.**—Brown calls attention to this uncommon affection, which is also known as orbital optic neuritis, retrobulbar neuritis, or as central amblyopia, which, as its name implies, is central blindness. Any person complaining of a fixed black spot in the visual field is a subject for suspicion. This affection may be either acute or chronic. The acute, the less common, is rapid in progress, seldom requiring more than a week to complete its course. The black spot in the visual field appears suddenly and rapidly enlarges until the visual field is entirely or partially obliterated, which means complete or partial blindness, which may be temporary or permanent, depending upon a host of circumstances. In addition to the increasing blindness, tenderness of the globe on pressure and pain are present. The importance of this affection lies in its very insidious onset and absence of ophthalmoscopic signs. Hence in all persons over thirty-five years of age in whom correction of ametropia has failed to relieve symptoms, the field of vision should be measured.

BRITISH MEDICAL JOURNAL

December 23, 1911.

1. J. GRIFFITHS: Medical Education.
2. LAWRIE MCGAVIN: Laparotomy under Spinal Analgesia.
3. OWEN RICHARDS: Routine Use of Spinal Anesthesia
4. R. O. MOON: A Case of Paroxysmal Tachycardia.
5. K. H. JONES: Leucoderma.

2. **Laparotomy under Spinal Analgesia.**—McGavin has performed abdominal section in sixty-five cases under the influence of spinal analgesia, alone or aided by brief general anesthesia. The efficiency of the procedure is to some extent lacking where the internal abdominal organs are submitted to manipulation. This insufficiency of analgesia seems to be the more frequent and the more marked the nearer one approaches to the diaphragm. The sensations experienced are not of acute pain, but are those of nausea or of a peculiar dragging, somewhat painful feeling located in the thorax. The lower half of the abdomen is much less likely to be thus affected, and most operations can be completed without further anesthesia. When the analgesia does succeed in the upper abdominal regions, it is perfect from the patient's as well as the surgeon's point of view. McGavin believes that "the blockage of the particular afferent impulse which results in shock has been proved to be one of the most constant results of spinal analgesia," and to be maintained over quite a long period. The procedure also greatly minimizes the dangers of paralytic ileus, of postoperative vomiting, and of failure in cases having weak hearts. There is no bronchitis or pneumonia where the analgesia is alone sufficient, and where a general anesthetic must be exhibited, its quantity and duration are so brief as to be of little or no danger. McGavin has had eight deaths in cases in which this drug, stovaine, was given, but in all he believes he can show that the drug was not solely to blame, for there were grave contributing factors in the way of cardiac and other diseases. He is altogether exceedingly optimistic as to the value and safety of the drug and the procedure.

3. **Routine Use of Spinal Anesthesia.**—Richards in an analysis of 500 consecutive cases in which he used this form of anesthesia agrees in general with McGavin (*vide supra*) as to the lack of untoward symptoms, the safety of the method, and the almost total freedom from those complications which are so frequent and so dangerous after chloroform. He does not find it applicable to operations upon the upper abdomen. In his 500 consecutive cases he has had but three deaths, two in young though very ill men and one in a man of ninety years, who was extremely feeble. He believes the method to be more satisfactory, easier, and far safer than chloroform anesthesia in the hands of the inexperienced man. There is complete failure of anesthesia in about ten per cent. of cases, and this can not be foretold. He has experimented with many different solutions, and finds one containing stovaine and a small amount of adrenalin in saline solution to be the most serviceable. The anesthesia seldom rises above the level of the navel if the patient is made to lie down at once after the injection. There is also little or no difference through which lumbar space it is given, but it is important to use a needle having a stylet and to allow some of the spinal fluid to flow to be certain of being in the canal. Richards does not contend that the method is superior to general anesthesia, but he does believe that there are many respects in which it may be preferable and that it is no more dangerous than the latter when given by the average man who has no special skill.

5. **Leucoderma.**—Jones cites a case of this affection in which the leucodermic areas which became exposed to the sunlight developed pigmentation. The pigment was deposited in small rounded areas in the spots previously devoid of pigment, as well as at the margins of the leucodermic areas. The regions not exposed to the sun showed no alteration. This development of pigment is the opposite of what usually occurs, and Jones thinks that the prolonged exposure to the direct rays of the sun produced an inflammatory reaction which caused the pigmentation precisely as in ordinary sunburn.

LANCET.

December 23, 1911.

1. R. CLEMENT LUCAS: Heredity.
2. SAMUEL SLOAN: Electrochemical Treatment in Gynecology.
3. D. W. ROY: Case of Ruptured Esophagus.
4. W. BRANDER and J. B. H. HOLROYD: Induration of Mediastinum.
5. J. S. MANSON: Carcinoma of the Bowel.
6. B. SMITH: Nervous Vomiting in Childhood.
7. W. M. FERGUSSON: Ectopic Gestation with Rupture into Abdominal Cavity.
8. C. H. JAMES: Appendicitis in Sac of Scrotal Hernia.

1. **Heredity.**—Lucas derides the very existence of *diathesis* and shows how the old ideas regarding its effects in the occurrence of tuberculosis, syphilis, leprosy, malaria, and gout have been disproved by modern science. Of cancer, he remarks that while it was held to be diathetic by only a part of the profession, it has nevertheless always

been believed to have strong factors in heredity which have influenced its appearance. Lucas propounds quite another view, that "we are dealing with *a mildly contagious disease slowed down by age.*" In support of this he cites the observations of Birkett, who found the disease more common in the absence of family history than where it was present; of Paget, who could trace a family history in only one in three to six cases; and of Cripps, who observed that if evidence of heredity from collaterals was discarded there was left only the number expressing the normal frequency of cancer to the whole population. Lucas also refers to the development of cancer in apparently normal persons who have been in intimate contact with cancerous ones. He regards the chronic irritation theory as untenable unless there is an abrasion of the skin to serve as a port of entry for the organism as yet undiscovered. He also finds no analogy in the entire realm of medicine which offers support to the view that there is merely a metamorphosis of the body cell and regards this as "contrary to every law of nature." True hereditary conditions do exist, however; for example, the repeated occurrence of twins in many generations. The same occurs also in the case of abnormities, such as supernumerary digits, cleft palate, and absence or deformity of the upper lateral incisor tooth, which, he contends, is a forewarning of the appearance of cleft palate in the next generation. There is also a marked tendency on the part of deformities to increase in future generations.

2. **Electrotherapeutics in Gynecology.**—Sloan has applied this form of treatment to certain gynecological cases with very striking results. Cases of acute inflammation, of threatened or actual suppuration, and cases of cystic disease are unsuitable. In cases of a subacute type he derives much benefit from use of the iodine ion applied by means of electrolysis of a solution of two per cent. potassium iodide and two tenths per cent. of liquor iodi through the action of the negative electrode. Zinc and copper ions give him good results in cases of endometritis, cervicitis, uterine hemorrhage, etc. Here the solution and the cotton wound electrode are brought into direct contact with the affected region. Cases of long continued retrodisplacement have likewise yielded most gratifying and permanent results. Special electrodes are made for the various portions of the genital tract. He derives his current from a battery rather than from the lighting circuit, as he believes it much safer. He has seen no ill effects in several years of experience.

6. **Nervous Vomiting in Childhood.**—Smith reports and analyses seven cases of vomiting of a peculiar type, occurring in children at about the time of the second dentition. The vomiting is persistent and is not periodical. When untreated, or unsuccessfully treated, it may continue for several weeks. It occurs during, or immediately following a meal. It often takes place daily, though not necessarily so; it is painless and occurs without effort; it is not associated with organic trouble, nor is it followed by ill effects. Diet and common gastric sedative treatment does not relieve it. The most remarkable feature is that the child does not lose weight or appear in any way ill. The phenomenon is apparently a nervous one and it is found that the mother is frequently of a neurotic temperament. The children in which it is seen are usually of the introspective, quiet type. Other functional nervous disorders, such as enuresis, are sometimes present also. Smith thinks the condition analogous to the superexcitability of the bladder in enuresis and of the bowel in lienteric diarrhea. Small doses of arsenic and opium before each meal proved curative in every case, and the results were both immediate and lasting.

BULLETIN DE L'ACADÉMIE DE MÉDECINE

November 28, 1911.

1. L. Picqué and L. Dents: Postoperative Psychoses of Infectious Origin; Postoperative Stupor.
2. L. E. Bertrand: Elimination of Chlorides and the Crisis in Acute Epidemic Dysentery.

2. **Chloride Elimination in Dysentery.**—Bertrand gives in detail the features of a relationship he has found to exist between a "crisis" or period of sudden improvement in cases of acute bacillary dysentery and the elimination of chlorides. Early in the disease there is oliguria. The elimination of urea is diminished in afebrile cases; that of chlorides is almost nil (0.2 gramme in one instance), while that of phosphates is relatively but little decreased. In cases tending toward recovery there occurs a sudden increase in the urinary chlorides to above the normal amount, in addition to polyuria. While the salt lost through the alvine discharges early in the affection may be considerable, and the intake is low owing to dietary restrictions, these circumstances do not wholly account for the low chloride elimination. The author concludes, therefore, that there is a systemic retention of chlorides in this affection. Successive injections of 150 and 200 c.c. of salt solution in an adynamic case of dysentery were badly borne, inducing restlessness and dyspnea.

JOURNAL DE MÉDECINE DE PARIS.

December 16, 1911.

1. Nobécourt: Digitalis and Theobromine in the Child.
2. Baldenweck: Adenoid Vegetations.
3. Barrier: Curable Tuberculous Meningitic Lesions.

1. **Digitalis and Theobromine in the Child.**—Nobécourt states that these agents may be prescribed in childhood without fear of unpleasant results; small doses are as useful as large, and investigation would be interesting as to the minimum dose which is followed by definite results.

2. **Adenoids.**—Baldenweck cautions us that the symptoms attributed to adenoids sometimes arise from other conditions, therefore posterior rhinoscopy is always in order. Adenoids may exist without giving rise to any trouble whatsoever, and the symptoms do not seem to have any relation to the size of the growths. If operation is really indicated, there should be no delay, no matter what the age of the patient, and operation should be followed by repeated and careful examination of the nasal fossæ. The buccal respiration acquired during the existence of the growths may demand a reeducation of the young patient. Hypertrophic rhinitis is apt to follow adenoid extirpation, as well as deviation of the septum and spurs upon it.

PRESSE MÉDICALE.

December 21 and 23, 1911.

1. Savariaud: Unrecognized Coxa Vara in Childhood.
2. G. Cany: Collateral Thoracic Circulation and Tracheobronchial Adenopathy.
3. Jeanselme: Antileprous Prophylaxis.
4. F. Balzer: Dose and Contraindications of Hectine.
5. Lafforgue: Landouzy's Typhobacillosis.

1. **Coxa Vara.**—Savariaud states that this affection develops either in infants, when it is always rhachitic, or in children; the latter are usually tall and have disproportionately long legs. The extremities are often cyanotic as in the victims of genu valgum. Flat foot is a common complication. X radiograms show a tendency to rickets and a thickening of the cartilage. Rapid growth and overwork, particularly among the poor, are aggravating causes. The symptoms are at first pain, referred to the knee, limping, followed by shortening of the affected limb, rising of the great trochanter, abduction with external rotation. No pain on pressure. When growth ceases, the limping improves, pain disappears, and attitudes of compensation are assumed by spine and pelvis. The great trochanter hypertrophies and the neck tends to disappear. Treatment is symptomatic, rest, extension of the limb in plaster. Operation does not give very good results, even the cuneiform osteotomy. Savariaud is satisfied with the support given by a cork heel to the shoe and with rest during the periods of pain. A wrongful diagnosis is sometimes made of traumatism.

2. **Collateral Thoracic Circulation.**—Cany states that the cause of the collateral circulation, which causes the dilatation of the prethoracic veins in children affected with adenopathy, has been attributed to compression to the azygos; he believes, however, that it is due rather to paralysis of the intercostal muscles, which weakens the *vis a tergo*, causing a venous stasis. As to the treatment of the adenopathy, Cany prefers to iodine the sodium chloride medication, useful in all lymphatic cases, and the inhalation of appropriate saline solutions. Added to this, gymnastic exercises are valuable, along with massage, electricity, friction with stimulating lotions, etc.

3. **Leprosy.**—Jeanselme recalls the rules advocated by the Second International Antileprous Congress at Bergen in 1909, where it was postulated that leprosy was contagious. Isolation was advised, the exclusion of lepers from professions and trades where they might communicate the disease, the separation of children born healthy from their parents, the examination by an expert of people living in the same domiciles as lepers, examination of all theories advanced on the disease, the study of insects and vermin as possible sources of infection. The congress also concluded that leprosy might prove to be curable and counselled careful clinical study of it. Of all the French colonies only Madagascar has combated the disease properly. In other colonies measures should be undertaken at once to control the spread of leprosy. The Society of Exotic Pathology has formulated five rules: 1. Make leprosy a reportable disease in France; 2, organize a careful supervision of lepers in order to keep them out of the schools and out of certain professions; 3, place indigent and pauper lepers in a hospital; 4, encourage the erection of private sanatoriums; 5, inaugurate reciprocity with leprous countries, mutually to exclude lepers. The fifth rule was finally replaced by one ordering leprous strangers to be kept out of France; this Jeanselme objects to as practically impossible to enforce.

5. **Typhobacillosis.**—Lafforgue states that it is due to the discoverer to call this Landouzy's disease; he remarks that it is diagnosticable during life by the inoculation of blood; the greater the quantity of blood used, the more positive the inoculation, doses as large as 60, 80, and 100 c.c. being used; for inoculation purposes the clot is best obtained by centrifugalizing; exclusion of serum before inoculation favors a good result; inoculation is valuable diagnostically, even if rather late, and points to the proper treatment. The symptoms of a typical case are an oscillating and occasionally remittent fever, mild pulmonary catarrh; no palatal ulcerations, no rose spots, no albumin in the urine; very marked splenomegaly, asthenia, and loss of weight.

SEMAINE MÉDICALE

December 27, 1911.

Jacobovici: Autoplasty of the Face by Means of Strips Cut without Torsion of the Pedicle.

Autoplasty of the Face.—Jacobovici remarks that in autoplasty hitherto the grafts have been chosen solely for their size and condition irrespective of esthetic considerations. The latter may, however, receive due attention if the grafts are carefully taken from a point near the damaged surface, if the long axis of the pedicle is the same as that of the graft in its new position, and if one is careful to see that the graft is near its pedicle or continuous with it. One need not fear lest the long axis be too much curved, as the elasticity of the skin is such that the graft will adjust itself properly. Attention to these instructions will give admirable grafts, almost imperceptible after a few weeks, even lower eyelids being obtained without scars.

BERLINER KLINISCHE WOCHENSCHRIFT.

December 4, 1911.

1. C. Kreibich: Paget's Disease.
2. Theodore Rosenthal: Heart Disease and Pregnancy.
3. Ernst Rosenfeld: Hodgkin's Disease.
4. M. Zondeck: Paranephritis.
5. Franz Weisz: Therapeutics of Stones of the Ureter.
6. Carl Cohen: Two Peculiar Diseases of the Eyes after Salvarsan.
7. Carl Schütze: Indications for Sprudel of Bad Colberg.
8. Hans Hirschfeld: A New Pipette for Counting Blood Corpuscles.
9. Paul Schenk: Paracelsus as a Therapeutist.

1. **Paget's Disease.**—Kreibich remarks that the theory must be abandoned that Paget's disease is an eczema of the mamilla developing with carcinoma. He states that the disease is characterized by enlarged cells that are anaplastic melanoblasts, in which the lipoid function is still in existence, but in which the pigment formation is nearly entirely extinct. Paget's disease, as a superficial melanoblastoma, holds a similar position to the deep reaching melanoblastoma (melanosarcoma of the older authors) as the superficial carcinoma of the skin to the deep reachng carcinoma. The treatment is absolutely surgical.

3. **Hodgkin's Disease.**—Rosenfeld reports a case of Hodgkin's disease which seems, in his opinion, to confirm Sternberg's theory that in Hodg-

kin's disease we have a certain form of tuberculosis, that it did not represent a picture of simple glandular hyperplasia, but a chronic granulation as we also see it in tuberculosis and syphilis, which theory Sternberg could prove through animal experiments.

5. Stones of the Ureter.—Weisz cites a case of stone of the ureter in which he used sterilized glycerin to mobilize the otherwise immovable stone. Weisz injected ten grammes of sterile, warm glycerin into the ureter. This did not destroy the cystoscopic picture. Six hours later the stone was found in the urethra, in the fossa navicularis, from which it was easily removed.

6. Salvarsan and Eye Affections.—Cohen insists upon a careful examination of the eye before the use of salvarsan. An omission of this caution can produce harmful later effects. He observed two cases of neuritis optica after salvarsan injections.

MEDIZINISCHE KLINIK.

December 17, 1911.

1. C. Adam: Etiology and Treatment of Strabismus.
2. Sigmund Erben: Diagnosis of Backache.
3. F. Engelmann: Treatment of Eclampsia Based upon an Observation of over One Hundred Cases.
4. Ernst Beyer: Accident Neurosis of Telephone Operators.
5. L. Casper: Therapeutics of Tumors of the Bladder.
6. Paul Frangenheim: Technique of Operations upon the Sphincter, according to Shoemaker.
7. Emil Schepelmann: Influence of Hot Air Treatment upon Effusions of the Joints.
8. Joseph Koch: Action of the Omentum Majus in Peritoneal and Intestinal Infection.

1. Strabismus.—Adam remarks that anatomical strabismus exists in seventy-five per cent. of all men, resulting from the incongruity of the anatomical conditions of both orbits, and is kept latent only through the force of adaptability. If this force is suspended the eyes will remain in their anatomical state of rest which, especially if one eye is weaker than the other, results in strabismus. Certain sequelæ will follow in consequence of the physiological evasion of double pictures, such as amblyopia of the affected eye and abnormity of localization. A treatment of strabismus proper can be successful only if the sequelæ have been cured. The author gives a description of the operation and exercises adapted for such a treatment.

4. Accident Neurosis of Telephone Operators.—Beyer speaks of neurasthenia of female telephone operators which he has observed in all states, such as simple neurasthenia, hypochondria, hysteria, sensory and motor disturbances, edemata, psychoses, etc., resulting from such accidents as electrical shock through lightning or through increase of the strength of the current. His results have shown him that it is imperative for such women to give up their present occupation and seek other fields for making their living. The telephone companies should pay special attention to the avoidance of such accidents.

6. Shoemaker's Technique for Operations upon the Sphincter.—Frangenheim endorses Shoemaker's technique in operations upon the rectum which aim at compensation of the sphincter ani externus.

7. Hot Air Treatment in Effusions of the Joints.—Schepelmann has made animal experiments with hot air on effusions of the joints, which, in his opinion, demonstrate the therapeutical value of such treatment.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

December 19, 1911.

1. Hohlweg: Diagnosis and Therapeutics of Renal Tuberculosis.
2. Wichern: Perforating Aneurysms of the Arteries of the Brain.
3. Klotz: Oats or Wheat Meal Treatment.
4. Best and Goldstein: Roentgen Ray Examination of the Intestinal Canal.
5. Vogt: Obstetrical Observations with Pituitrin.
6. Salzer: Pseudoneuritis and Other Congenital Abnormities of the Optic Disc.
7. Müller: Amount of Bacteria Found in Distilled Water Sold at Drug Stores.
8. Hammer: Circumferential Measurement in Medical Reports.
9. Hoffmann: A New Instrument for Oral Catheterization of the Tube.
10. Kozlowski: Sterilization of Rubber Gloves.
11. Stumpf: Results of Vaccination in Bavaria during 1910.
12. Voss: Severe Acute Intoxication after Intravenous Infusion of Salvarsan.
13. Blumel: The Selection of Tuberculin.
14. Sobotta: Philipp Stöhr.

2. Perforating Aneurysms of the Arteries of the Brain.—Wichern observes that most of the aneurysms of the brain arteries produce general symptoms of the brain and cerebral foci, but at the same time they show some differential distinctions from tumors. The suspicion of an aneurysm of the brain can be proved through certain etiological facts, such as atherosclerosis, syphilis, and embolism, but most characteristic is the circumstance that such aneurysms occur repeatedly. This fact can be made use of in the differential diagnosis through lumbar puncture. If through such a puncture consecutive meningeal hemorrhages can be demonstrated the diagnosis of aneurysm of the brain can be made.

3. Meal Treatment in Diabetes.—Klotz gives a review of the literature on the treatment with oats or wheat flour in diabetes and comes to the conclusion that wheat flour is to be preferred.

5. Pituitrin in Obstetrics.—Vogt endorses the use of pituitrin in obstetrical practice. He states that in the last state of labor the action of pituitrin is very prompt and accelerates labor. But the question cannot yet be answered whether pituitrin acts as well upon the empty as the gravid uterus. Vogt concludes that pituitrin is the best remedy in labor we so far possess.

7. Distilled Water Sold in Drug Stores.—Müller has examined twenty samples of distilled water procured at drug stores in Graz, Austria. The amount of bacteria found there was enormous, yet varied greatly. He therefore emphasizes Ehrlich's and Wechselmann's warning to use only freshly distilled water in salvarsan injections.

11. Vaccination in Bavaria during 1910.—Stumpf gives some very interesting statistics on vaccination in Bavaria. It must be remembered that vaccination is compulsory there, and the results produced are very favorable for vaccination. Of 228,856 children, 2,970 evaded the law.

13. Tuberculin.—Blumel compares Béraneck's tuberculin with Koch's old tuberculin and concludes that old tuberculin is to be preferred.

PRAGER MEDIZINISCHE WOCHENSCHRIFT

December 24, 1911.

1. R. Goldmann: Cholesteatomatous Inflammation (*Entzündung caséeuse*) of the Tonsils and Its Treatment.
2. Rudolf Steiner: Third International Laryngorhinological Congress held at Berlin.

WIENER KLINISCHE WOCHENSCHRIFT.

December 21, 1911.

1. Ernst Freund and Gisa Kaminer: On the Diagnosis of Carcinoma.
2. Rupert Franz: Toxicity of the Urine in Pregnancy, Labor, and Puerperium.
3. Arnold Flinker: Direct Infection from Cretinism.
4. Alfred Studeny: The Use of Pituitrin in Obstetrics.
5. H. Bardach: A New Method for the Prevention and Treatment of Growth of the Gums on Decayed Rudimentary Roots of Teeth.

1. Diagnosis of Carcinoma.—Freund and Kaminer refer to their statement made about a year ago, that there exists a characteristic difference of the action of the serum of carcinomatous and non-carcinomatous persons upon carcinomatous cells, and that this characteristic distinction could be used in the diagnosis of carcinoma. In the present article they report that they have been able to make a correct diagnosis in eighty-eight per cent. of 113 cases. They therefore hope that in future we shall be able to make an early diagnosis of carcinoma.

2. Toxicity of the Urine in Pregnancy, Labor, and Puerperium.—Franz states that toxic urine injected peritoneally into guineapigs produces the picture of anaphylactic shock. He found that the urine of normal pregnant women is not more toxic than the urine of nonpregnant women, but the toxicity of the urine of healthy pregnant women increases somewhat before birth. During labor the toxicity is much greater than during pregnancy and puerperium, especially at the last stage of labor. The toxicity of the urine decreases during the puerperium, but is still greater than during pregnancy. The urine of women suffering from urticaria during labor and in the puerperium was found to be very toxic; the same was the case with the urine of eclamptics in whom no disturbance of the kidneys could be found, while in severe nephritis the toxicity of the urine was suspended.

4. Pituitrin in Obstetrics.—Studeny reports his observation with pituitrin in obstetrics. He comes to the conclusion that pituitrin is the best chemical we have for labor cases.

ZENTRALBLATT FÜR CHIRURGIE.

December 16, 1911.

1. A. Hofmann: Treatment of Perforated Ulcer of the Duodenum.
2. Gontermann: A New Aid in Narcosis.

2. A New Aid in Narcosis.—Gontermann suggests to introduce a firm, round pledget, three or four centimetres thick, with a cord attached, in the throat so that traction on the cord will draw one side of the base of the tongue forward. He asserts that the tongue can be held forward in this manner much better and more conveniently than with forceps.

ZENTRALBLATT FÜR INNERE MEDIZIN.

December 23, 1911.

W. von Moraczewski and E. Herzfeld: Presence of Indican in the Blood.

Indican in the Blood.—Von Moraczewski and Herzfeld describe certain tests, confirming and supplementing the recent observation of Obermeyer and Popper that indican can be demonstrated in the blood in uremia, whereas it is absent in health and in other pathological states. Upon adding to blood freed from white cells by means of metaphosphoric acid and filtration enough potassium indoxyl sulphate to yield a pronounced indican reaction, and then incubating for twenty minutes, the indican reaction was found to disappear. Addition of enough soda solution to produce physiological alkalinity, or shaking the mixture with air, favored the change. When blood serum alone was used, no change at all occurred. The authors conclude that the presence of indican in the blood in uremia is due to absence of a power to break down indican which nonuremic blood possesses.

CORRESPONDENZ-BLATT FÜR SCHWEIZER AERTZE.

December 20, 1911.

1. H. Wildbolz: Should Tuberculosis of the Kidney Be Treated Surgically?
2. E. Bernoulli: Reduced Dietary in Diabetes Mellitus.

1. Surgical Treatment of Tuberculosis of the Kidney.—Wildbolz gives a statistical review of the treatment of tuberculosis of the kidney, and comes to the conclusion that the surgical treatment should be preferred. He finds that under conservative treatment there will be a mortality of about sixty per cent. in the first five years of the disease, that cures will result only exceptionally, while under surgical treatment we have about twenty-five per cent. mortality with a permanent cure of from fifty to sixty per cent. But even with a surgical operation we should remember that after extirpation of a tuberculous kidney we still have to deal with a tuberculous patient whose tuberculosis of the genitourinary system or outside of it can only be eliminated after years of careful treatment. The postoperative treatment in such cases will therefore be of the greatest import.

THE LARYNGOSCOPE.

November, 1911.

1. Erich Ruttin: Papillitis with Otogenous Complications.
2. Oscar Beck: Vertigo and Disturbances of the Equilibrium in Recent Secondary Syphilis.
3. Francis R. Packard: Some Early Books on the Education of the Deaf.
4. C. M. Brown: Carcinoma of the Nasopharynx.
5. G. Hudson-Makuen: Syllabus for a Lecture to Medical Students on the Deaf Child.
6. Thomas J. Gallagher: Preservation of the Anterior Wall in the External Frontal Sinus Operation.
7. A. B. Thrasher: Primary Chancre of the Tonsil.
8. John A. Thompson: Retropharyngeal Abscess with Paralysis of the Esophagus.
9. Wolff Freudenthal: Unusual Instances of Laryngeal Abscess.
10. Harris P. Mosher: Folds and Webs at the Upper End of the Esophagus.
11. A. Morgan MacWhinnie: A Safe and Rapid Procedure for Submucous Resection of the Deflected Nasal Septum, with Presentation of a New Septal Forceps.
12. Beeler Higbee: Tonsil Separator.
13. Henry A. Alderton: A New Instrument to Remove the Nasal Wall in Cases of Empyema of the Maxillary Antrum.

1. Papillitis.—Ruttin mentions the fact that with otogenous abscesses in the temporal lobe changes in the fundus of the eye are quite rare, and that it cannot be stated with any degree of certainty whether the pathological condition of the fundus oculi of many of the cases described in literature are not to be referred to the extradural changes rather than to the cranial abscess. He is of the opinion, however, from his observations in one case, that the extradural changes do not cause the papillitis, but that it is produced by the compression of the superior or inferior petrosal sinus, or of both sinuses, and that engorgement of the cavernous sinus takes place as the result of regurgitation of blood from these two vessels. With this assumption, therefore, among all otogenous intracranial complications, sinus thrombosis, in respect to the operative exclusion of the sinus jugularis region, should give the highest percentage of papilli-

tis, which view is supported by systematic investigation, and corroborated by six cases of the author, in which papillitis developed after the jugular vein had been ligated and the sinus removed. The development of papillitis in some cases and not in others is probably due to certain anatomical conditions which are not yet definitely defined.

6. External Frontal Sinus Operation.—Gallagher objects to the older operations on the frontal sinus, owing to the disregard shown the ethmoidal cells; the possibility of reinfection of the sinus and the frequently resulting deformity. After investigations on the cadaver, as well as on the living subject, the author advises against the indiscriminate removal of the mucous membrane, and expresses the opinion that it is not always necessary to remove the anterior wall in order satisfactorily to curette the sinus. He suggests the performance of the lower portion of the Killian operation, preserving the anterior wall of the sinus, unless it is found impossible satisfactorily to remove the débris from below.

INTERNATIONAL JOURNAL OF SURGERY.

December, 1911.

1. O. W. Hunter: Cholecystostomy.
2. J. C. O'Day: Therapeutical Pneumothorax.
3. S. R. Benedict: The Effect of Alcoholism in Fractures.
4. H. A. Royster: On the Diagnosis of Injuries to the Head.
5. H. T. A. Lemon: Cerebral Concussion.
6. R. L. Payne, Jr.: Surgical Treatment of Injuries to the Skull.
7. A. G. Brenzier: The Etiology, Mechanism, and Pathological Anatomy of Fracture of the Skull in Adults.

2. Therapeutical Pneumothorax.—O'Day describes the method of producing a pneumothorax for therapeutical purposes. Although nitrogen gas is generally used for this procedure, O'Day asserts that atmospheric air is just as effective and much less expensive, while all the apparatus necessary for its use is a trocar, cannula, and an ordinary aspirating outfit. The indications for the employment of this measure are either a bronchiectasis or a cavity formation in the lung tissue itself, and the two main conditions to be overcome are absorption of septic material from a cavity and resultant toxemia, or active hemorrhage. The pneumothorax splints the lung, as it were, closing the cavities by pressure. The method should be used only where but one lung is affected. The trocar and cannula are introduced into the sixth or seventh intercostal space till the pleural cavity is reached, when the trocar is withdrawn and the aspirating apparatus attached. The air is washed by passing through bichloride solution in the bottle of the aspirating apparatus. The stethoscope is the guide as to the amount of air to be introduced, the sounds gradually changing from those of a cavity to silence or normal. A few extra pumpfuls are then introduced and the wound is sealed.

4. Diagnosis of Injury to the Brain.—Royster says that the injury to the cranial contents is of far greater import than any damage to the skull itself, and states that diagnosis in any kind of head injury will depend upon the kind of wound received and upon close observation of the symptoms from the beginning. Fractures are unimportant unless involving the brain or its vessels or nerves. They are divided into fractures of the vault and base. Fractures of the vault can positively be diagnosticated if there is depression, crepitus, and a cracked pot sound. A fissured fracture is determined by bone tenderness, a fine thin blood stained line, or in case of doubt by the x ray. Fractures of the base are diagnosticated by persistent bleeding with loss of cerebrospinal fluid (the bleeding may be from nose, eyes, ears, or all three), certain paralyses and symptoms of compression or concussion. If the fracture is in the anterior fossæ there is bleeding from the nose or pharynx with possible blindness or strabismus. If in the middle fossæ, bleeding from the ears, possible facial palsy, or deafness. Fracture of the posterior fossa is difficult of diagnosis unless compound. Local fractures of nasal bones or injuries to the ear must be excluded. The symptoms of concussion come on at once. These are symptoms of collapse and a sudden unconsciousness, vomiting, and twitching of the limbs. The pupils are equal and responsive, but the eye reflex is lost. An early return to consciousness means concussion only. Prolonged unconsciousness means contusion or laceration of the brain, and therefore compression either from clot, bone fragments, foreign bodies, or exudate. Symptoms of brain compression are: Absolute coma, slow, full pulse, unequal pupils, paralysis, and stertorous breathing. Opium, alcohol uremia, apoplexy, and hysteria must be excluded.

NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

December, 1911.

1. T. I. Dimitry: The Muscle Tuck Operation as Adopted at the Eye, Ear, Nose, and Throat Hospital, New Orleans.
2. Ansel M. Caine: The Administration of Nitrous Oxide Ether Sequence by the Open Method.
3. William Kohlmann: Remarks on Prolapse of the Uterus.
4. Arthur L. Weil: Nose Bleed.

2. The Administration of Nitrous Oxide Ether Sequence by the Open Method.—Caine uses a Gwathmey mask, which he covers with about sixteen thicknesses of surgical gauze. A yoke is attached to a cylinder of nitrous oxide, and this is connected with the mask by a piece of rubber hose about six feet long. The gas is run through a warmer, as it is ice cold when released from the cylinder. When the patient is unconscious from the gas, or nearly so, which is determined from the breathing, ether is administered by the drop method, gradually increasing it and decreasing the flow of nitrous oxide at the same time. Care must be used not to let the patient be deprived of so much oxygen as to cause jactitation. When the patient is fairly under ether the gas is discontinued and the ether continued by the drop method. The author makes the following assertions: It is comparatively safe, quick, and not unpleasant; it acts equally well in adults as in children; patients prefer it to ethyl chloride, and it is far safer, though more transient; it reduces, slightly, the time of surgical anesthesia with ether by the open method.

NEW YORK STATE JOURNAL OF MEDICINE.

December, 1911.

1. W. R. Townsend: Prevention of Deformity.
2. W. C. Woolsey: Anesthetics in Surgical Procedures.
3. W. F. Borrows: Postoperative Complications.
4. J. M. Swan and H. DeWolf: Purpura Hæmorrhagica.
5. C. H. Baldwin: Diagnosis of Fractures of Hip.
6. D. M. Totman: Treatment of Fractures of the Neck of the Femur.
7. P. LeBreton: Conditions Simulating Disease of the Hip.
8. J. P. Creveling: Influential Arthritis.
9. E. W. Ayars: The Physician and the Optician.
10. E. M. Alger: Ophthalmia Neonatorum.
11. Mark O'Meara: The Smaller Hospital.
12. D. S. Burr: Vaccination.

2. Pathological Relation of the Anesthetic to Surgery.—Woolsey concedes the general optimism toward anesthesia and admits that in the ordinary healthy individual one need scarcely consider the remote effects of the procedure. It is, however, this very optimism which is responsible for turning the tide against recovery in those numerous patients who, through the effects of years or of disease, have lost much of the natural "factor of safety." The anesthetic is wholly or in part responsible for such untoward and dangerous developments as shock, temporary or lasting cellular disarrangement, or cytolysis of nerves, blood, etc., glycosuria, fatty changes in the liver, acetonemia, insanity, pulmonary and bronchial lesions, disturbance of cardiac compensation, and vomiting. One or more of these effects of the anesthetic is very frequently the factor which leads to a fatal end. For instance, in the fight against sepsis, in the recovery after prostatectomy, in anemic patients, in nephritis, and in scores of other conditions it is the effect of the anesthetic which decides the battle. Woolsey deplores the practice of detailing the youngest member of the staff to the all important position of anesthetist with but the casual instruction of his predecessor, and the present move to relegate it to the hands of a nurse he views as little short of criminal. All things being equal, the surgeon who has the best results will be he who has the most skillful anesthetist.

THE JOURNAL OF CUTANEOUS DISEASES

December, 1911.

1. S. T. Darling: Oriental Sore.
2. Charles Goosmann: A Method of Demonstrating Spirochætæ and Trypanosomes by means of Nigrosin.
3. Walter James Heimann: On the Use of the Uviol Lamp in Treating Psoriasis.
4. A. J. Markley: An Unusual Form of Keratoma.

2. Demonstration by Nigrosin.—Goosmann says that Burri's India ink method of staining spirochætæ is simple and quick, and has been largely adopted; he points out, however, that it is open to serious criticism. Thus, Barach and others have described wavy fibres found in the ink itself that may well be mistaken for organisms, and the coarse granulation of the medium itself, with the amplification required for spirochætæ demonstration entirely prevents recognition of the flagella. He therefore uses a solution of nigrosin, a blue black pigment which gives a much smoother background than does the ink. Gruebler's water soluble nigrosin was found to be unsuitable, since it precipitated too readily; on the other hand, the ordinary commercial nigrosin (the author specifies the nigrosin No. 699 and black nigrosin No. 15,502 of certain manufacturers) gives very satisfactory results. The technique is very simple. An excess of the nigrosin is shaken up with distilled water and allowed to settle; the upper portion of the mixture is pipetted or decanted off for use, care being taken not to stir up the sediment. This is then employed in the same manner as the India ink; a platinum loopful of the material to be examined is mixed on the slide with less than a loopful of the nigrosin solution, and a thin, pale blue film obtained with the aid of the edge of a second slide. After the film is dry it may be examined on the dark stage directly with the oil immersion, or balsam, and a cover glass may be used for permanent preservation. The nigrosin fluid keeps indefinitely.

ARCHIVES OF INTERNAL MEDICINE.

December, 1911.

1. Joseph A. Capps: An Experimental Study of the Pain Sense in the Pleural Membranes.
2. W. T. De Sautelle and E. G. Grey: Relation of the Papillary Muscles to Mitral Regurgitant Murmurs.
3. E. W. Hill: Tetanus.
4. J. A. Waddell: A Comparative Investigation of the Effects and Toxicity of Sodium Salicylates of Natural and Synthetic Origin.
5. Roger S. Morris and Thomas R. Boggs: Leucocytic Enzymes in Leuchemia in Neutral Media.
6. Myer Solis-Cohen: Coagulation Time of the Blood as Affected by Various Conditions (*Concluded*).
7. Pearce Bailey and Smith Ely Jelliffe: Tumors of the Pineal Body.

1. Pain Sense in the Pleural Membranes.—Capps presents an analysis of the seat of pain in 240 cases of pleuropneumonia and pleurisy, and then reports the results of an experimental study of the sensitiveness of the pleura made in the course of thirty-five thoracentesis operations by inserting a wire into the pleural cavity and noting the location of the pain produced by pressure in various areas. In the first series of cases pain of segmental distribution over the lower thorax, abdomen, or lumbar region was found to be present in the great majority of instances. In about one half the cases there was pain in the neck, always in the region supplied by the third and fourth spinal segments, and showing a preference for the trapezius ridge. In the thoracentesis cases exploration with the wire showed the visceral pleura to be insensitive. Irritation of the parietal pleura, which is richly supplied with sensory fibres from the intercostal nerves, induced sharp pain that was accurately located by the individual over the spot touched and was unaccompanied by referred pains. Irritation of the diaphragmatic pleura in its central portion, which is innervated by the phrenic, set up pain in the neck; in the peripheral portion, innervated by the intercostals, pain was caused in the lower thorax, in the lumbar region, or in the abdomen. Both of these types of pain the author regards as true "referred pains." There was present in addition hyperesthesia and hyperalgesia of the skin and superficial tissues in the surrounding area. Irritation of the pericardial pleura, which receives its sensory supply chiefly if not wholly from the phrenic, was followed by the same neck pain as that induced by irritation of the central diaphragmatic pleura. It was also acompanied by cutaneous hyperesthesia, and, in addition, by muscular rigidity. The author believes as a result of a few observations that there is considerable clinical evidence to show that the phrenic and intercostal nerves supply the peritoneal surface of the diaphragm with pain sense as well as the pleural.

2. Papillary Muscles in Mitral Regurgitant Murmurs.—De Sautelle and Grey report an experimental study in excised pigs' hearts of the transmission of mitral murmurs to the apex through the papillary muscles. Insufficiencies of the valve were produced in several ways and definite murmurs created, which were heard over the heart with an intensity differing according to the location. The papillary muscles were then subjected to various operative procedures and the effects on the murmur noted. It was demonstrated that the two papillary muscles play the most important rôle in the transmission of the insufficiency murmur to the apex. Upon altering the attachments of these muscles it was found that they conducted the murmur

to whatever portion of the heart they were attached. The papillary muscles had to be intact in order to conduct the murmur. The vertical direction of their fibres was shown to account in great part for the conduction. Detachment of the chordæ tendineæ from the papillary muscles and insertion of them into the ventricular wall showed that these structures are implicated in murmur conduction. The transmission of the murmur toward the apex appeared to depend only in small part on the thickness of the ventricular wall. Additional experiments indicated that if the tissues intervening between the heart and the chest wall play any part in conducting a murmur from the auriculoventricular junction to the mitral area, it is so slight as to be negligible; also that the murmur heard in the left axilla in mitral regurgitation is due to the proximity of the anterior papillary muscle to that region.

4. **Sodium Salicylates, Natural and Synthetic.**—Waddell investigated experimentally the relative toxicity of the two varieties of salts. The drug was administered hypodermically to seventeen cats, thirty-six rats, and twenty-seven rabbits, some of the animals receiving natural, the others synthetic salicylate. No difference in toxicity could be detected between the brands of natural and synthetic salicylate examined, although the synthetic samples were the cheapest obtainable on the market. These results controvert those obtained in 1889 by Charteris and Maclennan, who, from a much shorter series of comparative tests, concluded that the natural salicylate was considerably less toxic than the synthetic. The symptoms observed by Waddell in the animals receiving sodium salicylate hypodermically consisted of early vomiting (central), reflex irritability, and convulsions terminating in death from asphyxia; after acutely fatal doses death occurred within six hours, after just fatal doses, in eighteen hours. Experiments were also performed in rats to ascertain the toxic power of a mixture of sodium paracresotinate with natural sodium salicylate. The mixtures proved no more toxic than their components; hence the author concludes that impurities of paracresotinate in salicylates are probably of no great practical importance.

5. **Leucocytic Enzymes in Leuchemia.**—Morris and Boggs studied the enzymes of the leucocytes in two cases of acute myeloid leuchemia, two of chronic myeloid, and two of chronic lymphoid leuchemia. Parallel experiments were made on the cells obtained from empyema pus. The authors lay particular stress on the fact that neutral media alone were employed in the tests; acid or alkaline media might have led to different results. A protease, together with lipase, amylase, and maltase, were found in the lymphocytes of chronic lymphoid leuchemia and in the leucocytes of acute and chronic myeloid leuchemia and of pus. Digestion of saccharose, lactose, and glucose by the myeloid or lymphoid cells, however, was not observed. Oxidase was demonstrable in the leucocytes in one case of acute and two of chronic myeloid leuchemia. No biological differences could be discovered between myeloid cells and the lymphocytes of chronic lymphoid leuchemia. The authors consider it a legitimate inference that in part at least, the enzymes of the blood plasma may be derived from the leucocytes.

6. **Coagulation Time of the Bood.**—Solis-Cohen presents the last installment of a study of the effect of various agencies upon the coagulation time, based upon the reports of a large number of observers. In summarizing the data collected, he states that the coagulation time of the blood in the vessels seems to be shortened by low barometric pressure, by restriction of fluids, and by exercise; it is apparently lengthened by increased viscosity and by the taking of food. Among the pathological conditions which he mentions as being associated with shortening of the time are traumatic hemorrhage, hemorrhage from a uterine carcinoma, severe pulmonary hemorrhage, hematuria, hemoglobinuria, endocarditis, dementia præcox, aneurysm, and thrombosis. In the acute stage of typhoid fever, in hemorrhagic disease of the newborn, hemophilia, physiological albuminuria, the acute exanthemata, and possibly in chorea, eclampsia, scorbutus, acromegaly, tetany, acne, eczema, and furunculosis, the coagulation time is lengthened. It appears to be variable in effusions in serous cavities, severe anemia, leucocythemia, jaundice, tuberculosis, convalescence from typhoid fever, pneumonia, rheumatism, nephritis, myxedema, exophthalmic goitre, and epilepsy. Among the exogenous factors shortening the coagulation time are strontium lactate, magnesium carbonate, blood transfusion, pituitary extract (posterior lobe), renal, ovarian, and testicular extracts, possibly persalts of iron, and hydragogues. Lengthening occurs under the influence of citrates, pituitary extract (anterior lobe), extracts of the liver, spleen, pancreas, and suprarenals, chloroform in certain doses, and possibly colchicin, nuclein, betanaphthylamine, atropine, bromides, phosphorus, and curare. No constant effect has been observed after the use of calcium salts, milk, sodium chloride, blood serum, thyroid extract, thymus extract, alcohol, and gelatin.

7. **Tumors of Pineal Body.**—Bailey and Jelliffe review the embryology, physiology, and anatomical features of this organ, describe in detail the symptoms produced by tumors involving it, report a case of this kind, and give condensed histories of fifty-nine cases found in the literature. Pineal enlargements exert pressure on the aqueduct of Sylvius and the veins of Galen, inducing hydrocephalus, and may also in themselves accelerate the production of cerebrospinal fluid. Headache, at first occipital, finally diffuse, is generally the first symptom. Exacerbations of pain associated with vomiting and giddiness occur. Papillary edema soon develops, and abnormal drowsiness is noted in many instances. Later motor symptoms such as increased muscular tonus, weakness without paralysis of the extremities and increased tendon reflexes, appear owing to the hydrocephalus. As the tumor grows it exerts pressure on the corpora quadrigemina, causing ocular palsies, paralysis of associated movements, especially upward, and not infrequently nystagmoid phenomena. The pupils are usually widely dilated, frequently unequal, and sluggish to light and in accommodation. Occasionally the tumor presses as far laterally as the geniculate bodies and posterior corpora quadrigemina, causing auditory symptoms such as buzzing or crackling, or progressive loss of hearing. Pressure

on the superior cerebellar peduncles, directly or indirectly, may cause a series of cerebellar symptoms. Giddiness is constant, and staggering gait has appeared early in nearly one half the cases. Ataxia, especially in the upper extremities, is often present. Less constantly occur polydipsia, polyuria, and glycosuria. The general metabolic symptoms that may result from involvement of the pineal comprise adiposis, sexual precocity, and cachexia. It cannot as yet be stated definitely whether disturbed function of the pineal alone is capable of causing adiposis or whether this symptom is due to the concomitant hydrocephalus of the third ventricle which exerts pressure on the hypophysis. Neither can the sexual precocity and cachexia at present be precisely accounted for. If diminished hypophysis functioning is to account for the adiposis, it will not account for the sexual precocity, since in the dystrophia adiposogenitalis of Fröhlich there is a lack of sexual development.

THE CANADIAN MEDICAL ASSOCIATION JOURNAL.

December, 1911.

1. J. B. Leathes: Inaugural Address.
2. William Gardner: Address in Gynecology.
3. T. P. Shaw: Sanitary Milk.
4. John C. Meakins: An Experimental Study of the Phagocytic Immunity Produced by Tuberculin.
5. J. T. Fotheringham: Primary Pyelitis in Infants.
6. I. Proctor Hall: Moulds in the Alimentary Canal.
7. E. M. von Eberts: Lung Abscess.
8. G. S. Gordon: A New Combined Examining and Operating Air Distention Endoscope.
9. G. Sterling Ryerson: On the Use of Radium in Ophthalmology.

4. Phagocytic Immunity Produced by Tuberculin.—Meakins concludes from a series of experiments: 1. That the inoculation of a rabbit with attenuated, living tubercle bacilli rapidly produces an immunity to lethal doses of virulent tubercle bacilli; 2, that the inoculation of a rabbit with killed tubercle bacilli in sufficient amounts over a long enough period, produces an active immunity to virulent tubercle bacilli; 3, that the estimation of the phagocytic power of the serum affords a fairly accurate estimate of the immunity possessed by the animal immunized; 4, that the injections into a rabbit of tuberculous toxine, or "old tuberculin," does not produce any increase of the phagocytic power of the serum, nor does it produce any appreciable immunity to virulent tubercle bacilli; 5, that advantage might be taken of the fact that the injection into a rabbit of killed tubercle bacilli produces an immunity to virulent tubercle bacilli, to produce an immunity in infants before they become primarily infected with tuberculosis.

5. Primary Pyelitis in Infants.—Fotheringham reports a case of this nature met with in a girl fourteen months old, who had previously suffered from a mild attack of gastrointestinal disturbance. The urine was acid, loaded with pus, resembled in appearance a bouillon culture, and swarmed with a rod shaped bacillus morphologically identical with the colon bacillus. Culture examination, so far as it could be carried out, likewise identified the microorganism as the colon bacillus. Recovery was rapid under treatment with from four to six grains of potassium citrate every four hours. To remove the bacilli and prevent relapse it is necessary that the urine should be kept alkaline for a fortnight or longer. The urine at no time contained any evidence of renal mischief, no casts or blood was present, and only traces of albumin could be detected. Contamination by streptococci could not be excluded. There was no chill at any stage of the illness and no evidence of cystitis. The diagnosis was made by exclusion of other visceral or infective conditions, with such facts as the age, the sex, the type of severe, recurring fever with prostration and severe general disturbance at each recurrence, and the rapid, severe type of anemia with comparatively little loss of weight, such as would accompany a digestive disturbance. The two conditions most likely to be mistaken for this disease are typhoid fever and meningitis. The former is rare in infants so young and may be excluded by the type of the temperature, the remissions, the nonoccurrence of spots and splenic enlargement, the absence of abdominal symptoms, such as diarrhea and distention, the frequent improvements and recrudescences, together with the white cell, count, and the results of blood culture. Meningitis may be excluded by consideration of the family history as regards tuberculosis, the state of the reflexes, the more gradual onset, the character of the temperature curve, the white cell count, and possibly the sex of the child and the skin reaction to tuberculin. The presence of pus in the urine should direct attention at once to pyelitis, though the difficulty in obtaining urine from children so young is probably the real reason why the profession as a whole is backward in recognizing the disease. The writer adopts Thomson's classification of cases of this nature, published in the *Quarterly Journal of Medicine* for April, 1910, in which they are divided into four groups, the largest one being that of simple pyelitis. His own case belongs to this group.

6. Moulds in the Alimentary Canal.—Hall says that most persons are familiar with the appearance of green mould in vomit and feces, but that it has been looked upon as without importance, even in cholera nostras and infantile diarrhea, where it is the most prominent symptom. He believes it to have a causal relation to these conditions because, 1, it is often present when no other sufficient cause of the symptoms can be found; 2, it is present in abundance in some of our most fatal diseases; 3, its partial destruction is followed by immediate improvement; 4, its complete removal in such cases is an essential element in recovery. He finds that the green mould is killed by sodium bicarbonate, which he gives in teaspoonful doses frequently repeated. He also gives lysol to kill the numerous bacteria that accompany the mould.

PROCEEDINGS OF THE ROYAL SOCIETY.

December 8, 1911.

1. W. M. Thornton: Influence of Ionized Air on Bacteria.
2. S. G. Payne: Permeability of the Yeast Cell.
3. T. G. Brown: Intrinsic Factors in the Act of Progression in the Mammal.
4. A. F. Hayden and W. P. Morgan: Inquiry into the Influence of the Constituents of a Bacterial Emulsion on the Opsonic Index.
5. Col. Sir David Bruce: Morphology of Trypanosoma Gambiense (Dutton).
6. K. R. Lewin: Behavior of the Infusorian Micronucleus in Regeneration.
7. J. L. Jona: Refractive Indices of the Eye Media of Some Australian Animals.

1. **Ionized Air.**—Thornton has studied the influence of the electric wind from charged needle points upon surface films of bacteria on agar. This electric wind results from the fact that ions of the same sign (plus or minus) as the respective needle points are repelled. The luminous glow at the negative point, however, is larger than that at the positive, and wind from the former point is more strongly bactericidal than that from the latter. In the present research a marked difference between the sensitiveness of the several organisms examined was observed. *B. anthracis* proved to be relatively resistant, many hours' exposure to the wind being found necessary to sterilize the plates with certainty. Plates with *B. pyocyaneus* were entirely cleared in two and a half hours; with *B. coli communis,* not entirely cleared in four and a half hours; with *B. typhosus,* almost cleared in two and a quarter hours. The most sensitive of the organisms studied proved to be *B. dysentericus Shiga,* most of the plate being cleared in one hour, and especially *B. asiaticæ choleræ,* of which the number of colonies was greatly reduced by a half hour exposure. From these results Thornton concludes that, 1, air ionized by either positive or negative point discharge has a strong bactericidal action; 2, the negative discharge is much more effective than the positive for short exposures, though the result after many hours' exposure is nearly the same for both. Supplementary experiments were performed to prove that the bactericidal effect was actually due to contact with the ions in the electric wind, and not to outside factors such as ozone, hydrogen peroxide, ultraviolet light from the glow, or mechanical bombardment by the wind. In a previous paper by the author, it was shown that red blood corpuscles and leucocytes had a strong negative charge. He now suggests that the initial stimulus to the process of absorption in phagocytosis may be more simply explained by the attraction the negatively charged leucocytes have for the positively charged bacteria than by mere "chemotaxis."

4. **Influence of Constituents of Bacterial Emulsion on Opsonic Index.**—Hayden and Morgan draw attention to the fact that the bacterial emulsions, as usually employed for measuring opsonic power, consist not only of saline solution and intact bacilli, but also of bacillary detritus. By removing some of this detritus from tubercle emulsions they found that the subsequent phagocytosis was about four times as great as with an ordinary emulsion; conversely, the addition of detritus to an ordinary emulsion caused a well marked reduction in phagocytosis. The latter modification was shown by additional tests to be due to removal of opsonic power from the serum used in the test, i.e., to the fact that the detritus acted as a receptor. Finally, it was shown that bacterial emulsions *must* contain a certain amount of bacterial detritus in order to serve as perfect indicators of opsonic power; if the amount of detritus present is insufficient it becomes impossible to differentiate supernormal from normal opsonic power, though the difference between subnormal and normal opsonic power is still observable. Perhaps the most important result of these experiments, the authors conclude, is that they explain why, with the same blood, very different opsonic indices may be obtained by different workers, and even by the same worker at different times.

5. **Trypanosoma Gambiense.**—Bruce presents a detailed comparative study of the morphology of *Trypanosoma gambiense* and *Trypanosoma brucei* which shows that it is impossible to separate these two species by shape alone.

REVUE DE MÉDECINE

December, 1911.

1. Mouisset, Nové-Josserand, and Bouchut. Epilepsy, with Autopsy.
2. Piéry and Rosiem. The Treatment of Tuberculosis in the Nineteenth Century. From Vercellotti to Sabatier.

1. **Late Epilepsy.**—Mouisset, Nové-Josserand, and Bouchut present a clinical and pathological study of a case of epilepsy developing in a man, fifty-eight years of age, and discuss the pathogenesis of the late variety of the disease. Complete and persistent aphasia was present in this case, without motor or sensory disturbances. Death occurred in three years. At autopsy the brain showed two areas of softening in the left hemisphere in the zone of Wernicke; Broca's convolution was not involved. Histological examination showed evidences of acute encephalitis, not limited to the areas of softening, and considered by the authors as the primary etiological factor. The organic origin of most cases of late epilepsy, they state in conclusion, cannot be doubted. It is difficult, however, to define accurately the pathogenic relationships existing between the lesions found and epilepsy. The morbid conditions are variable in nature and position; a lesion may induce epileptic attacks either directly or reflexly, and the possibility of a toxic origin of epilepsy further complicates the problem. The various gross or minute brain lesions found in epileptics are not of equal importance. Some prepare the way for the attacks, others are only occasionally causative. Each case demands separate study. Not all cortical softenings are epileptogenic; nor is the location of the area involved a factor in favoring the occurrence of epilepsy. Neither by supposing a direct or a reflex mode of action can one explain the inconstancy in the occurrence of epilepsy in the presence of like lesions. It seems necessary in this connection to ascribe to predisposing factors such as heredity or slight changes in the cortex dating back to childhood the production of late epilepsy by lesions such as that present in this case.

Proceedings of Societies

CANADIAN PUBLIC HEALTH ASSOCIATION

Inaugural Meeting, held at Montreal, December 13, 14, and 15, 1911.

The President, Dr. T. A. Starkey, Montreal, in the Chair.

The opening ceremony of this inaugural meeting was performed by His Royal Highness the Duke of Connaught, governor general of Canada, accompanied by the Duchess and Princess Patricia in the Convocation Hall of the Royal Victoria College. The governor general was attended on the platform, among other Canadian personages, by the Hon. R. L. Borden, Premier of Canada, and Hon. Martin Burrell, Minister of Agriculture. This opening ceremony was notable in the annals of pub-

lic health meetings in that a very important announcement was given out.

Presidential Address.—Dr. T. A. STARKEY, professor of hygiene at McGill University, presided, and gave an address of welcome to the governor general. Doctor Starkey's address was commendably brief and to the point. After thanking the governor general for his act of courtesy in being present to open the meeting, he went on to point out that it was desirable to make known the object of the association, which was not only to interest professional men, but to get the general public to join the association as well. Doctor Starkey also stated that a letter had been received from Lord Strathcona and that in the postscript of this letter the writer said that he had enclosed a check for $2,500 to further the carrying out of the aims of the association.

Reply of the Governor General.—His Royal Highness gave an eminently practical address, in the course of which he laid stress on the point made by Doctor Starkey that the successful issue of the efforts of the association depended upon the cooperation of the population at large. It was to be hoped that the people would avail themselves of the knowledge to be imparted by such a congress as this, because it was only when the people had fully grasped the meaning of any movement that legislative bodies could begin their work. Legislation without the intelligent support of the people was useless. It would be wise for us to remember that sanitary legislation was intended for the benefit of all, individually and collectively, and was not intended to make life irksome, but to protect us from disease, and as such we should give full support to the authorities administering these laws. The speaker also drew attention to the necessity of vaccination as a protection against smallpox and cited from his own experience instances in which efficient vaccination had been the means of conferring immunity upon individuals and of staying the spread of an epidemic of the disease.

Address by the Premier.—Mr. BORDEN spoke briefly and pertinently. He said that in the past public health had been somewhat neglected by the Federal government of Canada, but that such errors of judgment would be remedied in the future.

Address of the Hon. Martin Burrell.—Mr. BORDEN left to Mr. BURRELL the duty of making the announcement of the evening. That speaker said in part, that health was a very vital matter to our people, far more important than many things we made a fuss about, and speaking quite unofficially he would say that he believed the time had come, when even if it did not demand a portfolio, it should, at least, have a full fledged department in the Federal government.

Mr. BURRELL concluded by saying that just as soon as sufficient common sense administrative methods could be arranged which would cut out the overlapping between municipal, provincial, and Federal authorities in health matters, we might look for a closer and more cordial cooperation between the various governing bodies, and that time, he was confident, was coming soon.

The intimation was thus distinctly enough made that the Canadian government had determined to establish a department of health. This department will not be separate, but will be tacked on to an existing department, in all likelihood to that of agriculture, of which Mr. Burrell is minister.

SIR LOMER GOUIN, premier of the Province of Quebec, who spoke in French, likewise made an announcement of some moment from the sanitary standpoint. He said that the government of Quebec was anxious to give all possible aid to the work of the association. It had already prepared plans for the division of the Province into ten districts, which were to be under the supervision of as many expert hygienists. These were to be chosen by competitive examination from the great English and French universities, and he felt that their work would prove of great benefit to the Province.

Short addresses were given by DOCTOR GUERIN, mayor of Montreal, and by DOCTOR MONTIZAMBERT, director general of Public Health of Ottawa. The latter, as the oldest sanitarian in Canada, having been appointed to an official public health position by Sir John Macdonald in 1866, gave a history of sanitation in Canada, while moving a vote of thanks to the Duke and Duchess of Connaught.

The official opening ceremony or function was successful from all points of view, practically, scientifically, and socially. Doubtless as a social function it attracted a large number of people. After the speechmaking and business connected with the opening were ended, a reception was held by the Duke and Duchess of Connaught, and then the invited guests adjourned to the dining hall of the Royal Victoria College for supper. The entire arrangements in relation to the opening meeting were completely successful, a fact greatly owing to the energy of the president, Doctor Starkey, and of the general secretary, MAJOR LORNE DRUM, M. D., D.P.H., Permanent Medical Army Corps, Ottawa.

The meetings of the General Session and of the sections were held in the Medical Building of McGill University, than which no more suitable place could have been found. The building was put at the disposal of the association by the faculty of McGill University, which earnestly cooperated with the officers of the association and who may justly claim to have had a share in the success of the meeting.

The programme was lengthy, more than fifty papers having been contributed by medical health officers and by those interested in public health work in all parts of the Dominion. The attendance was satisfactory, there being about 130 members present.

The first General Session was held on the afternoon of December 18. Some excellent papers were presented.

COLONEL G. C. JONES, M. D., M..R. C. S., director general, Medical Services Department of Militia and Defence, Ottawa, read a paper on The Military Aspects of Sanitation. Col. Jones drew attention to the fact that while Canada was not generally looked upon as a military country, yet it must be borne in mind that a form of conscription was in force and that therefore it was well that the problems concerned with military sanitation should be studied and discussed.

Dr. J. D. PAGE, of Quebec, read a very important paper dealing with medical inspection and care of immigrants on shipboard. Doctor Page, who is a medical inspector of immigrants at the port of Quebec, discussed the need of a stricter and more efficient examination by ship surgeons of immigrants to Canada. Two or three thousand persons were examined every day at Quebec during the immigration season, and the entire responsibility of admitting immigrants into the country was entailed on the medical inspectors of the port of Quebec. Medical examination on shipboard more often than not was to all intents and purposes perfunctory. Regulations imposed on ship surgeons the duty of careful examination of immigrants, but medical ship officers shirked these duties. No one had better opportunities to judge as to whether a person was mentally and physically fitted to become a desirable and useful member of the Canadian community than was the ship surgeon, and it would therefore be to the best interests of all concerned if he acted up to his obligations. The main reason why ship surgeons did not fulfill their duties was because they were generally young men who took the position merely for a change and a cheap trip, and did not regard these duties seriously. The true fault, however, rested in the fact that they were underpaid, and thus the steamship companies were really to blame. No inducement was offered to able medical men to become ship surgeons, and the result was that only comparatively untrained men were available. The speaker mentioned that he had on several occasions spoken to shipowners on the subject, and that they had invariably replied that so long as they were able to obtain an almost unlimited supply of ship surgeons at a small salary, they saw no reason to introduce expensive reforms. In the opinion of the speaker, it was desirable that pressure should be brought to bear on the steamship companies to prevail upon them to so raise their scale of payment to their medical officers that they might attract to the service trained, skilled men, rather than as at present young men who regarded their employment but as temporary. It was suggested that $1,000 a year would be a fair initial salary for a ship surgeon.

Dr. P. H. BRYCE, chief medical officer, Department of Interior, Ottawa, read a good paper on conservation of food by cold.

Child Exhibitions.—In the Section in Social Workers the convener of which was Dr. GRACE RITCHIE ENGLAND, of Montreal, among the papers read was one by Dr. GEORGE ADAMI, professor of pathology, McGill University, who discussed at length the value of child exhibitions such as that for which Montreal was now preparing for the fall of next year, and showed how in cities in which these had been organized there were immediate and striking results. He said that the daily press, to a greater and greater extent, was becoming one of the most effective agents in making people to know the defects in conditions relating to public health. Exhibitions were the next stage in helping to popularize this most important knowledge. The matter of health lent itself remarkably to exhibition purposes. In Dresden, Germany, at the International Child Welfare Exhibition, thousands upon thousands of people visited it and showed the greatest interest in the exhibits. How disease affected the body, how the body acted in health, were well displayed by models. Both ear and eye were appealed to in this effort to instruct the public. A model showing a procession of babies passing across a little stage, every fourth one of which was struck down, was a remarkable persuader of everyone who saw it as to the terrible facts of infantile mortality. The child was father to the man, and any exhibition must appeal to the receptive mind of children, as often it was difficult to touch the formed minds of older people. So it was on children these exhibitions exerted the greatest effect. The Tuberculosis Congress was referred to by the speaker and the splendid results which had come from it some years ago. It was the starting point of interest in matters relating to tuberculosis in Montreal and Quebec. Sixty thousand persons saw it in Montreal, and various cities in the Provinces were seeing it as well. In the matter of infantile mortality the value of diagrams was emphasized. A diagram was shown of Paris with its infantile mortality rate of 116 per 1,000 and of Montreal with a rate of 375 per 1,000, the highest of all cities of the civilized world in this respect.

Women as Sanitary Inspectors.—Miss ETHEL HURLBUTT, principal of the Royal Victoria College, Montreal, in the course of a paper on this subject, said that Canada was beginning to realize that the health and well being of the individual involved that of the community, and that the latter was coming to see its duty in enforcing proper precautions for the care of individual lives. The suggestion was made that there was need for women sanitary inspectors in factories in which women were employed as well as in many homes.

Infant Mortality.—Dr. A. D. BLACKADER, professor of pharmacology and therapeutics, McGill University, dealt with the more important causes of the high infantile mortality in cities and the influence exerted by milk depots. In England fourteen out of every 100 born died during the first year. It was higher in many European cities. In the Province of Quebec the number was eighteen and in Ontario fifteen. In New York it had been brought down from twenty-six to eighteen because of greater attention to sanitation and the milk supply. In Montreal the death rate from all other causes looked small when compared with the tremendous mortality of infants. The argument that only those who were not very strong died, and that the world might be better off in the end did not hold good. Some of the most brilliant men of the ages had been very delicate men. Sir Isaac Newton, for example, was only brought safely through the period of infancy by great care and attention.

Municipal Milk and Food Supplies.—In the Section of Medical Officers of Health, the convener of which was Dr. LOUIS LABERGE, medical officer of health, Montreal, a paper was read by Dr. W. T. SHIRREFF, medical officer of health, Ottawa, on Municipal Milk Supplies, in which it was pointed out that the producer, the distributor, and the consumer were all equally concerned in providing pure milk. He advised that all cows should be tuberculin tested and that the federal authorities should

compensate any dairyman whose cows had been destroyed in the public interest.

Mr. F. B. Tustin, Chief Food Inspector, Winnipeg, Man., discussed municipal food inspection. In the course of his remarks he deprecated the quick lunch habit and contrasted the ancient Greek and Roman fastidiousness concerning food with the scanty attention paid in modern times to what was eaten and to the condition in which it was served. He was of the opinion that meat inspection should be both before and after slaughtering, and the ideal system of meat inspection could not be attained until private slaughter houses had been abolished.

Sanitary Town and House Planning.—In the Section in Sanitary Engineers and Architects, Mr. J. Rawson Gardner, president of the Architects' Association, Montreal, read a paper on town planning from a sanitary standpoint, in which he said that the invasion of the land by such a multitude of foreigners tended to create congestion and slums, a tendency that was augmented by the cold winters experienced in Canada. But light and air were unalienable assets to each individual. He suggested that houses should be built around four sides of a block, with an inner courtyard for a playground and for flowers. This was much superior to the back yard generally used as a home for tin cans and rats. He thought there should be a beautiful driveway extending along the bank of the St. Lawrence river from the rapids to the Victoria Bridge, connecting with the proposed boulevard along the aqueduct and this in turn linked with the Mount Royal Park Boulevard. There was no necessity for any shacks down on the edges of the city, and he looked forward to the establishment of garden cities about Montreal similar to those in England and Germany.

Mr. T. W. Ludlow, professor of architecture, McGill University, spoke on natural ventilation applied to private houses, and said that when he came to Montreal a year ago he had been deeply impressed by the long rows of almost air tight houses. It was no unusual thing to find the house sealed against all possible ventilation by double windows screwed tightly to the frame and inner sash. The so called ventilating devices were worse than useless, especially when they were carefully pasted over with strips of paper. Since the advent of the radiator heating system, ventilation had become a negligible quantity in dwellings, owing to the absence of the old fashioned open fireplace, with a chimney for each room.

Dr. Charles A. Hodgette, medical adviser, Commission on Conservation, Ottawa, read a paper on town planning and housing, and said in part, that through the tremendous growth of villages, towns, and cities in Canada, the result had been from the town planning and housing standpoints the production of monstrosities. Toronto, Ottawa, and Montreal would each be far finer cities if some adequate town plan had been adopted in confederation days. Winnipeg, which forty years ago had a population of 250, had built more wisely, but even it had made mistakes. It had been the fact in Canada that the descendants of various nationalities reproduced the errors of Europe in their particular districts. He spoke of the "damnable method" of warehousing humanity in apartment houses of all grades, and said that some day posterity would curse the day when they were permitted. He traced the causes leading to the formation of large communities outside of a city, and which later, when taken into the city, made a misfit in town extension. Many estates were divided in this way into building lots, with a view to producing the greatest financial returns, irrespective of the health, the economic, the social, or commercial interests of the people. The city was helpless and could not do anything to prevent buildings covering these properties, or to insist that provision should be made for open spaces, school sites, main roads, or other public needs. If the municipalities had had an oversight in the first place of the planning of such property, all of these things could have been arranged without the great expenditure that was necessarily entailed when so much work had to be done anew. He believed that the esthetic, the social, and the economic sides of this movement were not the most important, but the building up of a healthy race of town dwellers, and the giving to the city child as much of the advantage of fresh air and sunlight as possible to enable him to take his place as a sound unit in the nation's work. Physically sound men and women of good stature and high intelligence, a race that would not be lopped off in infancy, was what they should aim at. He advocated adequate statutory provision being made along these lines, the administration to be under the department of health, the latter to be enlarged by the addition of officers competent to deal with the various phases of the subject.

Dr. Charles J. C. O. Hastings, medical officer of health, Toronto, described the unsanitary conditions existing in the slum districts of New York, Milwaukee, and Toronto. Toronto had its slums, like other cities, and it was of no use for people to try to disguise the fact. They must, like the inhabitants of other cities, wake up to the prevailing conditions and not live in a "fool's paradise." In Toronto there were big families living under distinctly unsanitary conditions, some only in one room tenements or in cellars. Slums were veritable hotbeds of vice and crime as they were of disease, and cities must see to it that they were eradicated. Tenement houses were nothing more or less than mere packing houses, human packing houses, and he urged the securing of transportation facilities to districts on the outside of cities, where people could be properly housed in individual homes and in beautiful garden cities.

Mr. W. D. Lightall, K. C., referred in scathing terms of censure to Montreal housing accommodation. He said that a physician recently found sixteen Galicians sleeping in two small single rooms, the only window being hermetically sealed and one man with amygdalitis expectorating freely everywhere. He was of the opinion that where an owner of such places refused to sell to the municipality at a reasonable price, he should be compelled to ameliorate conditions himself.

Biological Sewage Disposal.—Dr. P. H. Bryce, chief medical officer, Department of the Interior, Ottawa, opened the discussion, taking as his text

physical and economic aspects of biological disposal plants. He reviewed the history of the development of methods and knowledge on this matter and he dealt with the preliminary removal of suspended solid matters, the fine solid matter in pseudosolution, or solution and the remaining twenty-five per cent. of organic matter, together with the various means, mechanical, chemical, and otherwise, of accomplishing the destruction of all living organic matter.

Mr. Willis Chapman, C. E., of Toronto, spoke of the progress in Canada of biological methods of sewage disposal during the past twenty years. Berlin was the first city to adopt municipal sewage purification works, after several government institutions of Canada had made experiments with various methods. Many other places adopted methods of different kinds, but the first septic tank was tried in 1901, although the septic tank boom was beginning to subside. He prophesied that at the end of the decade now dawning every municipality in Canada would have sewage purification works.

Mr. I. Aird Murray, C. E., of Toronto, dealt with engineering problems involved in methods of sewage disposal, and described the works designed by him for this purpose at Lethbridge, with the view of securing the maximum removal of suspended solids. He said that in his opinion the methods for treating sewage were not sufficiently effective to permit of the effluent being turned into a water source used as a domestic supply. The pathogenic danger yet remained, and the germs of disease particularly associated with sewage could be eliminated only by disinfection or a further effort in the shape of sand filtration.

Dr. C. G. Nasmyth, of Toronto, referring to chemical principles of sewage disposal, said the oxidation processes practically involved the chemical process, that organic matter acted on by oxygen became inorganic matter, and humus. Bacteria in presence of air were essential for purification of sewage. Doctor Nasmyth illustrated the truth of this by relating the results of a long series of experiments. He thought that the trickling filter system from the point of view of economy and success had come to stay. He gave an example of the methods of Nature in disposing of sewage by describing how at Berlin some sewage was turned into a pond which became foul. Further down this pond a creek entered, which passing through a mill wheel was churned up, and many of the gases escaped, tainting the flour in the mill; still lower down the creek fell over a rocky bed, which was coated with vegetation in which microscopical examination showed the paramœcium, the vorticella, and such organisms to be frequent. A mile lower, the water of the stream was found to be pure. Nature here showed the lines along which artificial purification systems should work.

Dr. J. A. Amyot, professor of hygiene at Toronto University, treated of the bacterial problems involved in biological methods of sewage disposal. Only by bacteria was it possible to dispose of sewage properly. Two methods were ordinarily employed for this purpose, the anaerobic and the oxidation. The first method compelled the holding of sewage for about twenty days, although probably fifty per cent. of the bacterial action occurred during the first twenty-four hours. The oxidation method was more satisfactory by far, but even with it, it was utterly impossible to secure any system in the results. The sludge tanks would reveal many different kinds of bacteria, even if they were treated alike. In them the oxidized matter was retained and treated for a day or two, little could be accomplished in a few minutes. The engineer must decide the exact way in which the system should be worked. Slow sand filtration was not enough to depend upon. Disinfection must be also employed, there was no other way to handle the matter.

Election of Officers.—The officers for 1911 were: President, Dr. I. A. Starkey; general secretary, Major Lorne Drum, of Ottawa; treasurer, Dr. G. D. Porter, of Toronto, and an executive council drawn from the most prominent health officers of the Dominion.

At the meeting of the executive council, on Friday afternoon, December 15th, the following officers were elected: President, Dr. C. A. Hodgette, of Ottawa; vice-presidents, Dr. M. M. Seymour, of Regina, Dr. J. W. S. McCullough, of Toronto, Dr. E. D. Fisher, of Fredericton; general secretary, Dr. Major Lorne Drum, of Ottawa; treasurer, Dr. G. D. Porter of Toronto. Toronto was chosen as the place of meeting for 1912.

Letters to the Editor.

THE INCOMPLETENESS OF UNAIDED ABORTION.

New York, *January 3, 1912*

To the Editor:

In a recent number of The New York Medical Journal appeared an editorial abstract of my article on The Radical Treatment of Abortion, which was published in the *Bulletin of the Lying-in Hospital* about a year ago. As the concluding paragraph in this abstract is likely to cause some misunderstanding, I should appreciate the publication of what follows.

Exception seems to be taken by the reviewer to the statement that curettage should be employed in every case of abortion prior to the fifth month, and it is also asserted that the writer had seen cases in which the uterus was so thoroughly evacuated that curettage would have been superfluous. Without desiring to modify my claims for the method of treatment proposed, I desire to add that the cases referred to in this editorial article as being examples of complete abortion are, at least as regards my own experience, comparatively rare, and unless the attending physician can be assured by an actual inspection of the fetus and secundines that the uterus has been thoroughly emptied, he should not trust the statement of the patient alone as to the possibility of this having occurred. I desire to refer to my personal experience again in stating that I have seen very few instances in which the products of conception were expelled completely, and even where they were asserted to be so by the patient or her attendants, I have usually found a considerable

mass of material in the uterus which was subsequently delivered by the curette.

The operation should be regarded primarily as a diagnostic procedure, and if carefully conducted in the manner described in my article, there need be no fear of any disagreeable complications or sequelæ. I need only refer to the good results obtained for years by many and divers operators in the service of the lying-in hospital in treating abortion in the manner indicated, and this seems to be borne out by the experience of others who have thoroughly investigated the subject. Our cases, almost without exception, are instances of incomplete abortion. In private practice, among women in whom the uterine musculature and general health are in better condition, it is probable that more cases of complete abortion occur, but unless we actually see the products of the condition itself it is not wise to rely on a mere statement of the fact. It seems to me that the assertion might be safely made that if all cases of abortion were more thoroughly treated, fewer instances of future pelvic trouble would result, for the retention of any part of the embryo interferes with the proper involution of the uterus and may serve as a cause for the production of various pelvic inflammatory conditions.

George W. Kosmak, M. D.

A PROTEST.

New York, *January 1, 1912.*

To the Editor:

Permit me to protest against the health commissioner's action in dismissing thirty-four medical inspectors from his department. His excuse is lack of funds, yet he appointed at the same time 150 nurses at a salary of $900 a year. If he could get $135,000 to pay 150 nurses, could he not get $40,800 for thirty-four medical inspectors? Why does he need so many superintendents and assistant superintendents, medical directors, and chiefs? Is he making a nursery establishment out of the health department? Why does he need so many nurses and with such high salaries? Imagine any washerwoman, who, for $4 a week was cleaning an office building, suddenly taking a trashy examination and being appointed to a position which pays her $18.75 a week, only $6.25 less than a medical inspector gets! Isn't that outrageous? Yet you will find that chiefs of clinics in tuberculosis get $600 a year and assistants of clinics $300 a year, and a nurse gets $900 a year.

Where are you men of the medical profession? Are you all asleep? Wake up from your slumbers, rise while you are yet able, and protest against such outrages and against such starvation salaries and against dismissals for lack of funds. There are now about 240 physicians connected with the health department; about half or more of that number are doing inside work, and the rest of them are chased through the five boroughs.

There are 10,000 men in the police department to patrol the streets, and the health department has about 240 physicians to take care of five boroughs and yet, on and off, men are dismissed for lack of funds. Millions of dollars are spent by the health department, but there is no money for doctors.

Some time ago The New York Medical Journal stated that there are too many physicians in the city, and that many cannot pay their rent. That is true, but what is the medical profession doing about it? Nothing. Why don't they see to it, that this State is in medical reciprocity with other States, so that physicians could go to other States without taking examinations. From thirty to forty per cent. would leave this State, and there would be no fear that too many physicians would come to this State because the high rent and other expenses would drive them back to their States, if they did come.

Henry Reiter, M. D.

HYDRIATIC DEPARTMENTS.

New York, *January 8, 1912.*

To the Editor:

Recently, I visited one of the new hospitals in New York City, and found there, to my surprise, a wonderful outfit for hydriatic treatment. There was nothing to wish for as far as workmanship was concerned, and it had but one fault; it was so arranged as to be rendered almost useless for its purpose. The apparatus were so poorly located that it was only with difficulty more than one patient could be treated at the same time.

I wish to warn my colleagues and superintendents of hospitals who intend to purchase such an outfit not to leave the arrangement of the apparatus to people who may be competent in building these things but do not know the least thing about their object.

It seems to me in organizing such a place it would be reasonable to ask the advice of a competent physician who is familiar not only with the pure technical part, but also with the practical use of such apparatus. To accept this suggestion would not only save them a great deal of money, but would enable them to use the outfit to better advantage and benefit a larger number of patients without increased expense.

The discredit in which hydrotherapy is still held in the profession in this country is to some degree due to the disregard of the technical points.

Heinrich F. Wolf, M. D.

Book Reviews.

[*We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.*]

Rest, Mental Therapeutics, Suggestion. By Francis X. Dercum, M. D., Ph. D., Professor of Nervous and Mental Diseases in the Jefferson Medical College of Philadelphia; Neurologist to the Philadelphia Hospital; Consulting Physician to the Asylum for the Chronic Insane at Wernersville; Consulting Neurologist to the St. Agnes Hospital; Consulting Neurologist to the Jewish Hospital, etc., etc. Edited by Solomon Solis-Cohen, M. D., Professor of Clinical Medicine in Jefferson Medical College, Philadelphia. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. viii-332.

We believe that the publishers of the system of physiological therapeutics have done well to reissue the volume of the series separately, as it must be of interest to a large number of readers who may be less interested in the other

volumes. The larger part of the volume is devoted to that method of treatment in which rest constitutes the central factor, and that is applicable chiefly for the care of patients suffering with disorders of the nervous system. The section on mental diseases places stress on the importance of simple physiological methods in the treatment of all phases. The section on suggestion briefly reviews the historical accounts of the superstitious and delusionary practices of suggestion and of hypnotism, and sets forth the true value of each of those methods.

Untersuchungen über die Struktur der Blutzellen. Von Priv.-Doz. Dr. ALFRED V. DECASTELLO, Assistent, und Dr. ALEXANDER KRJUKOFF (Moskau), derzeit Hospitant der medizinischen Klinik in Innsbruck. Mit 8 chromolithographischen Tafeln. Ausgeführt mit Subvention aus dem Legate Wedl der kaiserlichen Akademie der Wissenschaften in Wien. Der Akademie vorgelegt in der Sitzung am 18 Oktober, 1910. Berlin & Wien: Urban & Schwarzenberg, 1911. (Through Rebman Company, New York.) Pp. v-119. (Price, $4.)

This study was carried out with the aid of a grant from the Imperial Academy of Sciences in Vienna, and was presented to the Academy in October, 1910. The work appears to have been very carefully done, and the results are shown in the eight colored plates at the end of the volume. Some of the conclusions are of the greatest interest. The conception that the blood cell, and especially the cell nucleus, is surrounded by a limiting membrane, the authors believe to be erroneous. Nucleus and protoplasm cannot be distinguished as two entirely distinct cell constituents, for nuclear threads pass into the cell body and become part of the latter. The blood platelets are derived from the cytoplasm of the leucocytes, and their structure differs according to the variety of cell from which they originated. If these conclusions are confirmed they are undoubtedly applicable not alone to blood cells, but are of general biological significance. The importance of the subject demands that this work be repeated by others, in order either to confirm or disprove the conclusions here presented.

A Textbook of Experimental Psychology, with Laboratory Exercises. By CHARLES S. MYERS, M. A., M. D., Sc. D., of Gonville and Caius College, University Lecturer in Experimental Psychology, Cambridge Second Edition. Part I. Textbook. With One Plate and Twenty-four Figures and Diagrams. Pp. 344; Part II. Laboratory Exercises. With Forty-two Figures and Diagrams. Pp. 107. New York: Longmans, Green, & Co., 1911.

In preparing this new edition of this textbook the author had his publishers bind the text and the laboratory exercises separately, thus facilitating reference from one to another and aiding the laboratory use of the volume, and he has given it a thorough revision that has modified or added to the text in several chapters.

There is a new chapter on thought and volition, in which he states that in addition to the objects thought of, in addition to feelings, there is a specific act of thinking which is totally devoid of sensory content. He calls our attention to the fact that imageless thought is very common, and that the absence of imagery need make no difference in the definiteness of the thought; that experiences may occur during thinking which are not merely independent of imagery but which cannot be reduced to verbal terms. So thinking does not consist in a sequence of imageless thoughts. Over and above the theme of thought, the person thinking possesses an awareness, a knowledge, of whether and how he can solve the theme. The experiments upon volition which are described suggest methods that when fully worked out and applied to normal and abnormal persons, bid fair to lead to a fuller knowledge of the psychology of volition. Myers warns us that the study of the will under experimental conditions does not embrace all the aspects of volitional activity. Those conditions allow of the comparison of practised with unpractised volition, but they differ from the conditions that are of chief concern in the ethical problems of daily life. For in the latter, while the carrying out of the will may be easy, the great difficulty consists in motivation, in making up one's mind

The volumes sustain the high reputation they have acquired, and there is no more practical or safe guide for the student of this most important subject.

A Manual of Fevers. By CLAUDE BUCHANAN KER, M. D. (Ed.), F. R. C. P. (Ed.), Medical Superintendent, City Hospital, Edinburgh, and Lecturer on Infectious Diseases to the University of Edinburgh; Author of "Infectious Diseases: A Practical Textbook." London: Henry Frowde (Oxford University Press), and Hodder & Stoughton, 1911. Pp. 314. (Price $2.50.)

This manual is designed for British students who are about to take the prescribed course of clinical study in an isolation hospital and gives an excellent summary of our knowledge of diagnosis and treatment of the infections. The book should prove equally useful to American students and to practitioners wherever situated. The work is illustrated by typical temperature charts and with excellent photographs from life, which give as good an idea of the various eruptions as is possible through the medium of black and white. There is a complete index.

NEW PUBLICATIONS.

Binnie, John Fairbairn.—Manual of Operative Surgery. Fifth Edition, Revised and Enlarged. With 1365 Illustrations, a Number of Which Are Printed in Colors. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. x-1153. (Price, $7.)

Thorington, James.—Retinoscopy (or Shadow Test) in the Determination of Refraction at One Metre Distance, with the Plane Mirror. Sixth Edition, Revised and Enlarged. With Sixty-one Illustrations, Ten of Which Are in Colors. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xvi-71. (Price, $1.)

McElrath, Percy John.—The Key to Sex Control or the Cellular Determination of Sex and the Physiological Laws Which Govern Its Control. New York: Published by the Author, 1911. Pp. 232.

Hutchinson, Woods.—A Handbook of Health. Boston and New York: Houghton Mifflin Company, 1911. Pp. xvii-330. (Price, $1.25.)

Reese, John J.—Textbook of Medical Jurisprudence and Toxicology. Eighth Edition. Revised by D. J. McCarthy, A. B., M. D., Professor of Medical Jurisprudence (George B. Wood Foundation) in the University of Pennsylvania, etc. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. ix-660. (Price, $3.)

Davis, Edward P.—Operative Obstetrics. Including Surgery of the Newborn. With Two Hundred and Sixty-four Illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 483. (Price, $5.50.)

Cabot, Richard C.—Case Histories in Medicine Illustrating the Diagnosis, Prognosis, and Treatment of Disease. Second Edition, Revised and Enlarged. Boston: W. M. Leonard, 1911. Pp. 295.

Fischer, Martin.—Nephritis. An Experimental and Critical Study of Its Nature, Cause, and the Principles of Its Relief. The 1911 Cartwright Prize Essay of the Association of the Alumni of the College of Physicians and Surgeons, Medical Department of Columbia University, New York. First Edition, First Thousand. New York: John Wiley & Sons: London: Chapman & Hall, Limited, 1911. Pp. ix-203. (Price, $2 50.)

Lorand, A.—Die rationelle Ernährungsweise. Praktische Winke über das Essen und den Nutzen oder Schaden der verschiedenen Nahrungsmittel. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. xv-288.

Von Gruber, Max, und Rüdin, Ernst.—Fortpflanzung, Vererbung, und Rassenhygiene. Illustrierter Führer durch die Gruppe Rassenhygiene der Internationalen Hygiene-Anstellung 1911 in Dresden. Erklärender Text mit 230 Abbildungen von M. von Gruber nebst einem bibliographischen Anhang von Dr. Rudolf Allers. Zweite, ergänzte und verbesserte Auflage. München: J. F. Lehmann, 1911. Pp. 191.

Eijkman, P. H.—L'Internationalisme scientifique (sciences pures et lettres). Avec un avant-propos du professeur Paul S. Reinsch, Roosevelt Exchange Professor, Madison, Wis., -Berlin. Publication du Bureau préliminaire de la fondation pour l'internationalisme. La Haye: W. P. Van Stockum et fils, 1911. Pp. 108.

Meyer, Hans H., und Gottlieb, R.—Die experimentelle Pharmakologie als Grundlage der Arzneibehandlung. Ein Lehrbuch für Studierende und Aerzte. Mit 64 z. t. farbigen Textabbildungen und 1 farbigen Tafel. Berlin und

Wien: Urban & Schwarzenberg, 1911. (Through Rebman Company, New York.) Pp. xx-554. (Price, $3.50.)

Davenport, Charles Benedict.—Heredity in Relation to Eugenics. New York: Henry Holt & Co., 1911. Pp. xi-298. (Price, $2.)

Von Hansemann, D.—Ueber das konditionale Denken in der Medizin und seine Bedeutung für die Praxis. Berlin: August Hirschwald, 1912. Pp. vi-184.

Bashford, E. F.—Fourth Scientific Report on the Investigations of the Imperial Cancer Research Fund. Under the Direction of the Royal College of Physicians of London and the Royal College of Surgeons of England. Published by the Authority of the Executive Committee. London: Taylor & Francis, 1911. Pp. 223. (Price, 7s, 6d.)

Van Es, L., Harris, E. D., and Schalk, A. F.—Swamp Fever in Horses. Government Agricultural Experiment Station of North Dakota Bulletin No. 94. Pp. 353.

Thecor.—An Essay on the Amelioration of Mankind. London: George S. Smith, Dalby-Welch, Ltd., 1911. Pp. 15.

Official News.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the fourteen days ending January 3, 1912:

Cobb, J. O., Surgeon. Detailed to represent the Service at the annual conference of the Council on Medical Education to be held at Chicago, Ill., February 26-27, 1912; detailed to represent the Service at the annual conference of the Council of Health and Public Instruction of the American Medical Association, to be held at Chicago, Ill., February 26-27, 1912. **Francis,** Edward, Passed Assistant Surgeon. Directed to proceed to Cleveland, Ohio, Detroit, Mich., and Kansas City, Mo., for the inspection of laboratories under the act of July 1, 1902.

Boards Convened.

Boards of medical officers were convened for the physical examination of officers of the Revenue Cutter Service as follows:

Port Townsend, Wash., December 22, 1911. Surgeon P. M. Carrington, chairman; Passed Assistant Surgeon B. H. Earle, recorder.

New London, Conn., December 27, 1911. Passed Assistant Surgeon G. L. Collins, chairman; Acting Assistant Surgeon J. G. Stanton, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending January 6, 1912:

Allen, William H., Lieutenant, Medical Corps. December 27th, granted thirty days' leave of absence. **Brooks,** William H., Major, Medical Corps. Ordered to report in person to the president of the Army Retiring Board at San Francisco, Cal., for examination by the board. **Chappell,** Sidney L., Lieutenant, Medical Reserve Corps. December 30th, ordered to active duty and assigned to station at Fort Totten, New York. **Collins,** C. C., Major, Medical Corps. December 29th, leave of absence extended one month. **Morse,** Arthur W., Major, Medical Corps. Upon arrival at San Francisco, Cal., on the *Sherman*, will accompany Seventh Infantry to Fort Leavenworth, Kansas, and then proceed to Fort Morgan, Ala., for duty. **Osborn,** Henry C., Lieutenant, Medical Reserve Corps. Resignation of commission as First Lieutenant accepted by the President. **Stuckey,** Harrison W., Lieutenant, Medical Reserve Corps. Ordered to the Philippine Islands for duty on March 5, 1912. **Whitney,** Walter, Lieutenant, Medical Reserve Corps. Ordered to Fort Morgan, Ala., for temporary duty. **Wilson,** James A., Lieutenant, Medical Corps. Upon arrival at San Francisco, Cal., on the *Sherman* will accompany Seventh Infantry to Fort Leavenworth, Kansas, and then proceed to Fort Slocum, N. Y., for duty.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending January 6, 1912:

Benton, F. L., Surgeon. Detached from the *Idaho* and ordered to the *Maine*. **Cole,** H. W., Passed Assistant Surgeon. Ordered to the naval recruiting station, Baltimore, Md. **Dorsey,** B. H., Passed Assistant Surgeon. Ordered to duty at the Naval Hospital, Boston, Mass. **Hoen,** W. S., Passed Assistant Surgeon. Detached from the naval station, Guantanamo, Cuba, and ordered to the *Idaho*. **Thompson,** E., Surgeon. Detached from the *Maine* and ordered to the naval station, Guantanamo, Cuba.

Births, Marriages, and Deaths.

Born.

Greenleaf.—At Washington, D. C., on Wednesday, January 3d, to Major Henry S. Greenleaf, Medical Corps, United States Army, and Mrs. Greenleaf, a daughter. **Love.**—At Washington, D. C., on Tuesday, December 26th, to Captain Albert G. Love, Medical Corps, United States Army, and Mrs. Love, a son. **Reynolds.**—At Washington Barracks, D. C., on Friday, December 29th, to Major Charles R. Reynolds, Medical Corps, United States Army, and Mrs. Reynolds, a son.

Married.

Crowley—Hennessy.—In Winona, Minnesota, on Thursday, December 28th, Dr. R. F. Crowley, of St. James, and Miss Katherine Hennessy. **Dalton—McEnnelly.**—In Hopkinton, Massachusetts, on Tuesday, January 2d, Dr. John E. Dalton, of Warren, and Miss Katherine M. McEnnelly. **Wilcox—Baker.**—In Princeville, Illinois, on Monday, December 25th, Dr. Collin H. Wilcox and Mrs. Elizabeth Baker. **Wildish—Sylvester.**—In Surprise, Nebraska, on Wednesday, December 27th, Dr. Reginald M. Wildish, of Blunt, S. D., and Miss Nell Emilo Sylvester.

Died.

Allen.—In Ogden, Utah, on Wednesday, December 27th, Dr. James X. Allen, aged eighty-one years. **Baker.**—In Milwaukee, Wisconsin, on Saturday, December 30th, Dr. F. M. Baker, aged forty-four years. **Belknap.**—In Boston, Massachusetts, on Friday, December 29th, Dr. James Lyman Belknap, aged thirty-seven years. **Coolidge.**—In Boston, Massachusetts, on Thursday, January 4th, Dr. Algernon Coolidge, aged eighty-two years. **Davis.**—In Brooklyn, New York, on Sunday, December 31st, Dr. John Franklin Davis, aged sixty years. **Galt.**—In Bellevue, Texas, on Monday, December 25th, Dr. J. K. Galt, aged sixty-three years. **Hanchett.**—In Norwich, Connecticut, on Sunday, December 31st, Dr. Thatcher F. Hanchett, aged eighty-three years. **Harris.**—In Hellertown, Pennsylvania, on Monday, December 25th, Dr. Amos J. Harris, aged seventy-five years. **Kilmer.**—In Schoharie, New York, on Monday, December 25th, Dr. T. F. Kilmer, aged seventy-eight years. **Lawrence.**—In Brooklyn, New York, on Friday, January 5th, Dr. Gilbert B. Lawrence, aged eighty-seven years. **Nichols.**—In Stamford, Vermont, on Saturday, December 30th, Dr. I. H. Nichols, aged sixty-eight years. **Pugh.**—In Colfax, Iowa, on Saturday, December 30th, Dr. Marion Howe Pugh. **Pugh.**—In Baltimore, Maryland, on Thursday, December 28th, Dr. Thomas C. Pugh, aged seventy-four years. **Rogers.**—In Trenton, New Jersey, on Tuesday, January 2d, Dr. Richard R. Rogers, Jr. **Shepherd.**—In Taylorsville, Kentucky, on Saturday, December 30th, Dr. W. E. Shepherd, aged sixty years. **Shurtleff.**—In Napa, California, on Friday, December 22d, Dr. Benjamin Shurtleff, aged ninety years. **Turner.**—In Wilkesbarre, Pennsylvania, on Saturday, December 30th, Dr. Chauncey C. Turner. **Weil.**—In New York, on Wednesday, January 3d, Dr. M. Louis Weil, aged fifty-three years. **Westman.**—In Toronto, Canada, on Friday, December 29th, Dr. Samuel H. Westman. **Wherritt.**—In Independence, Missouri, on Friday, December 29th, Dr. Henry P. Wherritt.

New York Medical Journal

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Original Communications.

DR. EDWARD G. JANEWAY;

(August 31, 1841,—February 10, 1911)

Late President of the National Association for the Study and Prevention of Tuberculosis; His Contributions and Activities in Behalf of the Antituberculosis Cause in the United States;

BY S. ADOLPHUS KNOPF, M. D.,

New York.

In view of the approaching anniversary of the late Professor Janeway's death, the following article on his antituberculosis activities, prepared to appear in the *Transactions* of the National Association for the Study and Prevention of Tuberculosis, for 1911, will doubtless prove of interest to many of his pupils, friends, and admirers all over the United States.

To give the widest possible circulation to this tribute, however inadequate, to a beloved teacher and friend and to honor the memory of one of our greatest physicians and one of the most brilliant diagnosticians of the age, I have asked the editors of THE NEW YORK MEDICAL JOURNAL to give to this sketch the courtesy of their columns.

Doctor Janeway's activity in the antituberculosis field was greater than the seeming scarcity of his publications on tuberculosis would indicate. Among his first publications on the subject there are some of a very remarkable character, as, for example, one on the contagiousness of tuberculosis, published as far back as 1882, prior to Koch's discovery of the tubercle bacillus as the factor of contagion; and a second article, entitled Danger of Errors in Diagnosis between Chronic Syphilitic Fever and Tuberculosis.

Professor Janeway was among the first American teachers who, after Koch's discovery, taught the value of the bacteriological examination of sputum as an important diagnostic means. The invaluable help he gave to the New York Health Department, particularly to Doctor Biggs in the latter's early struggles for municipal control of tuberculosis, is a matter of record, and it cannot be better illustrated than by quoting what Doctor Biggs said in a letter to me in reference to it:

> Doctor Janeway was always one of our strongest and most unswerving supporters. Doctor Janeway and Doctor Prudden and Dr. Frank Foster were almost the only men prominent in medicine twenty-five years ago in New York city who actively supported the measures proposed and later adopted by the Department of Health for the restriction and prevention of tuberculosis. The first assurance of this effect came, I think, in 1887, when Doctor Bryant sent a letter to a number of prominent physicians in New York asking for advice as to the adoption of the recommendations which had been made to the board by Doctor Prudden, Doctor Loomis, and myself. From that date onward his attitude never changed and it was to him that I went more frequently, in the early days of my connection with the Department of Health, for advice and assistance, than to any other man in New York. Doctor Janeway, Doctor Bryant, and Doctor Prudden were the three men who have never been found wanting in support of any measures to improve the public health in New York city.

Doctor Janeway was one of the examining physicians of the Adirondack Cottage Sanatorium from 1895 to the time of his death, and he had likewise been connected with the Loomis Sanatorium since 1900 as a member of the medical board. Doctor King wrote as follows in connection with his work there: "Doctor Janeway was a strong friend of the institution, following closely its work and methods, and was always one of my most valued advisers, both personally and in my capacity as the physician-in-chief at Loomis. I am glad that his contribution to the antituberculosis movement is going to be suitably recognized."

Doctor Janeway was one of the consulting staff of the Seabreeze Sanatorium for tuberculous joint diseases from the very foundation of the institution, and he likewise was a member of the advisory board of the Stony Wold Sanatorium for tuberculous working girls and children.

In 1901, Doctor Janeway was one of the official delegates and honorary vice-presidents of the British Congress on Tuberculosis. In an interesting paper, read before the Academy of Medicine on December 19th of that year, he gave a very complete review of the work of that congress, and made some valuable suggestions concerning prophylactic measures. At the International Tuberculosis Congress in Washington, in 1908, he was a vice president of the clinical section.

In 1902, Doctor Janeway was one of the first to sign a call for the formation of a local tuberculosis committee, which developed into the permanent Tuberculosis Committee of the Charity Organization Society, on which he served as one of the most faithful and active members during the remainder of his life. He was likewise one of the first to join the National Association for the Study and Prevention of Tuberculosis, of which he became a director and member of the Executive Committee in 1906 and president in 1909. He was also a member of the Committee on the Prevention of Tuberculosis of the State Charities Aid Association from the time of its formation in 1907.

Doctor Janeway's interest in the consumptive

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poor and the downtrodden has been manifested on more than one occasion. When, in the early part of 1902, the Treasury Department of the United States, upon the recommendation of the surgeon general of the Marine Hospital Service, decided to classify pulmonary tuberculosis with dangerous contagious diseases, the following resolutions were submitted to the Academy of Medicine:

Whereas, The Treasury Department of the United States, upon recommendation of the surgeon general of the Marine Hospital Service, has recently decided to classify pulmonary tuberculosis with dangerous contagious diseases, Be it

Resolved, That the New York Academy of Medicine deeply deplores this decision, which is not based on either clinical experience or on scientific experiments. Be it further

Resolved, That the Academy considers the exclusion of nonpauper tuberculous immigrants or consumptive aliens visiting our shores unwise, inhumane, and contrary to the dictates of justice. Be it further

Resolved, That while the Academy is convinced of the communicability of tuberculosis and urges all possible precautions against the spread of the disease occasioned by sputum and tuberculous food, the Academy is opposed to all measures by which needless hardship is imposed upon the consumptive individual, his family, and his physician.

It was due to Doctor Janeway, who seconded these resolutions in his usual quiet, dignified, but forcible and convincing way, that they were adopted unanimously at the Academy's regular meeting, February 6, 1902, with the recommendation to send a copy to the Treasury Department, the surgeon general of the Marine Hospital Service, and the secretary of the New York State Medical Society.

Doctor Janeway was opposed to the unfortunate Goodsell-Bedell law, which made the establishment of sanatoria in the State of New York virtually impossible for a number of years, and, as a member of the various tuberculosis committees, helped in its ultimate repeal.

Doctor Janeway's indignation was aroused when, in August, 1903, a certain article appeared in The New York Medical Journal, which was entitled Psychical Relations of Tuberculosis in Fact and Fiction, in which the following statements were made, quoting another author who had found a number of patients disregarding his orders concerning the care of their expectoration, and having observed one who had expressed the wish that his young wife should not survive him, the writer of this sensational contribution said the following:

To me this account shows the germination of a homicidal tendency, which is the resultant or the psychical defects that I have outlined in my analysis of the average consumptive's mental peculiarities. Here, psychasthenia, the loss of self control, and the rise of brutal selfishness have combined to distort the clearness of ethical perception. . . . The fundamental factors in the psychical makeup of the typical consumptive are the loss of self control, the rise of brute selfishness, the increase of susceptibility to suggestion, to emotion, and to nervous irritation, and the tendency to rapid nervous and physical fatigue.

In view of the large experience Doctor Janeway had had with tuberculous patients, he was asked to express his opinion on the subject for publication. Here is what he wrote:

I have not noticed any such tendency as you inquire about on the part of consumptives as regards immorality or crime as compared with well people or with those ill with other diseases placed under similar circumstances. It is to be remembered that criminals and the insane are prone to be victims of tuberculosis, and hence some one who studied this class of people would be liable to form very unjust views about the consumptive class as a whole. Nor is it my experience that the average consumptive is inclined to brute selfishness, loss of self control, and hence distortion of the clearness of ethical perception. I have found so much to the contrary that I am surprised at so broad a charge against the consumptive invalid.

At the meeting of the National Association for the Study and Prevention of Tuberculosis in Washington in 1910, over which Doctor Janeway presided, I thought that because of some new peculiar official manifestation of phthisiophilia and phthisiophobia in certain sections of our country, it would be very apropos to write a few words in defense of the consumptive. In preparing this paper, entitled State Phthisiophilia and State Phthisiophobia, it was to Doctor Janeway that I went for advice and help. In the State of Nebraska a law had been passed regarding the establishment and management of sanatoria and hospitals for consumptives and care of the indigent tuberculous, which contained, among others, the following clause: "Provided, further, that it is made obligatory for any such hospital or sanatorium to use the modern treatment of immunization (vaccine therapy) in addition to open air and other sanitary methods." To learn the opinion of the masters of medical science in this country on the subject I sent out a letter of inquiry which read as follows: "Do you believe that the studies, experiments, and achievements in tuberculous immunization, tuberculous vaccine, or serum therapy, up to this date, entitle any Federal, State, or municipal legislature to make immunization or vaccine therapy obligatory in cases of patients who, because of their poverty, had been obliged to enter a Federal, State, or municipal institution for treatment and care?" In answer to this Doctor Janeway gave a most emphatic *No!*

His indignation and sound judgment were likewise manifested against the action of the State Board of Medical Examiners, of Oklahoma, which excludes tuberculous, but otherwise well qualified practitioners, from practising in that State, and forces them to sign a sworn statement that they have not in the last three years lived in the house with, or nursed any one suffering from said disease (tuberculosis). The following is what Doctor Janeway wrote on this subject: "I think that it is a very oppressive measure, and one not either humane or just. As regards the affidavit, I think that is an additional oppression, especially the part which requires the practitioner to say 'he has not lived in the house with a consumptive or nursed any one suffering from the disease.' These measures, it seems to me, are ill calculated to advance the best interests of the struggle against tuberculosis."

This was one of the last messages on tuberculosis he gave to the world, aside of his presidential address of 1910, in which he reviewed the medical and sanitary progress which had been made during the past decade. This far seeing physician, teacher, and lover of his kind again warned us not to slacken our efforts on behalf of the betterment of the social and living conditions of the poor, and he wisely said, in the conclusion of his address: "The contest will not be considered carried to the highest point unless at the same time measures are taken

to secure the avoidance of overcrowding by the obtaining of suitable dwelling places for the masses."

Doctor Janeway's tact, diagnostic skill, and wisdom in dealing with the consumptive individual, the many physicians who were, or thought themselves to be afflicted with tuberculosis, who went to him for an opinion, and the great number of general practitioners who sought his counsel, will never be forgotten by those who were fortunate enough to come in contact with him. Edward G. Janeway never claimed to be a tuberculosis specialist, but there is hardly any one who may aspire to this title who has done more for the antituberculosis cause in general and for the individual patient or pupil, as a teacher, physician, or friend.

16 West Ninety-fifth Street.

THE RELATION OF MEDICINE TO THE LAW.*

By John H. Gleason, M. D.,
Manchester, N. H.,
Surgeon, Beacon Hill Hospital.

The personal relation of physicians to the law and matters relative thereto are commonly commented upon, in speech and by paper, by our brothers of the legal profession. Such comments are well prepared and impartial, but nevertheless must be viewed by the practical physician as being purely from the point of view of the lawyer.

For some time I have felt that one might to good purpose present a physician's translation of the meaning of the law in its relation to the practice of medicine. Also that one might with benefit discuss and present the medical side of such an issue as expert evidence and other equally important questions. Hence any temerity in approaching in print a border line subject is explained.

The law is of interest to physicians for two reasons: First, because in their practice they personally come in contact with it; and, secondly, because the law frequently requires the assistance of medical and surgical science.

We will first consider the physician as a witness, then as an expert, then as to his duty in reference to death; also as to his responsibility, including responsibility for the betrayal of the professional secret, responsibility for neglect, imprudence, ignorance, or want of skill in the practice of his profession; also the physician's relation to the criminal law respecting operations or mistakes resulting fatally, and as to the concealment or nondisclosure of crime discovered in the course of his practice.

Every physician is compelled to appear before the civil courts as a witness when properly summoned, but he can be summoned only to declare what he knows as to facts, or to produce some document. He cannot be compelled to testify as to a matter of opinion. The public has no right to demand a man's services as an expert unless he consents thereto.

If a physician summoned to appear as a witness in a case, ascertains in open court that his opinion only is desired, he may refuse to give it unless his terms are complied with. Once put upon the stand as a skilled witness, his obligation to the public ceases, and he is in the position of any professional man, consulted in relation to a subject upon which his opinion is sought. The skill and professional experience of a man are so far his individual capital and property that he cannot be compelled to bestow them gratuitously upon any party. Neither has the public, any more than a private person, any right to extort services from him in the line of his profession without adequate compensation. Once, however, he has given his opinion in the witness box, he must not decline to repeat it, or explain it on cross examination. If a physician is a witness of fact, he can claim no privilege, but is compelled to answer all questions put to him relevant to the matter at issue.

If he is in doubt as to the relevancy of the question, or as to whether he should answer any question put to him, he must appeal to the presiding judge, whose decision he must accept without question. The medical witness is not permitted to read his textbooks in the witness box, but he may refer to them to refresh his memory. In cross examination, however, quotations from well known authors may be read by counsel, and the witness asked whether he agrees or disagrees with them.

I might refer in passing to the loss of prestige which expert evidence is daily suffering. We may take small consolation, however, in the fact that such loss is not confined to the medical profession. It is caused by the apparent ease with which contradictory scientific expert evidence may be obtained. The predisposition to disagree is undoubtedly as strong among technical and medical men as it is apparent among judges and others of the legal fraternity. Medical men might say that they are led astray by the legal profession. There may be some truth in the argument. Lawyers naturally will take advantage of any tendency which for the time being would militate in their favor. A physician must not become too interested in the outcome of the case, and thus unconsciously lend himself as a partisan. Justice demands that he give all his information on all points at issue absolutely in an impartial way and without reservation. The only practical solution of the difficulty would be a law requiring a board of experts to be appointed by the court in each instance, independent of, and above the influence of either side.

THE CERTIFICATE OF DEATH.

Physicians should be careful to give such certificates only when they have been called to give their professional services during the last illness of the deceased person, otherwise they might certify to facts on hearsay evidence, thereby causing themselves subsequent trouble and annoyance. When there is any sign or indication of death having been caused by violence, or when there are other circumstances which give reason to suspect it, the burial should not be proceeded with until authorized by the medical examiner or other officer, whose duty it is to inspect the body in such cases.

RESPONSIBILITY AND THE PROFESSIONAL SECRET.

This is a question into which enter considerations of private interest, professional etiquette, public policy, and the interests of society.

*Read before the Caledonia County Medical Society, St. Johnsbury, Vermont, on January 16, 1912.

In the State of New York the physician cannot disclose his professional secret in the witness box, even in criminal matters, unless by permission. The information given to a medical man by the patient is given to enable him to prescribe for such patient, or do any act for him as a surgeon, and should be kept in strict confidence. This condition owes its existence to the fact that the members of the medical profession, by the rules which govern them, hold themselves out to the world as confidential advisers. The condition has also the sanction of public opinion and policy, which in fact lends to it its main strength.

Therefore, the physician is at all times bound to observe confidences, except when he has been expressly relieved of his obligation by his patient; or when the rules of the board of health demand it; or when it is necessary to free himself from the danger of being held to be an aider and abettor of a crime or an accessory after the fact; or when an ordinarily prudent man might, in good faith, without malice or exaggeration, consider it to be his duty to society or to himself.

The exception under which the physician finds the greatest difficulty is the last. Circumstances alone here can be his guide. There can be no question of one's duty to disclose the nature of an illness if it is of a contagious nature.

RESPONSIBILITY FOR FAULT. NEGLIGENCE, IMPRUDENCE, OR WANT OF SKILL.

The physician who acts within the limits of his art, with a conscientious opinion of the excellence of his system, incurs no responsibility. But when a grave fault or neglect can be imputed to a physician, responsibility exists. The surgeon who performs an operation in a state of intoxication is responsible for the consequences; also if he does not properly arrange the bandages. A physician is responsible if he makes a damaging or fatal error in his prescription or is guilty of other grave neglect or ignorance. He may, however, he responsible also for giving an unaccustomed prescription, taking chances as to its efficacy. The work of a scholar or a man of genius must be carefully considered, as experience in the past has shown such men to have been a generation in advance of their time. Therefore, the courts need to carefully consider the reasoning and grounds for belief upon which the physician bases treatment which has been hitherto unknown, or but slightly known to medical science.

To legally perform a surgical operation the physician should be authorized by the patient, or by the person under whose authority the patient may be. The operation should never be performed without that authorization, save in cases of urgency. It is not necessary that the surgeon should give the patient a thorough knowledge of the technical details of the operation. It is sufficient for him to simply term it a surgical operation for such and such a purpose.

The physician is under no obligation to answer every call, but having undertaken to attend any individual he is responsible for damages which might be caused by his subsequent unjustified refusal.

A physician may sometimes find himself embarrassed by a confidential question as to the standing of a fellow practitioner. In such a case he must be careful to say only what is necessary for the guidance of his patient in making a choice, and if it becomes necessary to enter into details, to be reasonably certain that his information is correct.

In relation to the criminal law, there are three essentials to protect the physician:

1. Reasonable care.
2. Reasonable skill and knowledge.
3. A reasonable operation, in view of the patient's state at the time.

It is wise to adopt the principle of calling in a consultant in all cases of doubtful operations, and to perform the operation with his approval. This precaution should be observed even by a leader in the profession.

Regarding the disclosure of crimes, which a physician in his professional capacity may discover, one does not become accessory after the fact by merely neglecting to inform the authorities that a crime has been committed. One becomes an accessory after the fact by rendering the principal offender some active personal help to enable him to escape punishment. It is therefore evident that a physician runs no risk of a criminal charge by tending the wounds of an offender, through receiving and attending him in ordinary course in a hospital and yet remaining silent. He should, however, exercise great caution to commit no overt act to protect or to conceal the offender, nor to defeat the attempts of the officers of justice to find him.

In conclusion, referring once more to the matter of expert evidence, I should urge that an effort be made to regulate it. Let the legal and medical fraternities join in taking the necessary steps to enact a law that will make possible dignified, efficient, and forceful expert testimony.

967 Elm Street.

TWO UNUSUAL CASES OF UTERINE MYOMATA.

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The two cases which will form the subject of my paper are relatively rare, and it seems to me that for this reason alone, if for no other, they deserve a somewhat detailed description.

The clinical pathology of uterine myomata presents such kaleidoscopic variations that the therapy must needs adapt itself to the clinical picture of each individual case and thus be as varied as the conditions to be treated. We are, naturally, perfectly aware of the fact that there are cases where an expectant attitude may be adopted without resorting to any surgical interference whatever, but we also know that only too often myomata which have existed for years, without causing any symptoms, suddenly give rise to such alarming conditions as to necessitate immediate surgical measures.

It may be opportune first to report the full details of each case and then to review the same in comparison with others in order to draw therapeutical conclusions.

Case I. On the evening of June 8, 1911, I was called in consultation by Dr. Richard Stein, to see with him a married woman, thirty-two years of age, who had never been pregnant. The previous history was devoid of any special interest. Patient had never been ill except when, two days before, quite suddenly and without any apparent cause, very violent pains in the abdomen and particularly in the pelvic region developed. She also complained of considerable pain at stool. I was also informed that there was hemorrhage from the vagina and that the pains had become considerably intensified in the course of these two days.

Dr. Richard Stein had made a vaginal examination and a diagnosis of a firmly elastic tumor completely filling the pelvis. On my arrival I found patient in bed, her face flushed, her forehead pale, and apparently in great pain. Palpation of the abdomen caused considerable pain. Temperature 100° F., pulse 96. Immediate vaginal examination resulted in the following findings: There was a bloody vaginal discharge, the uterus was much enlarged, elevated, lying close to the symphysis, and not movable. It had been forced into this position by pressure from a tumor about the size of a child's head, which was situated behind it and in the right pelvic half. The tumor which was not movable had a smooth surface, was firmly wedged in Douglas's pouch and seemed to terminate under the right annexa. Its lower pole corresponded to about the level of the os externum, the upper one to the spina anterosuperiora. Any attempt at closer palpation of the tumor had to be abandoned owing to the excruciating pain. The left annexa could not be distinctly palpated. Rectal palpation elicited no further information as to the exact nature of the tumor.



Fig. 1.—Case I, ovarian cyst with torsion of the pedicle.

Diagnosis: Ovarian cyst with torsion of the pedicle and peritonitic manifestations.

On the following morning laparotomy was done at the German Hospital. A longitudinal incision was made in the median line. The abdominal cavity having been opened, the tumor could be seen firmly wedged low down in Douglas's cul-de-sac. It was only with difficulty, probably due to the air pressure, that the tumor (which was nowhere adherent) could be liberated, and then it could be seen that we had to deal with a subserous myoma which had been twisted 360° around its pedicle. The latter was about one half inch long and about as thick as a goose-quill.

Not before the growth had been removed was it possible to obtain a complete survey over the corpus uteri, which was found to be the size of a fist and covered with ten or twelve small subserous myomata. From the size of the uterus it was concluded that there was also a submucous myoma, and a typical supravaginal amputation of the uterus was resorted to. The annexa were cared for in the typical manner and the abdominal cavity was sutured in four layers.

Two days after operation the temperature suddenly ran up to 104° F., and the pulse to 120, the patient at the same time complaining of violent pain in the left thorax. Examination revealed a left sided lobar pneumonia which, under appropriate treatment, disappeared in the course of a few days, and thenceforward the patient made an uneventful recovery. The abdominal incision had undergone primary healing, and the patient was discharged on June 24th.

The cervical stump was freely movable; neither infiltration nor exudates could be found on palpation, and the annexa were normal.

The macroscopic description of the preparation is aided by the accompanying illustration (Fig. 1), and in this connection I should explain that the illustration represents the conditions as found previous to the removal of the tumors and was made from a sketch I had made immediately after operation.

The subserous pedunculated myoma is (in its somewhat shrunken state) five inches long, four inches wide and two inches deep. It is of elongated shape and has numerous spots of reddish discoloration. Its cross section presents the typical picture of fibromyomatous tissue which in many places has assumed a deep red, bloodlike discoloration.

The submucous myoma of the fundus is two and a half inches long and two inches wide.

There are numerous small myomatous nodules in the uterine wall as well as in the subserous tissue.

Before proceeding to discuss this case, it will be necessary to refer with a few words to the diagnosis. While a pedunculated ovarian cystoma with torsion of its pedicle was diagnosticated, the operation showed a pedunculated myoma with torsion of its pedicle. Considering that a pedunculated ovarian cystoma with torsion of its pedicle is a thing of daily occurrence, while the twisted subserous fibroid is a very rare condition, and considering further that a thoroughly edematous and softened myoma may on palpation very easily give the impression of being a firm elastic cyst, it is not surprising that in the present case the diagnosis was not entirely correct. However, so far as practical results are concerned, the same course of treatment would have been adopted in either case.

Under the caption of A Case of Torsion of the Pedicle of a Uterine Fibroid, C. A. Morton (1) describes a very similar case. Morton, too, suspected an ovarian cyst with torsion of the pedicle, but at the same time the hard consistence of the tumor led him to take a fibromyoma likewise into consideration. Operation disclosed a tumor as large as a cocoanut, with a pedicle one inch long and about as thick as a moderate sized finger. In this case there were some slight adhesions to the omentum.

Tracy (2) found in an extensive study of uterine fibromyomata that among 3,561 cases he had collected from sixteen authors there were only seven with torsion of the pedicle, a fact which certainly points to the rarity of the condition.

In regard to the indications for immediate operation only little need be said, since the presence of peritonitic symptoms rendered this course imperative.

As to the sudden pain, it is clear that this coincided with the torsion of the pedicle. As the myoma rested only loosely against the uterus, an unexpected or rapid movement of the patient caused torsion of the pedicle with consequent obstruction of the venous return flow. The pains are further

explained by extravasations into the tumor, which were likewise caused by the venous stasis and the edematous infiltration of the tumor.

It need not be specially emphasized that a condition of this kind involves danger to life. A myoma of this description, or even a simple subserous myoma, may, in rare cases, cause the bursting of a superficial vein, leading to sudden death. I have described such a case of my own observation which was attended with fatal peritoneal hemorrhage (3).

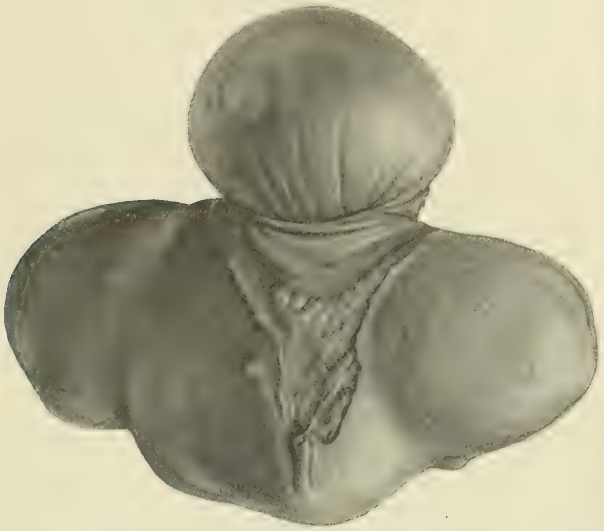


Fig. 2.—Case IV, showing partly expelled ovum (three or four months old), enveloped in its membranes. The uterus appears somewhat twisted around its axis in such a way that the right tumor seems to be more attached to the posterior wall and the left tumor to the anterior wall.

Von Steinbüchel (4) published an article on Complications of Myomata of the Uterus with Special Reference to Peduncular Torsion and Grave Internal Hemorrhage, in which he collected twenty-four cases, one of which is deserving of special attention in connection with the subject of my paper.

Case II. Patient, a nullipara, forty-four years old, had observed for five years a growing mass in her abdomen which caused sudden violent pain when she manipulated it. From this pain patient slowly recovered, but two weeks later, immediately after making a sudden turning movement, there was a second collapse which caused her to seek surgical aid. Laparotomy disclosed the fact that there was considerable venous hemorrhage from the vessel of a tumor in spite of peduncular torsion. After supravaginal amputation of the uterus, there was uneventful convalescence.

Case III. Another case which was very similar to my own, was reported by Dührssen (5). The tumor in this case measured six by seven by eight and one half centimetres and was situated in the small pelvis. Patient had complained for two days of abdominal pains and dysuria. In an easy operation the ribbonlike, thin pedicle, which was two centimetres long, was tied off at the left tubal angle. All its vessels were found to be thrombosed. The tumor had a mottled appearance caused by subserous extravasations which were also present in the interior of the tumor. Patient recovered.

The fourth case, one of my own, is of special interest for the reason that it was complicated by pregnancy.

Case IV. On July 12, 1911, I was called in by Dr. Berthold Flesch to a patient, twenty-five years old, who stated that she had previously always enjoyed perfect health. She had been married for a year and her last menstruation had occurred three months before, which led her to conclude that she was three months pregnant. On the previous day, Doctor Flesch had made a vaginal examination with the result that he diagnosticated bilateral myoma and pregnancy. Since, however, thorough palpation and examination was impossible owing to the violent pains patient experienced over the entire abdomen, it was decided to examine her under anesthesia. It may be stated that patient was in an excellent state of nutrition. I found her in bed, hardly able to move owing to pain. Temperature 99° F., pulse 110. The anesthetic having been administered, the following findings were established: Slight, livid discoloration of the vulva; vagina and cervix in a flabby condition; uterus exceedingly soft and corresponding to the third month of pregnancy; at either side of the uterus, an exceedingly hard tumor was palpated, which strikingly contrasted with the soft consistence of the uterus. Both tumors were firmly adherent to the entire length of the uterine borders, roundish in shape, and with smooth surfaces. They were movable only together with the uterus. The lower pole approximately corresponded to the level of the internal os and the upper one to that of the fundus uteri. Laterally, both tumors extended to the osseous pelvis. Douglas's pouch was not encroached upon. The tumors were of nearly identical size and about as large as a man's fist. The entire conglomoration extended about two fingers' width below the umbilicus.

Diagnosis: Multiple myomata and pregnancy.

On July 14th, laparotomy was done at the German Hospital. It was decided to extirpate merely the myomata and not to interfere, if possible, with the uterus or pregnancy. A longitudinal incision was made in the median line. The abdominal cavity having been opened, it was found that the uterus which was gravid in the third month was infiltrated with numerous small myomata and that the two larger myomata were firmly adherent (intramurally) the entire length of both the right and left uterine margins. In view of this condition it was deemed best to resort to supravaginal amputation of the entire mass, which was done in the typical way. Both ovaries, which were healthy, were retained. The stump was attended to in the typical manner and covered with peritoneum, after which the abdominal incision was closed with four superposed sutures.

Shortly after removal of the uterus it was seen that the amputated organ executed several powerful contractions, expelling half way the three or four months' old ovum with its membranes, so that, as can be seen in the specimen, it was hanging out of the cervix (Fig. 2).

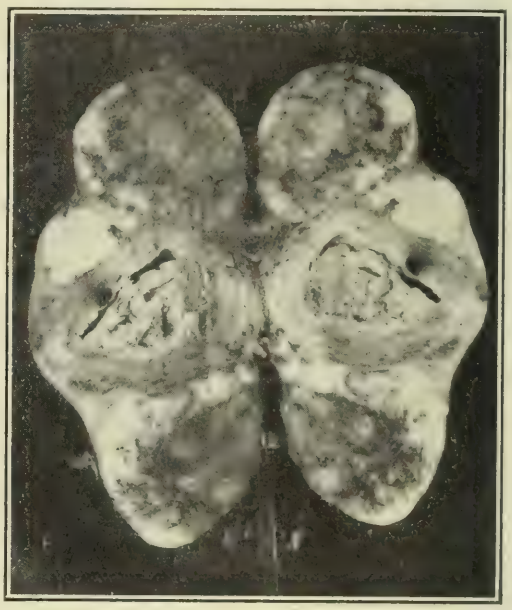


Fig. 3.—Case IV, pregnancy and myoma, cross section.

Description of the Preparation.—In its greatest width, from left to right, the tumor measures seven and one half inches. As mentioned already, both

tumors are broadly adherent to the uterus and extend deep into the muscular wall (see Fig. 3). The uterus appears somewhat twisted around its axis in such a way that the right tumor seems to be more attached to the posterior wall and the left tumor to the anterior wall (see Fig. 2). The ovum, enveloped in its membranes, half way protrudes from the uterus, and the fetus is distinctly visible within the membranes. The serosa is infiltrated with numerous small myomatous nodules.

Making an epicritical study of this case, too, it will be observed that it has one point in common with the one first described, and this consists in the sudden onset of peritonitic symptoms, the cause of which must here be attributed to the rapid growth.

Passing on to the method of operation selected, it may be stated that nearly all authors are agreed that the best plan in the case of a gravid myomatous uterus is to resort to supravaginal amputation. Of course, if possible, one might attempt to enucleate the myoma, to save the uterus, and to allow the pregnancy to continue. In the present case, however, this course was not deemed advisable, owing to the fact that enucleation of the broadly adherent tumors, which extended deeply into the muscular tissue, would have occasioned two long, deep scars, one at either side of the uterus, which, in the further function of this organ, possibly even in the course of pregnancy or at the time of delivery, might have led to a rupture of the uterus if the pregnancy had been allowed to continue.

In this connection I may cite a case of Olshausen in which a myoma, about the size of a fist, was enucleated from the anterior wall of a three months gravid uterus and where subsequent contractions caused the bursting of the uterine wall in the region of the tumor, with the result that the fetus was precipitated into the free abdominal cavity.

Having carefully considered the eventualities of the case, I decided to adopt more radical measures, a course in which I am supported by such eminent authorities as Williams and Olshausen. In reference to this point, Williams has the following to say in his *Textbook on Obstetrics* (6):

> When extreme distention, serious hemorrhage, or symptoms of impaction occur before the child has attained the period of viability, laparotomy is indicated, but whether removal of the tumor can be best effected by excision, enucleation, supravaginal or total hysterectomy, will vary according to circumstances and the predilection of the individual operator. Generally speaking, isolated subserous myomata are best treated by excision and those of the interstitial variety by enucleation, whereas, if numerous tumors are present, supravaginal hysterotomy is indicated without reference to the existence of pregnancy. Myomectomy and enucleation are frequently followed by abortion or miscarriage, but do not necessarily destroy all chance of saving the life of the child. Notwithstanding this, however, my own inclination is a supravaginal amputation whenever operation is imperatively demanded, as being a less dangerous procedure as far as the mother is concerned.

Olshausen (7) is likewise of the opinion that enucleation is by far the more dangerous procedure, for the reason that only in rare cases it is possible to determine with any degree of certainty how far the myoma may extend into the uterine wall. The dangers of opening the cavity by operation and of subsequent bursting of the uterus are important factors to consider, and for this reason he is, as a rule, opposed to enucleation of myomata during pregnancy. Olshausen continues:

> It is impossible to establish hard and fast rules for the indications, as is demanded by a few authors. Each case is different, and in each individual case the degree of the complaint, the attendant danger and the difficulties of the operation should be carefully considered. The operation which in recent times has been most frequently and eagerly adopted, consists in amputation of the gravid uterus which has not previously been emptied. Of course, this operation will only be resorted to when the embryo is not yet viable.

In this connection it may be opportune to mention two cases reported by Olshausen (*loco citato*).

> Case V. Fourteen years ago Olshausen had performed a laparotomy on a patient for the removal of an ovarian cyst. In the course of the last few years, a few nodules appeared in the abdominal wall, one of which was said to have considerably grown during the last six months. At the right side of the umbilicus there was a tumor of partly hard and partly elastic consistence, which was regarded as a tumor of the right ovary. The nodules in the abdominal wall were looked upon as metastases of either the old or the present ovarian tumor. Operation disclosed the uterus to be enlarged by myomatous growths. There were adhesions of the intestines to the uterus, which was therefore completely amputated by supravaginal excision and the wound was closed by sutures. There was considerable hemorrhage. A little while afterward the leg of a five months' fetus protruded from the extirpated uterus, in which particular the case closely resembled the one I have described from my own practice.
>
> Case VI. Patient, forty-nine years old, had been bedridden for four months owing to severe abdominal pains. There was a tumor at the promontory almost as large as two fists, which defied two attempts at reposition under anesthesia. Evidently, the tumor was broadly adherent to the posterior wall of the cervix and so completely encroached upon the pelvic space that removal through the pelvis appeared impossible. Supravaginal amputation of the uterus together with the myomata was done, and the operation was fairly satisfactory. The patient recovered.

If we now survey once more the characteristic points of my two cases, it will be seen that both have the sudden onset of the pains in common which were suggestive of peritonitic manifestations, and also the fact that in both cases immediate operation was imperative. In both cases we have to deal with multiple myomata, all of which presented the same clinical picture. I may also emphasize the fact, which I have not previously stated, that in the first case the intramural myoma, unlike the tumor with peduncular torsion, was of such strikingly soft consistence that, at the first moment, I was led to suspect the possibility of pregnancy.

Both cases are only of a purely practical interest, and it is from this point of view that I desire to have them considered. The second case in particular offers interesting points in regard to the treatment of multiple myomata complicated by pregnancy.

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1 West Eighty-fifth Street.

A NEW OPERATION FOR FIXATION OF THE KIDNEY.*

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So much has been written on the subject of movable kidney and so many operations have been devised for its relief or cure that it appears to be almost a work of supererogation to touch upon the question; and yet so many of the methods have been unsuccessful that many surgeons have discarded operative treatment. Undoubtedly, there are many movable kidneys which may with safety and discretion be allowed to eke out an existence *in statu quo ante,* cases in which there is little or no pain, no disturbance of excretion, and but slight nervous symptoms. But what are we to do in those cases of continual dragging pain, or where there are severe attacks of pain, vomiting, etc.—the so called Dietl's crises? Or in cases of uronephrosis due to kinking of the ureter? What, too, shall we do in those cases of severe neurasthenia where the patient's distressed mind is constantly directed to the misplaced organ? It is for the benefit of these classes of cases that we must cast about for some satisfactory solution of the problem.

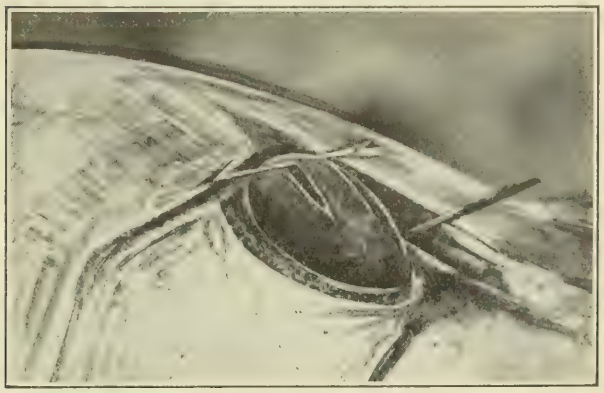


Fig. 1.—Elevation of the intervening capsule from the cortex by blunt dissection.

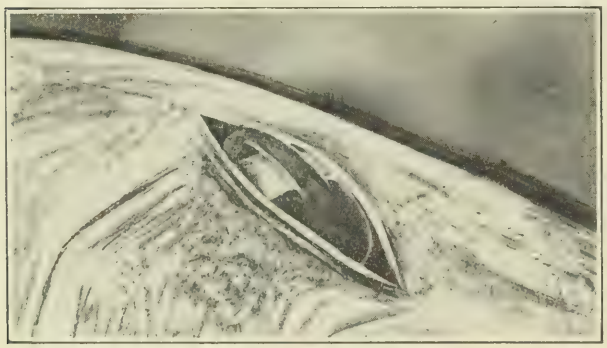


Fig. 2.—A strip of the transversalis fossa is passed as a strap beneath the elevated portion of the capsule.

In past years it has been my custom to use a combination of Edebohls's and Isaac's operations: suspending the kidney from the last rib and at the same time suturing the split and everted capsule to the lumbar muscles. Such a large percentage of these cases have in the course of one or two years given way, that I have been prompted to employ an entirely different procedure, the simplicity and apparent success of which will, I trust, make it worthy of consideration.

An incision three inches in length is made two inches external to the spinous processes of the lumbar vertebræ, vertically downward from the lower border of the twelfth rib, through the skin and fascia; the fibres of the outer portion of the erector spinæ are bluntly separated and the quadratus lumborum is incised. We are now down to the posterior layer of the transversalis fascia. This is incised carefully about one inch from its spinous attachment and the divided edges are caught with artery forceps. The kidney is then enucleated in the usual manner and the perirenal fat is excised posteriorly, internally, and externally, but *not* inferiorly. It is important that the fat for at least half the depth of the kidney be removed. Two sutures, after the manner of Brödel, are now placed at either pole of the kidney at the internal and external borders, the needle being left on each. For the present these are not tied.

Two parallel incisions, one and one half inch in length and one inch apart, are now made longitudinally through the renal capsule and the intervening capsule is elevated from the cortex by blunt dissection. (See Fig. 1.)

The kidney is now returned to its fossa and is held in position by means of gentle traction made by an assistant upon the untied sutures. A strip of the transversalis fascia corresponding in width to the length of the elevated portion of the capsule, is now cut and passed as a strap beneath it and is sutured with chromicized catgut to the corresponding portion of the spinal attachment of the fascia. (See Fig. 2 for diagram.)

The kidney, now suspended by a strap of fascia, is further reinforced by passing the Brödel's sutures through the quadratus lumborum in the usual manner and tying them over the muscle. The wound is closed in the orthodox manner. The patient is kept in bed three weeks, until adhesions have formed between the fascia and the capsule and cortex of the kidney.

While this operation takes advantage of the old method of suspension for the purpose of holding the kidney in position temporarily while the process of healing is going on, at the same time it places the organ in a suspensory ligament from which it is almost impossible for it to escape.

400 McLeod Street.

*Read before the Ottawa Medicochirurgical Society, December 15, 1911.

DIAGNOSIS AND TREATMENT OF CONGENITAL PYLORIC OBSTRUCTION.

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My purpose in presenting a paper upon pyloric stenosis in infancy is to emphasize to a body of actively practising physicians the main points of diagnosis and differential diagnosis, with the object in view that they may be on the lookout for these cases when dealing with the problems of malnutri-

tion and to discuss the as yet unsettled question of treatment.

At the present time much confusion exists as to the proper classification of cases, and the main points of symptomatology of each. Therefore no definite lines of treatment have been drawn. It may be an open question whether the condition is primarily one of spasm or of hypertrophy, or whether the latter occurs as a secondary phenomenon on account of the increased gastric peristalsis, the result of the obstruction incident to the former, or whether both spasm and hypertrophy primarily coexist. Whatever the etiology of the obstruction may be, it appears patent that the underlying pathological basis should be responsible for a symptomatology peculiar to itself. This arrangement permits of a double classification of cases into those of complete and permanent obstruction, usually due to hypertrophy, and second, those of incomplete or intermittent obstruction, usually due to spasm alone. Each, while presenting symptoms in common with the other, yet has enough certain distinctive features to permit a discriminating diagnosis and the elucidation of a proper plan of individual treatment.

Complete and permanent obstruction. Whatever element of spasm may enter into the etiological and pathological phase of this class of cases, it is certain that it plays but a minor, if cooperative, part. The essential lesion is the actual numerical hypertrophy of the pyloric muscles and the distinctive symptomatology depends upon the complete obstruction resulting therefrom.

Vomiting. This is the earliest symptom and presents some interesting features which are at once suggestive. The usual history is that a breast fed baby anywhere from two or three weeks to three months after birth begins to vomit. The food is regarded as faulty, and without investigating the character of the milk the breast is withdrawn and one after another milk modifications or proprietary foods are employed. The condition is, if anything made worse. The vomiting of pyloric stenosis is continuous, but may not occur more than once or twice a day, owing to the immense degree of gastric dilatation. It is therefore copious and characteristically forceful. The vomited material is shot from the mouth in some instances as far as a foot or more from the infant's crib. There may be evidences of fermentation or mucus dependent upon secondary gastric catarrh.

Visible gastric peristalsis. This symptom, when present, is pathognomonic of pyloric stenosis, but not necessarily of complete obstruction. At times, though rarely, it may be reversed. The peristaltic wave is not constant and therefore we should spend at least ten or fifteen minutes in closely inspecting the abdomen before concluding that the symptom will not appear. I have been able to inaugurate the wave by light tapping of the epigastric region, or by giving the infant food or drink. This usually starts a vigorous peristalsis. The symptom of visible gastric peristalsis has been likened to a series of balls being rolled successively under the skin. There will appear first an elevation just to the left of the umbilicus. This will proceed in a somewhat lazy fashion to cross the epigastrium. Before it is half way across another will appear at the starting point of the first and then proceed to follow it. This will be followed, perhaps, by a third, so that, the first not having yet reached the extreme right, three such elevations may appear, slowly following each other from left to right. As they disappear new waves take their places. When once seen this appearance will be indelibly impressed upon the mind, and it is rarely mistaken for anything else. The only possible source of error is the contraction of the individual bellies of the recti muscles, produced by the child's wriggling. This elevation, however, is either to the right or left of the umbilicus, as the case may be, and is fixed, i. e., it does not travel over the upper abdomen.

Palpable pylorus. When the pylorus can be palpated it is abnormal. In some eight or ten infants at the Philadelphia Hospital and a number of others, none of whom were older than three or four months and who were not vomiting, but who exhibited varying degrees of emaciation, under chloroform anesthesia administered for one purpose or another, I was unable by most careful palpation to feel the pylorus. Palpable pylorus in very young infants can only mean two things, either pyloric hypertrophy or pyloric spasm, singly or in combination, but not necessarily complete obstruction. The examination for palpable pyloric tumor should be done only when the abdomen is thoroughly relaxed. To accomplish this I personally prefer the use of a few drops of chloroform held on a handkerchief near the infant's nose. This stills the infant's movements and produces sufficient relaxation to permit thorough and deep palpation. For those too timid to employ this method the same effect may be brought about, though to a less satisfactory degree, by the use of a sugar teat or by permitting the infant to suck upon a bottle or by otherwise distracting its attention. When present, the thickened pylorus is felt as a hard cartilaginous tumor about the size of a chestnut, but somewhat longer, and situated to the right and above the umbilicus nearer the right lower costal margin. It is movable with respiration and may be rolled under the finger.

In making this examination there are two possible sources of error, or perhaps it would be more correct to say there are two things which may be mistaken for the pylorus, one, and the more common, are one or more enlarged mensenteric lymphatic glands, situated to the right and a little above the umbilicus. This error may be avoided by remembering that the position of these glands is somewhat lower than the pylorus and that they do not move with respiration. The other source of error is to mistake the edge of a contracting rectus muscle for the pylorus. This factor can be eliminated by anesthesia.

Constipation. Occurring by itself constipation is of little significance, as it is a common occurrence in infants, but when associated with vomiting, visible peristalsis, pyloric tumor, and wasting, it is the last and, to my mind, the most important link forged in the chain and makes the clinical picture of complete obstruction perfect. It is a distinct index of the extent of the stenosis, and when obstruction is complete as the result of numerical hypertrophy, constipation is absolute and becomes obstipation. The history in these cases is that the

child never passed curds, and if the further query is made as to whether the infant ever passed a green stool, the physician will receive an emphatic "no" for an answer, with a view to convincing him that the digestion, aside from the vomiting, is good, and therefore radical treatment is unnecessary. The fact is that the child never passed a stool of any kind, that no food ever entered the intestine, and that the discharges upon the napkin never had any bulk, never contained any solid fecal matter, but consisted merely of bile stained mucus. I regard this portion of the history as the most important, and while I should make a diagnosis of pyloric stenosis on the associations of vomiting, visible gastric peristalsis, and palpable tumor, I should not regard the case as one of complete and permanent obstruction unless absolute constipation was present.

Malnutrition and asthenia. Both these occur as a direct result of the starvation incident to the obstruction. It is for the wasting that most of these cases are brought to the physician. While vomiting may give some concern, its seriousness is not at first realized because it is more or less common for infants to vomit, or "spit up," as it is called. It is only after the condition has lasted a week or more, and the impress of inanition, constant loss of weight—an ounce to three ounces a day, pallor, sunken eyes and pinched senile features, extreme weakness, anuria, etc., is indelibly stamped upon the little patient that the parents become alarmed. It is with reference to these symptoms in the main that the physician need but be cautioned once to prevent him from making a fatal error. The danger is that the unobserving and the disinterested will regard these cases of extreme malnutrition all as marasmus due to food malassimilation instead of to food starvation. These cases of pyloric obstruction resemble marasmus only in this feature of wasting. Vomiting, visible gastric peristalsis, pyloric tumor, and constipation are all absent in marasmus, with perhaps the exception of the first, which, however, is rare. The wasting progresses regularly until the patient is veritably nothing but skin and bones. Subnormal temperature develops and death follows from inanition. An interesting symptom which I have noticed in two cases is the development of general edema, a week or two before death. The importance of this feature is that it causes a sudden and large gain in weight, which, unless he is forewarned, may mislead the physician into thinking that his patient is getting better. Therefore, whenever the weight chart records this phenomenon the patient should be carefully examined for edema. Daily observation of the weight should be made in all cases of pyloric stenosis, as a persistent downward course means one thing and the gain of an ounce or two a week, or even stationary weight for a period, means quite another.

Gastric dilatation and intestinal collapse. Aside from the detection of a palpable tumor and visible peristalsis, the physical examination of the abdomen presents certain points of interest. The stomach is dilated, as evidenced by the prominence of the upper portion of the abdomen and the extension of gastric tympany beyond the umbilicus. This dilatation would seem to disprove the view of Still, who believes that the hypertrophy of the pylorus may occur as the direct result of overaction of the musculature of the stomach in its effort to overcome the effect of spasm, which he believes to be primary. If this was so it seems that the entire organ should be hypertrophied, and this it certainly is not, the walls being distinctly thinned. The lower abdomen is comparatively flat, as the gut has never contained food and very little, if any, gas.

X ray examination. This is a very valuable aid in confirming diagnosis. It has been clearly shown by the researches of Scudder that in the normal infant, when a bismuth meal is introduced into the stomach, not many minutes elapse before the shadow of the latter is seen to the right of a line corresponding to the spinal column, while in cases of complete obstruction the shadow remains to the left of the column, indicating that the food has not passed through the pylorus. He has also shown that in those cases of complete obstruction due to hypertrophy and which were operated in, that the food passes through the new opening and that the obstruction remains permanent; in other words, that the hypertrophy does not undergo degenerative changes. This would appear to be a very strong argument in favor of immediate operation in those cases where the diagnosis of complete obstruction has been made. The x ray examination also confirms the evidences of gastric dilatation.

TREATMENT.

There is but one treatment for complete and permanent pyloric obstruction, and that is surgical. The choice of operation—from Loreta's to posterior gastrojejunostomy—may be decided by the operator at the time of the operation, but it would appear from statistics that the latter gives the best results. In a paper but recently read before the Philadelphia Pediatric Society, Scudder made the remarkable statement of a mortality of but seven per cent. in this class of cases. With reference to the indications for operation, I would name two, when occurring in association with forceful vomiting, visible gastric peristalsis, and palpable pyloric tumor. First and most important is absolute obstipation. The second is progressive and continuous wasting and asthenia. I believe, however, that it is a mistake to delay too long or until these cases are on the brink of a fatal termination. My feeling is that the crystallized professional opinion in reference to this disease will be, within the next few years, to operate just as soon as the diagnosis is made, before, in other words, marasmus has developed—the main indication being obstinate obstipation associated with the symptoms already detailed. The subsequent treatment consists of careful dietary regulation. As Still has pointed out, it must be remembered that a fatal diarrhea may develop after operation. With this in view our food manipulation must be most cautious.

Incomplete or intermittent obstruction. This type of cases is comparatively common. We may include under this classification as well the so called border line cases, in which it is difficult to decide just what is the best mode of treatment.

Vomiting. The character of vomiting is practically identical with that seen in cases of complete

obstruction, except that some assistance might be obtained by making an analysis of the vomitus for bile. While the presence of bile would exclude complete obstruction, it would not necessarily mean that the case was one of intermittent obstruction, for bile may be present in the vomitus when the pylorus is normal.

Visible gastric peristalsis. This occurs with the same force and frequency, except in those very mild cases, in which the diagnosis must be inferred and cannot be proved.

Palpable pylorus. In the majority of cases of incomplete obstruction the pylorus is not palpable. However, when present it indicates intense spasm. The presenting tumor is not so cartilaginous in feel nor is it so large. The tumor may be felt at one time and be absent at the next examination. It must be said, however, that palpation does not permit in itself a discriminating diagnosis between palpable pylorus due to complete obstruction and dependent upon hypertrophy and incomplete obstruction dependent upon spasm.

Constipation. In cases of spasm constipation is relative, never absolute, the bowels move less often, and are small in bulk. Curds are present at times. The amount of fecal matter bears a direct relationship to the degree of stenosis. On certain days, when the spasm is so intense as to produce complete obstruction, vomiting is more intense and the bowels may not move more than once during this time. As the spasm relaxes, however, more food enters the gut and therefore the actions are resumed. A few days' observation of the bowels is of great assistance in determining this cyclic tendency and in permitting a correct conclusion. The administration of a little charcoal or carmin, and awaiting their appearance in the stools, would give a good idea as to the degree of peristalsis and the permeability of the pylorus. The nonappearance of these substances in the anal discharges would suggest complete obstruction.

Wasting and asthenia. These occur with considerable rapidity, but the progress of inanition is decidedly less rapid than in complete and permanent obstruction. The scales are of great assistance in determining this point. Daily observation is more important than where the diagnosis of complete obstruction has been made. As our final judgment may depend upon the correctness of the observation, great care should be exercised in making the reading. Much depends upon the character of the scale, who makes the reading, and whether or not it be done immediately before or after feeding and the character of the infant's clothes. These may appear as trifling details, but to illustrate their importance I need but report that only a few days ago, my reading and that of a staff nurse with reference to the same baby, differed by four ounces, her statement indicating the greater weight. It can readily be seen how an error of this kind would be responsible for a very faulty conclusion, and might, if continued, divert the treatment from the proper channels, and cause an unnecessary fatality. The physician should do the weighing himself, should employ only a scoop and beam scale, should always weigh the baby naked and just before a feeding. In infants who do badly there is recorded a daily loss of weight. In those presenting a stationary weight, or a gain of an ounce or two, the prognosis is less unfavorable.

Gastric dilatation and intestinal collapse. Gastric dilatation is present, but the lower abdomen is not so completely collapsed as in complete obstruction.

X ray examination. This is of decided assistance, but is of not so much value as in cases of complete obstruction. In incomplete obstruction the shadow of the food is seen to pass to the right of the spinal column. By means of two fluoroscopic examinations, made a day apart, we may learn how far the meal has traveled and therefore judge of the stenosis in this way as well.

DIAGNOSIS.

The diagnosis of incomplete pyloric obstruction depends upon the association of forceful vomiting, visible gastric peristalsis, palpable pylorus (absent in some cases), progressive loss of flesh alternating with a slight gain or stationary weight, progressive asthenia, constipation varying in intensity, and the association of certain features determined by the x rays. It is particularly these cases that are likely to be confounded with marasmus.

The following table is submitted with a view to assist in emphasizing the distinguishing points between complete and incomplete obstruction.

	Complete.	Incomplete.
Vomiting	Forceful	Forceful
Visible gastric peristalsis	+ +	+ +
Palpable tumor	+ +	+ or —
Constipation	+ +	+
Wasting	+ +	+ may be stationary or slight gain
X ray	No food passes to right of spinal column	Food passes to right of spinal column
Gastric dilatation and intestinal collapse	+ +	+
Charcoal or carmin	—	+

TREATMENT.

This may be nonsurgical and surgical.

1. *Nonsurgical.* This briefly consists of lavage, twice daily, with a warm solution of sodium bicarbonate, one drachm to the pint of water, and most careful dietetic supervision. If milk formulæ increase the vomiting, resource should be had to cereal waters, alone or combined with animal broths or with condensed milk, etc. Whey, plain or combined with a little wine or cereal water or meat juices, may be of assistance. Kellar's malt soup and peptonized milk are also good. In fact, any food or food combination that appears to be nonirritating and sustaining may and should be employed. Food should be given in the smallest possible quantities, from a half to one drachm every hour or so. It is better that an ounce or two given over twenty-four hours should be retained than eight or ten ounces should all be vomited. As conditions indicate, the quantities may be cautiously increased. In some cases, associated with much fermentation, vomiting is lessened by using a liberal amount of lime water with the food, from ten to thirty per cent. We should also not forget the use of sodium citrate with all milk feedings. In some instances it does good to suspend mouth feeding altogether, substituting rectal enemas of pancreatized milk, merely continuing the lavage, and the administration of from ten to fifteen minims of

Chapoteaut's solution of strontium bromide. In some cases an occasional meal per rectum in association with mouth feeding is of great assistance. In conclusion it may be said that as perfect hygienic surroundings as it is possible to secure and the advantages of skilled nursing should be given to all these cases.

2. *Surgical.* How are we to judge to continue with the nonsurgical treatment and what is to be our guide when advising surgical interference? The problem is never easy and at times almost impossible to decide. We meet cases that end fatally and we regret not having operated in them, and then we have cases which succumb under operation and we regret that we did not continue longer to treat them nonsurgically. I fear that by saying each case must be decided upon its merits I am offering very little assistance, and yet this is exactly what must be done.

Three factors are concerned in determining this, the weight, the strength, and the character of the constipation. Vomiting has very little bearing on this point, for in many cases that end in recovery it continues with more or less emphasis for some time after. In order to give the matter some definite shape, I venture this rule as a guide in deciding upon surgical interference in this type of cases: If a small amount of food is retained and if the weight remains stationary, or if there is a slight weekly gain, or the strength does not appear to be fast ebbing away, and if together with this we have an occasional fairly large bowel movement, we are justified in waiting, even in spite of the continuation of vomiting. If, however, no food at all is retained, and if there be a progressive and continuous loss of weight and strength with increasing constipation—indicating more or less spasm—these cases, approaching the type of complete obstruction due to hypertrophy, should be operated in before the degree of asthenia becomes too great.

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HYSTERICAL RABIES.

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The urgent importance of correct diagnosis when a patient is suspected of rabies needs no insistence. That the difficulty is not an uncommon one is hardly realized, or the diagnostic criteria would be more clearly laid down. The case, reported by Lieutenant-Colonel Duke (*British Medical Journal*, March 5, 1910), and transcribed below, seems to me an instance where a knowledge of the nature of hysteria and its mode of genesis might have caused a different conclusion to be reached. I venture, therefore, in illustration to report and comment upon two cases of hydrophobia where the hysterical mechanism was distinctly evidenced.

Case I. The first case was seen in the clinic of the late Professor Brissaud at the Hôtel Dieu in 1906. It was that of a French mechanic who had been scratched by a dog a few days before. He had been in much fear of rabies, and to subdue this had taken more alcohol than was his habit. One morning while at work he felt a strangling sensation in the throat, which immediately led him to believe that he was rabid. To prove this, he tried to drink some water, and failed to swallow it. The attempt ended in a general convulsion, in which trembling, and a jerking movement in the limbs, violent grimaces with contortions of the mouth, gasping, and whining noises were the most prominent features. The patient was in a violent perspiration. On declaring that he had hydrophobia, he was brought directly to the Hôtel Dieu, where I saw him.

To make a long story short, Brissaud decided upon the impossibility of a true rabies so soon after a bite, and assured the man of this, telling him that when the effects of the alcohol subsided, his terrors would cease and he would be quite able to swallow and control himself, as there was nothing the matter but terror.

The man duly recovered; and I need make no further commentary upon so simple a case.

A second case I observed with Doctor Miller (when he was clinical director of the Federal Asylum for the Insane), who exhibited it to the Washington Society of Nervous and Mental Diseases. A full account has been given by him in the *Journal of Abnormal Psychology* for 1910. The essential facts were as follows:

Case II. A boy, aged twelve years, was bitten by a dog in October, 1902. He was treated at hospital, and went home apparently unworried. But his mother was very apprehensive, and demanded the dog's destruction. This not being done, she went to law, which entailed an appeal and much complication; for the dog was not destroyed. She was quite convinced from his actions and the increased growth of hair on his legs that the boy was acquiring an animal nature. She worried so that two weeks after the bite, the boy had a convulsion, preceded by a day during which he seemed dazed while at school. He woke up twitching violently and frothing at the mouth. The doctor who was called hastily diagnosticated hydrophobia, and gave a soothing hypodermic injection, which was believed by the mother to have driven the rabid poison through the boy's system. In his dazed state next day, the mother tested him with water, the sight of which produced a look of horror, rigidity, and recoil. Later, he would run about on all fours wildly looking at her "in a peculiarly doglike fashion." The saliva was examined by two medical students, one of whom said before the patient "this boy must have been bitten by a dog." To this puerile remark the mother replied "I presume by a mosquito."

For six years after the bite, convulsions had occurred regularly in the dog days and in January. They were determined by the mother's belief in the periodicity of rabies. They have sometimes been followed by paralysis, aphasia, stupor, or confusion, with or without excitement. On one occasion, the mother found the hemiplegic side insensitive to a needle prick, and the boy hardly noticed a burn. Amaurosis was present for two days; and amnesia was generally associated with the attack. Mystical ideas eventually developed.

This admirably reported case seems to me most demonstrative with regard to the ideas of Babinski on hysteria. In relation to the ideas of Freud, it seems to afford evidence of a negative character; although, as will appear, its value in this respect may be unanswerably impugned on account of a failure to push the anamnetic analysis into infancy.

In the first place, the case illustrates the utter unreliability of the stories of relatives as to denial of occasions of suggestion. The mother insisted that prior to his accident, the boy knew nothing of rabies, and that the bite of the dog had caused no emotional perturbation nor apprehension of danger; whereas Doctor Miller ascertained that in reality the fear of hydrophobia was already present at the time the boy was bitten, as he had already heard his mother and others discussing the danger of being bitten in the dog days, and had been much impressed by the shooting of two dogs that summer.

It must be recollected that as a matter of fact there had been much discussion that year in the newspapers in the District of Columbia about the imminent danger of an epidemic of rabies from stray dogs, and in consequence drastic police regulations had been formulated.

Thus was constituted a common first factor for producing a suggestion psychosis,[1] i. e., the antecedent insemination of the groundwork of a false belief. It is a significant fact that the first fit was not due to a direct suggestion, but was precipitated by the painfulness of a correction by his teacher.

On the occasion of the dog bite, the groundwork of that belief was built upon by the teasing of his companions; by his mother's anxiety, as shown by her consulting books upon hydrophobia; by the fact that there had not occurred that "potent preventive," the killing of the biter; and finally upon the night of the fit, by what was tantamount to an explicit suggestion, i. e. his mother sitting by his bed —as she did—for fear that something might happen. Afterward, the induced nature of the psychosis was still further demonstrated, 1, by the productibility of fits by the bringing of water; 2, by the doctor's diagnosis of hydrophobia; 3, by the character of the fits themselves, consisting as they did of crawling on all fours, growling, and barking. An interesting sidelight upon the mother's rôle in the psychosis is shown by her arguing from the growth of the boy's hair, whether this was real or not that he was acquiring an animallike nature.

The further history shows the extreme suggestibility of the patient in the half yearly periodicity of his attacks (responding to a popular belief), and their occasional arrest by holding him; the suggestion of the Menière's syndrome by an injudicious doctor; the production of various palsies, in all probability from the mother's suggestions after the reading of the medical books which she consulted daily during the boy's illness (she had even pricked him with a pin to search for anesthesia). The examination of the saliva by the medical students and the mother's reply to a remark of which the facetiousness reminds one of Bob Sawyer rather than of the medical student of our days, are indications of the surroundings in which the patient's suggestions occurred and in which suggestibility was too natural to cause astonishment.

It is unfortunate that the data do not permit of an explanation of the strabismus, the patient's reports of the ophthalmological examination being most unsatisfactory and Doctor Miller's report not mentioning whether heterophoria was present or not, nor whether the Flees box was used. The visual fields charted shortly after those given in the report showed a pattern considerably different from those published; and my own observation, when the patient was shown before the Washington Society of Mental and Nervous Disease, made it certain that there was no marked restriction of the field for form as ascertained by the moving finger test. As this examination took place between the two occasions on which the restricted visual fields were plotted, the interpretation of these disparate observations I must leave to clinicians who are conversant with the precautions laid down by Babinski and Chaillous for the investigation of the visual field of hystericals.

For a time, the stuporous state of the boy made some of the asylum physicians believe that they had to do with a major psychosis, more especially as his emotional responses appeared to be enfeebled. In reality, however, it was the dominance of the fixed idea which caused the stupor; and the lack of emotional response was due to the centreing of the boy's interests upon his illness and their abstraction from the events of ordinary life. So great was the concentration and the unhappiness caused by his state that substitutory mystical ideas were forming, as shown mainly in the boy's dreams. It is hard to say to what degree these were determined secondarily by want of food, sleep, and joy in his life. It is certain that a slight physical dyscrasia existed, as shown by dermatographia, flushing of the face, fever, foul tongue, and unequal reflexes, though, of course, the last condition may be normal to this patient. Thus, the trancelike state was not purely psychogenic. It might be formulated as an onirismal delirium colored by a dominant fixed idea acquired by suggestion and accompanied by derivatives of the latter in the nature of defensive conversion phenomena of a consolatory kind. Amnesia by distraction is only to be expected in such conditions.

As time did not permit Doctor Miller either to push farther the analysis of the dreams or to sound the depth of the amnesia, it is profitless to discuss these factors of the case.

One fact, however, should not escape notice, and that is the degree in which the symptoms were at least fostered by either the rashness or the lack of precision and the evasiveness of the various physicians into whose hands the boy had fallen. Their unsatisfactory diagnoses, prognoses, and treatment arose from ignorance of psychopathology and sometimes of clinical medicine, an ignorance so crass and so injurious to the patients who fall into their hands that it is high time for the reputation of the profession that it be put an end to.

Cases such as Doctor Miller's are sufficiently clear and simple to be understood even by doctors unaccustomed to psychological thought; but it is only by a tolerably full description that such cases are comprehensible to the uninitiated. Sketches do not suffice to give body to conceptions useful in practice. On the other hand, the prolixity and highly speculative inductions which emanate from researches after the method of Freud are hardly yet suitable except for use by experts. But I must express my disagreeament with those who contend that no one but a psychological expert is capable of comprehending *any* psychoneurotic disorder.

Doctor Miller's case shows quite clearly that restoration to health as effective as that possible by the most rigorous followers of Freud can be secured by means which are hardly more elaborate than those of a sound common sense. It is true that neither method touches the springs of action, and attempts to reeducate the patient in other mat-

[1] The word psychosis is here used in the physiological sense of a psychological syndrome, and not in the restricted artificial sense in which it is employed by psychiatrists to denote mental alienation, as against the eccentricities which they term neuroses. I use the latter term in the sense of a functional disturbance of lower neurones merely.

ters than the fixed idea at the root of the symptomatic outbreak. Into this deeper therapeusis, however, I do not purpose here to enter; nor do I intend in this place to discuss the intimate psychological nature of suggestion; but accepting the word as representing a definable and analyzable psychological process, I wish to conclude by reaffirming in the light of this case the practical therapeutic utility of the formula of Babinski that "a hysterical symptom is one capable of production by suggestion, and susceptible of removal by suggestion-persuasion."

To sum up, the case seems to show, 1, that the efficient and immediate cause of an undoubted hysteria was a series of suggestions distinctly traceable by judicious anamnesis to recent causes; 2, that the effects of these causes were removable by rational persuasion; and, 3, that it is not reasonable to suppose that if the lyssophobia were a mere epiphenomenon made possible by other submerged complexes, that these latter would have permitted the boy's rapid restoration to apparent psychic health without the least remedying of these; so that there seems no need to invoke in the causations of the symptoms any other psychical traumata, infantile or sexual. To the obvious objection that in such hypothetical traumata might be found the predisposing cause of the lyssophobic attack, I can reply only by declaring the onus of proof to lie upon those who advance this view; for the criteria both of psychological rationality and of therapeusis are not wanting in support of a view of the case in which only the lovers of the recondite for its own sake will confound simplicity with superficiality.

THE CASE OF LIEUTENANT-COLONEL DUKE.

The case referred to in the first paragraph of this communication as reported as rabies by Lieutenant-Colonel Duke is as follows:

In June, 1903, my orderly, a Mohammedan Sepoy of the Kapurthala infantry, was bitten by a dog on the outer side of the left leg below the knee. The wounds (two) healed in eight days, and he had forgotten all about the incident until February 9, 1905, one year and eight months later, when he felt unwell, irritable, and fretful; that evening he had some fear of water, and was evidently thinking about the bites. On the following day (February 10th), when sitting in the quarter guard, he told his comrades the story of the dog, mentioning his symptoms of the previous day and his fear of water. The native officer in charge did not think him really ill, but at 11 p. m. locked him up in an adjoining room, and at 6 a. m. when he opened the door, found that symptoms of hydrophobia had developed. His brothers were sent for, and they conveyed him to his house in the city. He was quite conscious, but as he bit at the sight of water, his eyes were bandaged during the journey. When I saw him at 11 a. m., on February 11th, he was sitting on his bed retching and spitting, with a brass basin in front of him. His hands were kept down by a pillow placed in front of them. He was biting and snapping, with quiet intervals. His aged mother watched at his side and when he wanted to bite, a pillow was each time thrust toward him and he bit it. He occasionally raised his hand to his mouth as if to bite, but he never closed his teeth over it, nor did he leave any impression of teeth on the skin, although the pillow presented to him was torn to bits. His eyes were wild, ferrety, intensely congested, and the pupils were dilated. In the intervals he spoke naturally, and asked his brother to give me a chair. He held up his leg and pointed out the scars of the bites, which had a blue congested look. With great vehemence he declared that he had felt pain in the bites on the previous day, and that they were severely painful then. He said he would die, and I feared he must. I gave him ten cubic centimetres of antitetanic serum which he swallowed, but was sick soon after. I had to leave the town, but at noon he was ordered a pill containing extract of cannabis indica and cocaine, one grain of each; but was sick after, and probably vomited the pill. He retched again at 1 p. m. and 2 p. m. but slept or was quiet in the intervals, and at 5 p. m. when he was seen by Dr. Sadik Ali, the convulsions had ceased. He asked for an orange which he sucked, and soon after he drank an ounce of water; this was repeated several times, and when on my return the next day I drove to his house at 11 a. m. he stood up on his cot and saluted me. He was well, his eyes were clear and normal, and the pulse was 96.

Later I ascertained that at 8 a. m., on February 11th, a powder had been administered by a local hakim, who was said to have cured a case of hydrophobia. Violent sickness and retching following, and at 3 p. m. a second powder of the same kind was given. After much difficulty, I procured from the hakim enough powders to treat twenty cases. Their composition was given as follows:

Powder No. 1: Potassium bichromate, four grains; some mercury and sulphur triturated together; croton seed, say, one to two grains; cloves, condiments, etc., to make up a powder of twelve grains.
Powder No. 2: Common salt, twelve grains.
Both powders to be given at the same time.

In the light of my own cases, the foregoing case of Doctor Duke's Sepoy is perhaps susceptible of a different interpretation than that of the reporter. I should interpret it as follows: An indisposition, along with irritability and fretfulness caused him to think fearfully of a dog bite eighteen months before. On account of this he feared water. He told his story to his comrades, and the native officer reinforced his idea by locking him up. Seven hours of solitude would not conduce to the amelioration of a terrifying idea. In the morning, he bit at the sight of water, a symptom almost enough to stigmatize the psychic nature of the attack. The biting and snapping which he performed are also psychogenic performances, which were only encouraged by the pillow which was so accommodatingly placed in his mouth when he required it. It is significant that, though he threatened, he never bit his hand. Pain in the bites eighteen months afterward was surely a psychic condition! The congested eyes and dilated pupils were the results of struggles and terror. Vomiting was induced volitionally as a result of the retching and spitting. His perfect recovery within one day as the result of the powder given by a local hakim, *who was said to have cured a case of hydrophobia,* should clinch the diagnosis; for it is extremely doubtful whether hydrophobia can be cured at all, much less in six hours.

Neither the lapse of time since the bite nor the local pain can negative the diagnosis of hysteria, the word being used in the sense of Babinski to indicate those symptoms "susceptible of production by suggestion and of disappearance by suggestion-persuasion" (1).

A superficial *resemblance* to well known clinical syndromes is a common feature of their hysterical simulacra; but the *differences,* as Babinski and others (2) have so often shown, are just as clear to a clinician who has been trained to observe them.

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THE INDICATIONS FOR PROSTATECTOMY AND THE ADVANTAGES OF THE SUPRAPUBIC METHOD.*

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Perineal prostatectomy was first performed by Dr. Edward Z. Cole, of Michigan City, Indiana, in 1884. Three years later Mr. McGill, of Leeds, removed the enlarged prostate by the suprapubic route. Each operation has since been modified to a greater or less extent by many surgeons and the technique improved. Both methods have strong advocates. In England, because of the marked success of Freyer, there naturally is found a strong following of the suprapubic route, while in this country, owing to the large number of successful perineal operations performed by Dr. Hugh Young, a number of surgeons favor this method. Both methods have proved highly successful in the hands of experts, each man probably being more competent to operate by the method he favors and therefore obtaining the lower mortality for his own series of cases.

Prostatitis is essentially a condition of advanced age. Statistics show that thirty-three to fifty per cent. of all men who pass their fifty-fifth birthday have hypertrophied prostates, but only about twenty per cent. of these have prostatic symptoms. By no means do all these cases need operation. The pathological findings are familiar. It is not the size of the prostate that causes the symptoms; but the location of the hypertrophy. Cases are seen with the prostate bulging into the rectum, yet there would be practically no residual urine, while, on the other hand, you may find obstruction in a patient whose prostate per rectum seems of normal size. Upon examination a median lobe or bridge of tissue may be found connecting the two lobes of the prostate which acts as a bar, or the prostate may have become so hypertrophied that it juts into the bladder and closes the orifice like a ball valve. One wonders how many patients are under treatment for cystitis, pyelitis, or even Bright's disease who are suffering from prostatic obstruction.

Hypertrophy of the prostate may lead directly to urinary disturbances in that the lumen of the urethra simply becomes compressed. The picture of the prostatic with obstruction is familiar. At first the bladder walls become hypertrophied,—later, from overdistention, the muscular fibres become tired and stretched out, not unlike an old garter that has lost its elasticity, the walls become thin, the mouths of the ureters gape open, permitting back pressure upon the kidneys and causing chronic congestion there. After a while the bladder will cease to empty itself and a varying amount of residual urine will result. At this time the vitality of the bladder mucosa is below par, and it is easy to see with what ease infection may take place, either from the urine itself or by the passage of a catheter. When these cases are not seen until so late that cystitis is already present with residual urine, the absorption from the dirty infected urine causing a systemic infection, the condition is a surgical one, for sepsis is at hand.

The same surgical principles that apply elsewhere apply here. The bladder needs drainage and the obstruction should be removed. Genitourinary soothing syrups are no longer effective. These cases are not seen early by the specialist. The general practitioner must make the early diagnosis. Increased frequency of urination is perhaps the first symptom, being at first nocturnal. Later it becomes troublesome during the day and finally passes on to incontinence or overflow. It is a fact to be remembered that any man, over fifty-five years of age, who has frequent urination and has to get up at night, should be under suspicion. The patient may complain of difficulty in starting and maintaining the stream; there may be lack of force or a dribbling at the end of urination. The passage of a catheter will oftentimes prove surprising.

A condition that should be kept in mind when making a differential diagnosis is inflammation of the seminal vesicles. This can cause many of the symptoms of hypertrophied prostate and contraction of the neck of the bladder. Seminal vesiculitis may coexist with an hypertrophied prostate or, if alone, be the cause of all the urinary symptoms. It is quite common to find patients complaining of frequent and painful urination, sometimes passing blood, and having residual urine, who, under systematic treatment with massage and rectal douches, make complete recovery.

Those patients having hypertrophied prostates which do not require catheterization, suffer the inconvenience of frequent micturition, especially at night, with the accompanying loss of sleep and becoming unfitted for work or the enjoyment of leisure. As the disease advances they become a burden to themselves and to their families, unable to keep themselves clean or comfortable.

In the past, on discovering that a patient has residual urine the routine treatment was to give him a catheter to use at night, so that he might have a better rest. Later on he used it night and morning, and then frequently during the twenty-four hours. If the patient comes from the better walks of life, he may be able to command the services of a physician who will take such precautions as to cleanliness and asepsis as will postpone infection for some time, but with the germ life that inhabits the anterior urethra it is only a matter of time when urethritis, cystitis, and infection of the kidneys will occur. With the cystitis we have the increased solid constituents of the urine, settling, and formation of calculi, which adds fuel to the flame and the pain, irritation, and hemorrhage increase.

Watson has shown that the mortality during the first two months of catheter life is over eight per cent. This is higher than in prostatectomy. Freyer calls attention to the fact that the apparently innocent benign adenomatous prostate has a tendency to become malignant in ten per cent. of the cases under the irritating influence of catheter life. While these patients are leading the catheter life their chances of relief from operation grow less each day, and the ultimate end of sepsis or uremia

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becomes more certain. It would seem as though the so called conservative treatment is usually a delusion. Since the danger, pain, and discomfort of going without an operation outweigh the risk and pain coincident with an operation for removal of a benign hypertrophied prostate, there seems little ground for controversy. It is apparent that there is a far better chance of recovery in a patient of fair health than in one whose bladder and kidneys have become infected, and who is worn out with pain and broken rest.

The patient should be carefully prepared; the heart, lungs, digestive tract, and kidneys thoroughly examined. If any of these can be improved, every effort should be made to that end. Deaver has aptly said that "postoperative treatment should begin before the operation." With men of this age the functional activity of the kidneys is of the utmost importance. I have used Roundtree and Geraghty's phenosulphonthalein functional test before every operation during the past two years, and have found it of great value in judging the surgical operative risk. If at any time the test has apparently been faulty, we have found it was an error in our technique. Some cases presenting themselves for operation have shown upon chemical examination almost a normal urine with a normal urea output, but under the phenosulphonthalein test have returned only six per cent. in one hour. We have made the urea test as a rule in conjunction with the phenosulphonthalein test to show how often the former is in error. Under cabinet baths, bowel washes, frequent catheterization, and drinking large quantities of water, these cases have gained steadily in the percentage of the dye excreted until the output would show between forty and sixty per cent, the standard. Their general condition also would show marked improvement. Many cases with impaired kidney function, marked trace of albumin, autointoxication with the accompanying gastrointestinal symptoms, are greatly exaggerated, as is shown by the marked improvement and oftentimes complete relief under this preparatory treatment.

It is of the utmost importance that a careful preliminary cystoscopic examination be made, otherwise serious blunders will occur which the patient might have been spared. This examination will demonstrate the presence of calculi, jutting lobes, or intravesical tumor. Examination per rectum should be made both when the bladder is distended as well as when empty. The full bladder will push the tumor down towards one's finger, where the outline can easily be made out. On the other hand, with an empty bladder a pedunculated median lobe or calculus may be detected. Before withdrawing the cystoscope the beak should be turned over to act as a hook and the instrument partly withdrawn. Examination of the prostate under these conditions, as shown by Young, will demonstrate whether there is any induration in the posterior surface between the lobes bridging over the urethra, indicating a beginning malignancy.

Operative celerity consistent with the safety and precision of operation, with reference not only to minimizing the time but the amount of anesthesia, is a matter that cannot be emphasized too strongly. During the past decade one of the most important advances has been the uniform and progressive tendency to reduce the quantity of anesthesia. A skilled anesthetist by the use of nitrous oxide and oxygen will reduce to a great extent the postoperative nausea and vomiting. The less anesthesia given the less shock or chance of complicating pneumonia, bronchitis, or urinary complication. The more thoroughly we look into this subject the more fully do we realize that the anesthetic is the most important factor in determining operative mortality. Old men do not do well under prolonged anesthesia. If the operation can be done under ten minutes they will make a far better recovery than if it is necesary to continue the anesthetic two or three times as long.

Perineal prostatectomy appealed to me during my earlier work as the operation of choice. It seemed to be the better operation because of the natural drainage. There did not follow the long open fistula that I had seen in the suprapubic work of some surgeons and a few of my own cases. Then, if there was a fistula, the leakage occurred only at the time of urination. Doctor Young's brilliant work has led me to believe that the operation which could be supervised with the eye must give better results than one dependent upon the sense of touch. After following the perineal method for several years I saw a number of cases that had been operated in by most competent surgeons, and also in my own practice, in which complications resulted that could not apparently be guarded against at the time of operation. Primarily, incontinence was the worst feature. The patient who has to wear a urinal always remembers you. Secondly, a median or ball-valvelike lobe was occasionally overlooked, and after recovery from the operation the patient would continue to be unable to empty his bladder, and a second operation became necessary. Then calculi have been overlooked, although no excuse exists for this oversight if proper cystoscopic examination is made before operation. Occasionally hemorrhage followed, which was difficult to control, or the bladder filled up with a clot, causing great inconvenience to the patient, to say nothing of the worry to the surgeon. Last, but not least, was the altogether too frequent accompanying epididimitis following operation. After having more or less disagreeable experience with these complications, I concluded that the suprapubic method possessed many advantages and obviated most of the disagreeable complications. The time of operation is lessened, the finger in the bladder can explore for any calculi, balllike median lobes, or it can make sure no tags are left to interfere with urination afterwards. If there should be much hemorrhage it is an easy matter to pack the cavity and control it, and it rarely occurs that an epididymitis follows this operation.

The most important proof that the suprapubic method is the conservative ideal prostatectomy has been recently shown by Tandler and Zukerkandl (1) who have demonstrated that prostatic hypertrophy is always an enlargement of the anatomical middle lobe. They show that this lobe is independent anatomically from the rest of the organ and develops

a separate structure. The object of their investigation was to determine what part of the prostate was really removed at the time of operation. In their view prostatectomy is not the total removal of the prostate, but a shelling out of a mass imbedded in the prostate belonging to the middle lobe and connected inseparably with the prostatic portion of the urethra. The anatomical capsule is formed by a compression of the peripheral parts of the prostate. The removed pieces of the prostate are always the same parts of the organ from an anatomical viewpoint. In no case is the whole prostate removed. They show that the enlargement affects primarily only those structures which are in contact with the neck of the bladder and above the colliculus. The enucleation takes place within the prostate itself, it being an intraprostatic operation. They advise the suprapubic operation rather than the perineal, because the hypertrophy takes place almost exclusively in that portion of the prostate which is next to the bladder. F. Legueu and E. Papin, in a recent paper which included the results of anatomical, post mortem, and clinical research, concluded: First, that the ejaculatory ducts in hypertrophy of the prostate are always situated behind the enlarged gland; and, second, that after the suprapubic method of prostatectomy, they should remain intact, the sexual function being ordinarily preserved (2).

These very important and interesting investigations, which have thrown so much light on prostatic surgery, have taught us, I think, that the conservative prostatectomy is that by the suprapubic route. The part removed lies above the colliculus, so that the ejaculatory ducts are not injured in the removal and, although this may be of small moment to some patients, it causes great concern to others. Urinary incontinence rarely occurs with this method. One of the bugbears that had been held up against the suprapubic method was persistent fistula, which sometimes occurred. If the bladder is opened high up, as shown by Squire, and instead of a large opening in the bladder an opening is made only large enough for the index finger to be inserted, the bladder being invaginated by the operator's hand, as carried out by Dr. Louis Schmidt, the enucleation is made easily. A very large prostate can be delivered through this small opening, which needs but a couple of stitches round the drainage tubes and there is no trouble from prolonged urinary fistula. It is not unusual for patients to pass from three to four ounces of urine at a time by the urethra in one day after the drainage tube is removed and for the opening in the bladder to close in ten days' time.

As to the loss of sexual power after prostatectomy, it may be said that many patients are impotent or nearly so before the operation, and this loss is the least of their troubles. Others are very solicitous as to the outcome in this regard. I have not been able to communicate with all my patients, but the majority report their sexual powers to be as strong as before the operation, although in some cases it was six months before they fully returned. A few report improvement.

In the prognosis given as to the recovery of the patient after the operation, we must remember that a bladder which has been the site of a long standing cystitis, either with a pronounced distention and loss of tone or a small contracted bladder with little capacity, is not restored to its youthful condition by removing the prostate. The cystitis may be cured, but we cannot restore the elasticity of the bladder wall in the first instance, nor can we train a patient whose bladder capacity is but two or three ounces to sleep the entire night without getting up to urinate. Unless this is understood beforehand, prostatectomy is usually supposed to have been a failure.

Postoperative treatment consists of ample drainage until the bleeding ceases, which is usually within twenty-four to forty-eight hours. In a few of my recent cases I have used rabbit serum, which Doctor Clowes, of the Gratwick laboratory, kindly furnished me, at the time of operation, repeating it if necessary within two or three hours. The amount of postoperative bleeding has been very markedly reduced by the use of this serum, and, naturally, the amount of shock is also reduced, which is an important factor with patients of the age considered. The drainage tubes are removed at the end of twenty-four to forty-eight hours, and the patient gets out of bed. The wound in patients with a clean bladder will close in ten days to three weeks. They lose little of their strength because of their short stay in bed, and make a rapid convalescence. There are certain cases of old broken down prostatics who are in no condition for operation, but who must have immediate relief. For this class of patient the two stage operation is very efficacious. A suprapubic stab wound can be made under cocaine, or, if necessary, without an anesthetic. The patient being free from the constant call to urinate or frequent catheterization, gets much needed sleep and rest, so that after a week he can undergo the short operation for the removal of the gland through the same wound.

In conclusion, I believe the suprapubic operation is shown to be the ideal conservative one, because it is anatomically correct; the offending part is easier of access by this route; the obstruction is completely removed; control of the urine is regained with no dribbling; and the ejaculatory ducts are presumably not injured.

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THE MOVABLE CECUM.

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So far, statistics have been compiled on appendectomies for the acute condition and none to my knowledge on the chronic. Outside of operations on the female pelvic organs, no portion of the body gives us more anxiety for complete cures than those for so called chronic appendicitis with symptoms located in the right iliac fossa. Operating at the present for chronic appendicitis has assumed the rôle and greatly exceeded that of chronic

oophoritis, which enjoyed its vogue about ten or fifteen years ago. As with all surgical procedures, especially those that are easily accomplished, their introduction is received with considerable enthusiasm and practised fervently until we have a greater or lesser list of operations to our credit with a certain amount of failures. It is not until then that we look for the finer points which are essential for obtaining more perfect results. Having opened the abdomen, found the appendix kinked, the blood vessels in the peritoneal coat dilated, and sometimes a few cobweb adhesions surrounding it, our procedure seems justifiable and we send the patient home with the utmost assurance of a complete recovery. However, in a short time she returns with the same picture as before and we are at a loss to know what ails our patient. Lane, a few years ago, partly eliminated our failures by describing the kink in the ileum, and Wilms has recently shown that a movable cecum has a great deal to do with our poor results following some operations for so called chronic appendicitis.

When one fully realizes that considerable mobility and prolapse of any or all the abdominal organs is not incompatible with perfect health, we naturally hesitate to advocate a surgical method to relieve some conditions or complaints due to nothing more than a too loose mesenteric attachment. But now and then we meet with cases presenting symptoms which, when explored surgically, suggest their symptom complex to be due to an abnormal range of motion. Wilms' (1) work on the movable cecum is a most valuable contribution to the surgery of the right lower abdomen, when we consider that about one out of every four cases, if not more, of so called chronic appendicitis is a movable cecum producing symptoms. The varying but normal mobility of the abdominal viscera makes it impossible to set a limit of motion for the cecum, nevertheless there are cases where a certain amount of excursion of the caput coli causes distress, both before and after removal of a chronic appendix.

Since the ileocolic segment of the mid gut begins to adhere to the posterior parietal peritoneum about the third month of fetal life and is not completed until about the second year, and also the last portion of the alimentary canal to become fixed in its normal habitat, an abnormal range of motion can easily occur. From the nature and distance of its transmission, the position of the cecum is subject to more anomalous conditions and positions than any other portion of the alimentary tract. The large gut is laid in position as one lays a rope along the ground, the cecal extremity being the end last placed. This uncertain or loose attachment of the caput coli and ascending colon accounts largely, I think, for the loose right kidney, since, as Longyear has plainly shown, the hepatic flexure is connected to the inferior pole of the kidney by a true ligament. The relatively diminishing size of the liver in the infant may be retarded enough to leave the right kidney and ascending colon in a lower position than normal. The persistence of the embryological band connecting the cecum with the right ovary and testicle is another factor in producing a low cecum. I have had several cases in the female where Cleido's ligament was distinctly shown tugging on the cecum, the ablation of which removed the gastrointestinal symptoms.

Ancel and Cavaillon (2) after completing a very thorough study of the gross anatomy of the cecum, found it fixed in eighty-three per cent. of all ages, either completely or with the base free or without a complete attachment, but fixed by its ligaments. They found that a cecum fixed high, i.e., near the region of the liver, is generally a dilated cecum due to a premature fixation and resulting in over development. In another paper (3) they studied the floating cecum and the modes of attachment of the cecal peritoneum. They presented three full term fetuses each possessing a floating cecum appended to a common mesentery of the ileum, cecum, and colon.

Brito (4) found in his series the peritoneum investing the cecum in front and the sides but loosely behind and below. Perondi (5) from fifty cadavers found the usual seat of the cecum in the deepest portion of the iliac fossa. In twenty-five per cent. it was found in the pelvic cavity or lumbar fossa. In two of the cases the cecum was absent. The serous coat appeared complete in seventy-five per cent. Algane (6) found the cecum in the lumbar fossa once in fifty female subjects and twice in the same number of males; in the iliac fossa in eighty-two per cent. of males and in sixty-two per cent. of females; in the pelvis in fifteen per cent. of males and thirty-seven per cent. of females; thus showing a preponderance toward a lower position in females, the cecum in the latter descending in about thirty per cent. of the cases in contact with the right uterine annexa. Celos (7) cites an autopsy where the cecum adhered to the vas deferens. In a study of 200 subjects Perondi found the ileocecal segment to have great mobility in seven per cent. He found in sixteen per cent. it was naturally adherent by the whole or greater part of its posterior surface, and the terminal ileum adherent to the posterior abdominal wall in nineteen per cent. He found there was no essential difference between the normal situation of the ileocecal segment in the abdomen of a child at the age of three years and in that of an adult. Parsons (8) found in the records of seventy-five autopsies that the usual textbook cecum occurred in thirteen per cent. of this series. Berry (9) found the cecum varying with age, being absolutely and relatively larger in adults than in children, thus showing an adaptation to increased function. In these records the cecum was surrounded and invested by peritoneum in ninety-four per cent. without a mesocecum. Lardennois (10) after an anatomical survey considers the cecum to be protected against volvulus, hernia, ptosis, and dilatation through its close attachment to the posterior abdominal wall. Treves found a mesocecum once in four subjects.

From the foregoing observations we must conclude that in only a small percentage of cases will we find a loose or prolapsed cecum as the etiological factor of a certain train of symptoms. However, we have for observation two types of movable ceca which in some cases are productive of distressing symptoms, viz.: (1) the ileum, cecum, and ascending colon having a common mesentery, found mostly in infants and children under five

years, subject to volvulus and intussusception; (2) the ileum quite normally fixed to the posterior abdominal wall, but the cecum and ascending colon loosely attached, found usually in adults, allowing a lower than normal position of the caput coli, producing traction on the appendix and kinking it, traction on the ileocecal valve, obstructing it, and a kink of the terminal ileum (Lane kink). In the first type you will sometimes find the cecum has failed to rotate, and the terminal ileal coils posterior to the cecum. Here the cecum is found higher than usual, i.e., above the iliac fossa, but with an abnormal range of motion, being a more pronounced type of congenital malformation. These high ceca are generally possessed of a too free range of motion and in addition one or two of the pouches formed by the longitudinal bands will be found dilated, thus increasing and delaying its contents, which in turn tend further to aggravate the traction.

The cecum may dilate to an immense size, as in a case reported by Badouin (11), ending fatally in typhoid fever. On autopsy, the cecum was found to occupy a part of the right hypochrondrium, the iliac fossa, and the small pelvis; it flattened the rectum and bladder and laterally it touched the pelvic walls. Harvey (12) records an autopsy in which the whole abdomen was occupied by a dilated sacculation of the cecum, which did not extend beyond the ileocecal valve, showing the tendency, individually, of the cecum to dilate, resembling the stomach.

Quenu and Heits-Boyer (13), in a study of the anatomy of the cecum and appendix on ninety-three subjects, conclude that the cecum is not an ampulla but an inflected canal composed like the stomach of two parts forming an angle at a variable degree.

The cecum has often been called the second stomach from examples found in the lower vertebrates, and justly so when in man we compare the two, anatomically and physiologically. The stomach is a dilatation near the terminal portion of the fore gut, receiving the partly digested food from the canal above with the digestive juices from the salivary glands, mixing it thoroughly, absorbing very little water, but some food. It is a reservoir for food mostly. It tends to prolapse and dilatation. The cecum is a dilatation near the termination of the mid gut, receiving the digested and undigested food and water from the proximal portion of the mid gut, mixing its contents thoroughly and absorbing what little remains of the digested food, and nearly all the water, which is a large proportion of that ingested. It is a reservoir for water mostly and tends to prolapse and dilatation. Is there not some relation physiologically between the pylorus and the ileocecal valve, and is it not probable that some cases of pylorospasm are due to an interference with the action of the ileocecal valve? We have operated a number of times for chronic dyspepsia, removed a practically normal appendix (macroscopically and microscopically), elevated the cecum, and the patients recovered completely from their previous symptoms. I fully realize there is a type of dyspepsia due to a true appendicitis, the appendix showing a pathological condition as described by Mayo. In our cases there may have been traction on the ileocecal valve from the cecum via the posterior ileocecal fold (mesoappendix), which, when divided, will abolish any interference with the valve, providing the cecum is elevated. W. J. Mayo, eleven years ago, described a type of constipation due to narrowing of this orifice.

The cecum is supported principally by the ascending colon, which in turn obtains its main support through its attachment at the hepatic flexure. We frequently find in a prolapsed cecum this hepatic flexure very loosely attached together with a loose kidney. If the terminal ileum is loose enough to follow the cecum in its excursions, in probably all cases no symptoms will occur, but if occurring will be due to traction on the right kidney, an acute angulation at the splenic flexure, or hernia. If, however, the ileum is normally fixed, but the cecum loose, the ileocecal valve can be interfered with through traction, and the ileum and appendix may become kinked (secondary appendicitis). The capacity of the cecum being greater than any other portion of the alimentary canal, excluding the stomach, and the nature of its contents being largely water to empty itself against gravity, a more or less fixed point or support like the iliac fossa appears to enhance its proper functioning. The cecum is a diverticulum of the original straight gut and in so diverting carries with it three peritoneal folds, an anterior and posterior vascular, and a middle nonvascular (Huntington (14)), all tending to keep up traction on the diverting pouch, especially after the ileum becomes fixed and the subject is standing. The anterior and middle folds generally become obliterated after the second year *if the cecum becomes fixed*, leaving the posterior as a mesentery to the appendix and a partial support to the cecum. According to Huntington, the cause of the greater development of the posterior as compared with the anterior ileocecal fold is probably to be sought in the adhesion of the colon to the dorsal parietal peritoneum. Therefore in nonadhesion, the anterior fold retains a relatively larger size, giving some means of support to the cecum, simply a matter of demand on the part of nature, causing a corresponding amount of hypertrophy, a law applicable to all tissues when there is a need for increased function. In observing these folds on the operating table one noticing their laxity, will attribute very little means of support to them, but our knowledge of the true supports of all the abdominal and pelvic organs is limited by the fact that we operate in the prone position, relieving all tension.

In true cases of appendicitis is it not possible, with the ordinary technique of cutting the mesentery (posterior ileocecal fold) and "letting it retract" to induce a prolapse of the cecum, thus accounting for some of our failures following the so called simple appendectomy? Meyer (15) reports a case of prolapsed cecum after an appendicostomy.

Recently, considerable has been written about the adhesions surrounding the large gut. So far they have been observed involving the cecum and ascending colon, generally the portion of the colon we have just considered to be subject to prolapse. In reading these papers, particularly those of Jackson and Gerster, and noting the adhesions present

in our cases, one cannot help but feel that these long veillike processes extend from the parietal peritoneum. Their attachment is generally broad or fan shaped on the bowel, an act of nature to give a general support to a prolapsing organ. Jackson and Gerster think these broad veillike processes are due to chronic infection arising from the large gut. The large gut being the container of the waste products of the body is so constituted to allow of very little drainage through its walls, as shown by its scant lymphatic supply. In case absorption takes place it will be by the most accessible avenues, viz.: the blood and lymph stream, the latter signifying its part by enlarged lymph glands. In case an active ulcerative process extends through the walls, involving the peritoneal coat, you will find a localized area of thickened peritoneum or a loop of bowel covering it, or, what is more likely, the great omentum adhered to all suspicious areas. Nature uses the first available area of peritoneum to surround infective processes when—and we think only when—these processes are irritating the bowel's peritoneal covering. It is true that adhesions of the cecum and ascending colon occur in ulcerative processes involving them, but they are not these veillike coats. These veillike adhesions, so admirably described by Jackson and Gerster, grow from considerable distance and could not check absorption into the peritoneal cavity, which adhesions do, in case of threatened infection. They are layers of normal peritoneum, developed through some long standing irritation, such as prolapse of the cecum and ascending colon, being Nature's effort to send forth additional support from the most available tissue, the parietal peritoneum. Their attachments are broad, which indicates an effort to support and not to constrict. As the gut increases its downward excursion, constriction of the lumen takes place, nature's anatomical results being better than her physiological. Symptoms of obstruction occur and are relieved by division of these supporting bands which have become constrictors. Simply dividing these gives good results temporarily in some cases, and if the prolapsing organ is fixed in its proper place more lasting recoveries are assured. In noting Gerster's results I cannot help but feel that they might have been better had he elevated the cecum and ascending colon and relieved the acute splenic angulation.

Keen (15) considers "malformations, angulations and kinks to be due to some developmental abnormality of the colon." He considers these angulations to be active from the earliest months of life; that a faulty mechanism might perform its functions normally until some extraneous cause, such as childbirth, lingering illness, or trauma, converting what might be called a potential angulation into an actual obstruction by disturbing the intraabdominal equilibrium which permitted sagging of the intestines with formation of kinks at the junction of a fixed and movable segment.

The prevalent, and perhaps we may call it the normal, approach of the ileum toward the cecum is from below, ascending from the pelvis as shown by Monks. If the cecum is held in the iliac fossa there is very little angulation of the ileum, but if loose a kink may result in the small bowel. Simply dividing this Lane kink will relieve the patient in the majority of instances, but to prevent a reformation fixation of the cecum I think a logical procedure. In case we have the more pronounced type of congenital malformation as previously described, no symptoms may be perceptible until the right kidney is pulled out of place, the occurrence of an intussusception, hernia of the cecum, or the production of an acute angle at the splenic flexure, causing intermittent obstruction. In operating to relieve such conditions I think the cecum and ascending colon also should be fixed in their normal position.

There is a class of cases where we have a set of symptoms located entirely in the right lower quadrant of the abdomen which present symptoms often suggestive of and diagnosticated as chronic appendicitis. When explored we find an appendix presenting the condition as previously described, and sometimes hanging over the pelvic brim. We remove it, but do not obtain the desired result. The patient returns without the acute pain, necessitating remaining in bed, but with practically all the previous symptoms. On first seeing such a case the patient will complain of distress in the right lower abdomen, of a sharp colicky nature, extending up and down this area, brought on generally after a heavy meal and relieved when lying down. Purges, especially large doses of castor oil, generally cause sharp pain in this region, due probably to tugging on a kinked appendix or the bowel contents passing over a Lane kink. There is generally constipation and sometimes gastric symptoms due to spasm of the pylorus. If the latter exists, you have either what we may call a secondary appendicitis brought on by kinking, or a traction on the ileocecal valve. If you observe the patient during one of her spells you will find a normal temperature and no leucocytosis. On palpation the right rectus is not rigid and there is a loud gurgling sound produced in that region. Some observers are able to feel the gaseously distended cecum. The right kidney is generally palpable.

The habitus enteropticus is frequently present, which condition is found mostly in women. Here the right side of the pelvis is tender, but otherwise negative. As previously pointed out, a high cecum is frequently dilated and although I have had no experience with it, if loose might be productive of irritation. If present, we must differentiate from a dilated gallbladder or kidney pelvis. Another most suggestive sign of a movable cecum as the etiological factor is the return, after an appendectomy for a so called chronic inflammatory condition, of practically all the previous symptoms, after having ruled out at the first operation ureteral stone, Lane kink, gallbladder trouble, anomalous kidney vessels, growths, etc. The bismuth radiograph is the most valuable means for corroboration at our disposal, as shown by Wilms and Schwartz. They administer bismuth by mouth and take the radiograph no sooner than four hours after its ingestion. They rightly suggest one picture to be taken while the patient is standing and one lying on the left side, thus allowing the accustomed excursion. In taking the latter radiograph we are careful to see that the patient is supported only at the hips, thorax, and shoulders, thereby allowing greater mobility than if there were the usual pressure on the left side of the abdomen when lying down. We use the

method devised by Hirschman and used very successfully by Hickey, of Detroit, for all their colon cases. They use two ounces of bismuth subcarbonate, four ounces fuller's earth in one quart of water. The patient is given a purge twenty-four hours, an enema two hours, before the injection. With the patient in the knee shoulder position, the bismuth mixture is slowly injected. This reaches the cecum inside of ten minutes and an excellent radiograph of the whole colon and the mobility of the cecum can be obtained. After opening the abdomen the cecum can be placed outside the incision without tension on its attachments. The appendix is found in any position and often sharply kinked. It is often entirely invested by peritoneum with a narrow mesentery, hanging free in the abdominal cavity and directed toward the pelvic brim, thus illustrating the result of delayed fixation of the cecum on the position of the appendix.

The occurrence of sliding hernia of the cecum might be a contraindication to Wilms's fixation since the peritoneum over the iliac fossa is so loosely attached. The prolapse sometimes extends along the ascending colon, including the right kidney, and a complete fixation of this portion of the colon by the author's method (17) and a nephropexy would simulate nature more than Wilms's. If a good bite of the fascia beneath the parietal peritoneum is taken and one including all the coats of the gut, especially the submucosa, excluding the mucosa, I think there is very little danger of recurrence.

We have fixed the cecum in six cases, all in women, four nullipara, in whom the so called chronic appendix had previously been removed, in two of our own and four coming from other surgeons. In every case the previous symptoms have not returned six months after the second operation.

CONCLUSIONS.

1. A movable cecum may be productive of symptoms resembling chronic appendicitis.

2. A high cecum may be a movable cecum producing symptoms.

3. On finding only a kinked appendix and a pronounced anterior ileocecal fold, look for a prolapsing cecum and a Lane kink.

4. The type of constipation produced by a prolapsed cecum may be due to traction on and narrowing of the ileocecal valve.

5. Some cases of pylorospasm may be due to narrowing of the ileocecal valve by traction of the cecum.

6. Wilms's cecopexy, Murphy's sigmoidopexy, Lane's ablation and anastomoses, all efforts to relieve stasis, show a variety of opinions on surgery to remedy functional conditions of the colon and indicate the necessity for further study.

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A PLEA FOR THE ESTABLISHMENT OF A DEPARTMENT FOR THE CONSERVATION OF HEALTH IN HOSPITALS AND DISPENSARIES.

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Public opinion nowadays largely concerns itself with social, religious, and political problems, but a comparatively small proportion shows its interest in other questions, which are of similar and perhaps of greater magnitude. The writer in this article will not attempt to dwell upon the relative importance of any one of these problems; but his purpose is to treat one phase of a question which is of most concern to the masses, namely, What can the hospital and dispensary do for its discharged convalescent who is soon to begin the toil of labor? Has the hospital and dispensary fulfilled its obligations after it has cured the sick, or has it any other functions to perform?

Ruskin once said that interference which tends to protect the health of the masses is viewed by them as unwarranted interference with their vested rights to inevitable disease and death. But the genial author forgot that the greater *the ignorance,* the stronger is the opposition to regulations and laws for the protection of life and health.

Experience and history show that in every field of scientific discovery, the intellectual class is sure to profit from the revealed results, while the masses —the noneducated ones—owing to various circumstances, are sure to remain in the dark. From this point of view matters bearing upon the question of the conservation of life and health have the following relation: On one side we have a medical profession of thousands of well informed physicians, who do not spare any effort, and exert every possible means to cure the sick, while on the otner side, thousands of human beings are ignorant about the first essentials of prevention of disease. And in the same proportion as the learned physicians have endeavored to keep abreast with the latest scientific discoveries, the laity has remained almost in total darkness of all that has been going on in the field of medical activity.

We need but read the history of medicine, and we shall see how no stone has been left unturned for the solution of problems relating to the cure of diseases; but in vain would we have to search to learn about the great work done by the medical profession to educate the common people how to keep well.

Even in our own times, when the spreading of education and learning among the masses is considered as the foundation upon which rests the entire structure of our civilization, it is not yet deemed of absolute necessity to initiate the people in the knowledge of the prevention of diseases and conservation of health.

We see that everything is done now, as centuries ago, for the cure of ills; but almost nothing for the instruction of the people to prevent these ills. Necessity has compelled large communities to institute special boards to enforce the laws concerning general hygiene and prevention of epidemics; but

how much more effective would it prove if instead of keeping up an army of officers, whose duties are to enforce the sanitary rules, these communities kept up an army of teachers to enlighten the ignorant and educate the masses how to keep well? How much better would it be for the welfare of the nations, if instead of spending hundreds of millions yearly to train their best and strongest sons how to kill in time of war, money were spent to train its citizens how to live and keep well?

Thinking physicians and leaders of our profession begin, at last, to admit that prevention, the most rational method of combating disease, could not be successfully carried out among people who are totally ignorant of the most elementary laws of hygiene, and that only a long sustained, energetic, and systematic campaign of education in matters bearing directly upon the conservation of health, will put the people in a position to know how to keep well.

As long as the medical man thought that his function was only to cure he might have been right when he did all for his personal instruction and almost nothing for that of his community; but since the advent of modern discoveries regarding the etiology of infectious and many other diseases, the function of the physician becomes mainly that of a teacher, of a missionary who preaches the gospel of prevention and health. Already the number of those who do not admit that prevention is more important and more effective than treatment, is growing to be very small; but at the same time there are but few who have the enthusiasm necessary to do the pioneer work of educating the masses.

There are many obstacles which stand in our way of practising prevention. Among the most obvious are *poverty* and *ignorance*.

Poverty cannot be cured by ordinary methods; but we can dig a tunnel through the mountain of ignorance and so enlarge it until all darkness will be dispersed. Is Professor Osler wrong when he thinks that in medical matters the ordinary citizen of to-day has not one whit more sense than the old Roman?

I believe that a new purpose has arisen for the physician, and this is to teach the ordinary citizen in matters medical, making him able to understand the principles of prevention.

THE PROBLEM OF PREVENTION IN RELATION TO HOSPITALS AND DISPENSARIES.

If we made an inquiry about what the hospitals and dispensaries, all over the world, are doing to instruct their thousands of patients how to keep well after they recover their health, we should conclude that most of the patients leave the hospitals without receiving any instructions whatsoever on this subject, and that even when there are some instructions, they are given in such a hurried and perfunctory manner as to make them entirely worthless. And when we think that the patients and their relatives with whom they come in contact in hospitals and dispensaries would be the most interested listeners to those who undertook to preach the gospel of health, our spirits almost rebel why more work is not being done along the same lines. It is unnecessary to speak about the meager, unsystematic way the students in medical colleges are taught the science of prevention. If very little attention is given to this subject in the colleges, how can we expect that the average physician should strain his power in that direction? If college professors do not preach the importance of educating the people how to conserve their health, how can we expect that the physicians should do this work in the hospitals and dispensaries?

The time has come when this subject has to be seriously considered by the entire medical profession. I leave the discussion of the question of instituting a special chair in preventive medicine in the different medical colleges to men of greater experience and knowledge. In this paper I shall limit my remarks to a plan by which, I think, a movement could be started at once for the spreading of the knowledge of preventive medicine among those who do not know its significance.

As we well know, the hospitals and dispensaries handle hundreds of thousands of patients daily. The convalescents are the very first who would listen with the greatest attention to the physicians who took upon themselves to instruct them how to keep well. Printed leaflets explaining the cause of their troubles and the way to prevent them, distributed profusely among the fortunates leaving the hospitals and dispensaries as "cured," would be religiously read, reread, and studied. To my letter to the *Institut bibliographique*, of Paris, asking them to send me all the printed instructions that are given to the patients who leave the hospitals in France or elsewhere, I received an answer stating that no such instructions are in existence.

The more we think about this subject, the more we wonder how it is possible that institutions which leave nothing undone to have their patients cured, which do not refrain from spending fortunes for instruments and apparatus in order to facilitate a diagnosis and improve a treatment, have failed to recognize how effective a department of prevention would prove.

A FEW SUGGESTIONS.

To carry on such work the following plan might be suggested:

1. The medical staff of a given hospital and dispensary should organize into a body with the special aim to study the ways and means of a practical campaign of spreading among the convalescents the knowledge of the most elementary rules of *personal hygiene*.

2. This body could select a chief, who would be in charge of a special department for preventive medicine. An advisory board composed of physicians engaged each in one specialty, could help to supervise the activity of this department. Considering the variety of problems connected with such a work, no hard and fast plan of activity could be devised at the start. But a start has to be made.

3. Past experience has shown that exhibitions and lectures, monthly bulletins, and personal instructions are very effective in spreading knowledge. The tuberculosis exhibitions have attracted attention of a large number of people to this scourge, and hundreds of thousands of people have learned that this disease is very often curable if recognized and treated in time. A similar system of exhibi-

tions could be organized in some part of the hospital or dispensary. In these exhibitions everything pertaining to the health and prevention of diseases could be illustrated by charts, photographs, pictures, etc. Surely eyes that can see would learn something from that.

4. Lectures on topics relating to the conservation of health, by good speakers, would be another way of reaching the ears of those ignorant of the blessings of knowledge.

5. Finally, monthly bulletins, discussing the most pressing questions and topics of the day, prevailing epidemics, etc., should be given to every caller at the hospital and dispensary. Such literature would contribute a great deal toward the teaching of people "that cleanliness is next to godliness."

At the meeting of the American Medical Association its president had to admit that "up to date the patent medicine almanacs, quack advertisements, and leaves of healing" have been the principal instructors of the public in the United States of America, and he added: "I believe that the public instruction in medicine is one of the most important functions that the American Medical Association has to perform."

Well, are not the hospitals and dispensaries the most appropriate places for the instruction of the people to begin? Is not there the place to find interested listeners, where our words will be appreciated and understood? There we can teach the blessings of cleanliness, the penalties of dirt, and of the abuse of the body by irregular life, the use of alcohol, tobacco, and so on. The field is unlimited and so is the good that the people would derive.

In the dispensaries patients from every other department needing detailed instructions regarding diet, hygienic rules would be referred to the department for preventive medicine, with a card indicating diagnosis and matters to be explained to the patient. How much time, beside that necessary to say "Take one pill every four hours," does the physician nowadays devote to the instruction of the patient in the dispensary what to do to get and keep well? Would not the establishment of a special department relieve the fatigue of those hard working dispensary physicians, who feel how incomplete and superficial their work is?

Such a department would put sanitation within the grasp of all and would drive home the gospel of good health to the poorest, the most ignorant and indifferent individuals.

I have no doubt that some of my readers will argue that the masses need to be educated and informed how to keep well and prevent disease, but, they will say, the hospital and dispensaries are not instruments of instruction. May I, however, ask whose business it is "to instruct the poor and helpless, the very people who know the least about avoiding and detecting diseases and who are the most exposed to it?" as Mr. Rittenhouse, one of the pioneer workers in this field, said. Shall we leave this to the church workers, to the druggists, and patent medicine men? To the faith healers, to fakers who have articles and advertisements written for newspapers by most talented writers? Shall we leave it to the insurance companies, to schools of physical culture, to sects of vegetarians? Is it not our natural field of activity to teach the people what is right and what is wrong in matters pertaining to health? Is not the hospital the place where patients lie and roam around during their convalescence, the appropriate institution to preach about health? Where could we get more interested listeners? Where more competent teachers? What persons would appreciate the value of health more sincerely than those who have just lost it and suffer so much to regain it?

Is it not our duty to teach the people whom we discharge as "cured" how to take care of themselves in order to prevent a relapse, and get a lasting benefit from the treatment they have received in our institutions?

Of course, objections could be brought against the most self evident truths. Some would undoubtedly exclaim, "To create in hospitals and dispensaries a new department for the education of the people in matters regarding health is absurd! We are already laboring under almost insurmountable difficulties—yearly deficits, too large hospital and dispensary staffs, very complicated office work and bookkeeping, the attention to thousands of details of administration, etc. Shall we assume another burden?"

The fallacy of such arguments to the open minded man is evident. As to the matter of deficits and expenses, such a new department would certainly require an additional outlay of money. But considering the question from both sides, may I ask, Why spend so much money for the purpose of curing diseases, and refrain from spending money for the purpose of preventing them? Could we not find philanthropists who would derive just as much happiness from preventing as others do from relieving pain and misery?

The amount of necessary expense and labor attached to a department for the conservation of health, in the eyes of those who hold a conservative opinion about the present situation, seems to assume great magnitude; but we must not forget how much good such a department might do. By educating the people the number of patients coming to the hospitals and dispensaries would be reduced in the future, and consequently a stop would be put to the increasing expenditures which every institution has to face yearly. No doubt the money spent for the creation of this new department is a good investment *for the future.*

I repeat: The teaching of the principles of conservation of health is the real and most important task of the medical profession of to-day. Preventive medicine, conscientiously carried out by every member of the social body, cannot be accomplished without a strenuous and steady campaign of education. Ignorance and neglect of the most elementary laws for the conservation of health are evils resulting in an enormous amount of wasted energy and life, in poor physique, in a high rate of preventable diseases and preventable mortality among the poor people.

The hospitals and dispensaries are the most appropriate institutions where the gospel of health could and must be preached.

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KRAUROSIS VULVÆ.*

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Kraurosis, or progressive cutaneous atrophy of the vulva, is not the rare disease that a statistical review of the literature would represent, for I believe that many cases have been treated by gynecologists that have not found their way into the literature. More especially do I believe that if we can assign oblation or extirpation of the uterus and its appendages as one of the causes, and as it has followed this condition of affairs more than any other cause, I believe it is an etiological factor to be contended with until a more definite cause can be ascribed.

Dr. Robert F. Weis, of New York, operated in a case in 1869, which is reported in the New York Medical Journal for March, 1875. This is in all probability the first authentic case on record. Kraurosis is of Greek origin, meaning shriveling or dryness of a part, especially of the vulva, but I believe with Reed that progressive cutaneous atrophy of the vulva is a better name for this now recognized distinct disease.

Shortly after this, Tait, in his book *Diseases of Women*, 1877, says it is a progressive atrophy of the mucous membrane. For when the process is complete there remains but a vestibulum vaginæ so narrow that incredulity may be excused when the patient states that she has borne children. In his book he says to watch the complete course of the disease almost from its commencement to its perfect recovery. This experience is rare, because the patient suffers so much that she generally wanders from one gynecologist to another until the degenerative process works its own cure. Breisky, of Prague, in 1885 gave the first complete pathological finding based upon the twelve reported cases. While the condition had been observed as previously stated, it was the pathological importance of the disease, as reported by Breisky, which earned for it a distinct name.

Dr. Charles A. Reed, of Cincinnati, says the most authoritative expression on this phase of the question, however, is that which emanated from the *Gesellschaft für Geburtshilfe und Gynäkologie zu Berlin* at its meeting in February, 1894, on which occasion the consensus, based upon the fullest consideration of recorded facts and upon the wide personal experience of the participants in the debate, was to the effect that the disease in question was entitled to recognition as a distinct disease. The etiology is decidedly uncertain. In studying the recorded cases neither heredity nor syphilis nor any other disease seems to play any part as a causative factor.

Lewin, in the examination of seventy to eighty thousand women, failed to find this condition present. Some observers claim that gonorrhea and nonspecific vaginal discharge is a cause. While I do not pose as an authority, I do doubt that gonorrhea or nonspecific discharges are causative factors; for, if they were, we certainly should expect to find this condition often, as the percentage of women who have gonorrhea or chronic vaginal discharges is exceedingly high.

Alshausen states that in a limited number of cases the atrophic changes seem to be inaugurated by the extirpation of the uterine appendages. In reviewing the cases as reported, I believe that this cause should be given a great deal of attention, because of the fact that it has followed this condition more than any other so far discussed. The one etiological factor which most writers on this subject seem to be united upon is that it is of nervous origin, either from the peripheral trophic nerve filaments or their ganglia.

The pathology, according to Reed and Longyear, as reported by Frank is as follows: A degenerative process occurs in the cellular tissue underlying the cuticle, preceding and leading up to the surface manifestation. Small vascular areas appear around the introitus vaginæ. These are depressed and are very painful to the touch. There is a narrowing of the vaginal orifice associated with diminished elasticity of the structures and a leatherlike appearance of the tissue. There is a shrinkage of the nymphæ and clitoris. Pigmentation disappears and the pubic hair becomes dry and scanty. Microscopically, there is first a hyperemia of the tissues, followed by small ecchymoses. The epithelium is irregularly thickened in spots, and in other places is very thin and almost absent. Small epithelial pearls, similar to those of an epithelioma, but smaller and not so perfect, are found.

The corium presents in the early stages a cellular infiltration, small round cells invading the subepithelial tissue. In the later stages the cellular infiltration is less marked and there is a disappearance of the papillæ. Bacteriological examination gives negative results, except for such bacteria as are normally found in the vagina and on the vulva. The symptoms vary in different cases. The first complaint is often with reference to dyspareunia. In the absence of sexual relations the disease of itself is not very painful in some cases. Late in the disease there is a loss of sensation in the entire diseased area, but there is never a return of elasticity to the parts. Itching is a very inconstant factor, being complained of in about half the cases. It is to be differentiated from vaginismus in early stage by the presence of sensitive areas and by the shrinkage. During the itching stage, if such is present, it is to be differentiated from neurofibrosis vulvæ, which is hypertrophic instead of atrophic. In the last stage it must be differentiated from ichthyosis, which fissures and exfoliates, while kraurosis does not.

Treatment, previously or in the early stage of the disease, was both palliative and radical, but the treatment of to-day is decidedly radical. The only precaution is in not doing a radical operation too early or return of the disease is liable. Reed speaks of this, for his first two cases were classed by himself as premature operations, for there was subsequent development of the disease beyond the area of operation.

Case. Mrs. W., married two years, white, aged twenty-four years, housewife, born in the United States. Family history negative, personal history, all the diseases of childhood; menstrual history, at the age of fourteen years, menstruated first; not painful, duration about four days; men-

*Read before the Rensselaer County Medical Society, May, 1911.

struated last, August 4, 1909. Present illness about three of four years before. Had shooting pains about the vulva which caused her a great deal of anxiety and embarrassment. Immediately after the pain ceased, she would complain of an intolerable itching followed by swelling of the parts. After the swelling subsided, the parts would scale off. Local treatment with lotions or ointment did no good. Attempted intercourse would cause severe pain. Hair of pubis scanty. It was impossible to examine her without first giving her an anesthetic.

Examination under ether: Labia majora atrophied; in fact there did not seem to be any labia majora. The labia minora and, for one half inch on both sides of it, the skin were thick like leather, with here and there a pearly looking area about the size of the head of a hatpin. The line of demarcation betwen healthy and abnormal tissue was well marked. The hymen was present, thick and leathery like the surrounding tissue. Even under an anesthetic, it was with difficulty that I could get my little finger in the opening which was resistant and unyielding. The parts in the vagina were normal.

Operation: Commencing from above, outside the diseased tissue, I dissected away the whole diseased tissue, excluding the hymen, the incision starting on the right side and from above. I came down the posterior commissure and upon the left side after the diseased tissue had been removed. I dissected the posterior vaginal and lateral wall for about one inch. I cut partly through the external perineal muscle so as to leave a larger vagina. I then sewed the vaginal mucous membrane to the healthy skin.

The patient made an uninterrupted recovery. She is now able to enjoy life without any pain or hindrance.

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THE URINE IN ITS PATHOLOGICAL RELATIONS TO GOUT.

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There is no doubt that perfect urine examination is a great help in diagnosticating gout. No diagnosis is based so strictly upon the findings in urine as that of gout.

In acute gout, the urine, reduced in amount, is concentrated, high colored, of moderately high specific gravity, 1018 to 1025, either clear or clouded with urates, and occasionally there is a deposit of uric acid. Occasionally there is albumin, too, but in most of the acute cases no albumin can be found. Excess of urobilin and uroerythrin usually occurs, and also occasionally of hematoporphyrin. About three or four weeks ago I had the chance to examine such a urine and found urobilin and uroerythrin in such excess that it may be called exceptional, for there was a specific gravity of 1038, although no albumin, no sugar, was present, not even indican, except the usual quantity. Blood was absent too. In chronic gout the urine, plentiful in amount, is lightish colored, clear, with a specific gravity of 1.005 to 1.018, and frequently with a trace or more of albumin, and possibly of a few granular or hyaline casts.

Luff thinks that permanent albuminuria is a fairly common occurrence in confirmed gout. I had found in nearly eighty per cent. of the chronic cases albumin, permanently. Duckworth has observed a high specific gravity of the urine in many members of families of gouty proclivity.

I had known for many years in Poprad, a small village in Austria, a family, consisting of fourteen members, and each one had been suffering from chronic gout. There is some doubt about the heredity. The innumerable experimental investigations concerning the nature of gout, a disease which is supposed to result from a specific form of abnormal metabolism involving processes that directly appeal to chemistry for their elucidation, have been singularly unproductive of practical issue so far as any useful knowledge of resultant changes in the urine goes.

Attention has been focused on uric acid, since Garrow discovered it in the blood of gouty patients and for a long time the spontaneous deposition of crystals of uric acid from urine was held to afford ample proof of its presence in excess, and further, inasmuch as attacks of acute gout are accompanied by the deposit in certain tissues of uric acid in combination with sodium, a coincident diminution of the urinary uric acid was assumed as a corollary. Neither of these assumptions is any longer tenable, as recent researches conducted with improved methods show that little if any change occurs in the output of uric acid during an attack of acute gout.

Badt and Magnus Levy (*Zeitschrift für klinische Medizin*, 1899) and His (*Deutsches Archiv für klinische Medizin*, 1899) found an increase rather than a decrease.

His found from one to three days before an acute attack, that the output of uric acid was diminished; after the attack an increase took place which reached its maximum in from one to five days; he further found that during the attacks and during the intervals, the average daily excretion in gouty subjects showed no characteristic differences, nor does the average daily excretion of uric acid in gouty patients differ from that of healthy people.

Magnus Levy found the increase to occur on the first day of the attack and with every important accession of the pain. It is, I think, a rule, that the increase occurs on the first day of the attack and then a successive decrease, but I saw a patient whose urine excretion was constantly increasing, and the amount was so great that the crystals covered the whole microscopical field. Millions and millions were found, even on the eighth day of the attack. It has been observed that considerable nitrogen retention occurs in gout; in chronic gout this has frequently been known to amount to several grammes daily; on some occasions Vogel found it to reach from two to four grammes.

Luff finds the amount of uric acid eliminated in chronic gout to be diminished. Nitrogen retention also occurs in acute gout.

Ordinarily the amount of uric acid depends chiefly upon the amount of purin bodies in the food. If, however, this source of uric acid is eliminated by placing the patient on a purin free diet, much information can be obtained by means of systematic urine examinations and this in two ways. A sluggish elimination of urates is characteristic of gout. If the patient is on a purin free diet the twenty-four hours' urine will contain a small and fairly constant amount of urate. If he now takes a single meal rich in purin bodies, say

a dish of sweetbreads, the elimination of the urates may be watched. Normally it is rapid. The next day's urine is very rich in urates, but on the day following the amount has dropped to its former level. In gout, however, the elimination is much slower and less intense, extending over several days.

During the paroxysm, gout also produces characteristic urinary changes. Just before its onset and during the first day or two of the acute attack, the amount of urates in the urine is abnormally small. Later and throughout the attack the amount of urates excreted is great and may attain extraordinary levels, gradually returning to normal after the conclusion of the paroxysm. This behavior of uric acid excretion can be used for diagnosis only if the patient is on an absolutely purin free diet, but that will usually be the case. Then, however, it does become a characteristic; though not an invariable manifestation of gout.

A simple method of following the excretion of uric acid in the urine is by means of the purinometer of Walker Hall. The uric acid is precipitated by means of magnesium chloride and ammoniacal silver nitrate solutions and its bulk is read off directly as in Esbach's albuminometer. Like the latter, it does not give entirely trustworthy results, but is sufficiently accurate to detect a considerable increase or decrease in the daily elimination of uric acid.

Waldfogel (*Centralblatt für Stoffwechsel und Verdauungs-Krankheiten,* 1902) investigated the metabolism during an attack of acute gout from the first to the eleventh day, and also two days previous to the succeeding attack. From the beginning of the attack the output of uric acid was increased and on the third day it reached a maximum of 0.824 gramme, at which point it remained for seven days and then sank until the next attack. The nitrogen excretion and also that of phosphoric acid was reduced.

In the early period of an attack of gout, Watson (*British Medical Journal,* 1900) observed diminution in phosphoric acid with subsequent increase. There was excess of uric acid which continued to increase during the first three days. The total nitrogen was increased, especially in the later period of the attack. No disturbance of the ratio of uric acid to urea occurred.

Schmoll (*Zeitschrift für klinische Medizin,* 1896) found considerable retention of nitrogen with probably no retention of uric acid; the alloxur bodies were not increased and their relation to uric acid was normal. In one case Galdi (*Archiv für experimentelle Pathologie,* 1903) found the daily excretion of uric acid to be 1,452 grammes, and of xanthin bases 0.070 gramme; in another case the uric acid was only 1,020 grammes, while the xanthin bases reached 0.111 gramme. Comparatively only a few investigations has been made with regard to the amount of the xanthin bases in the urine of gouty patients during and between attacks.

Kaufmann and Mohr (*Deutsches Archiv für klinische Medizin,* 1902) found them frequently to be of normal amount in chronic gout; further investigations in this direction should be made.

The phosphoric acid excretion is usually increased during the attack. I never found it diminished. It is sometimes of such a quantity that it becomes parallel with the nitrogen excretion.

Glycosuria is regularly present in gouty urine, and it reaches very often the maximal percentage. The amount of sugar is small.

Just as in mental diseases, my article on which was published last year in the *Wiener klinische Wochenschrift,* we find the same difficulties in cases of gout. Not enough urine examinations were made on this line. There are no statistical data at all, only a few workers in that direction and publications of the old system. Most of the gouty patients retire to sanitaria, where urine examinations are never made and consequently the medical literature loses one of its best sources.

Correspondence.

LETTER FROM CANADA.

Professor Adami Remains at McGill.—Tuberculosis Hospital for Montreal.—The Insane in Ontario.—Division of Fees in Toronto.—Vital Statistics for Ontario in 1910.

Toronto, *January 16, 1912.*

Dr. J. George Adami, professor of pathology and director of the Pathological Museum of McGill University, who recently received a very enticing offer from the Northwestern University, Evanston, Ill., has decided not to accept, but to remain with McGill. Professor Adami has been prominent in the social and intellectual life of Montreal and took an active part in the organization of the City Improvement League, of which he is president. He was appointed professor of pathology at McGill University in 1892.

The executive of the Royal Edward Institute, Montreal, met on January 9th, when a letter was read from the president, Colonel Burland, emphasizing the necessity of isolating advanced cases of tuberculosis which are the most fruitful source of infection in any community. In his letter he asked the board of the Royal Institute to consider a proposition from the founders (chiefly Colonel Burland and immediate members of his family), which was that they secure a suitable site and build and equip an institution to be known as the Royal Edward Home for Incurable Consumptives, at a cost not to exceed $100,000, such to be an extension of the work of the Royal Edward Institute as at present constituted. This home is to have accommodation of fifty to seventy-five beds; and the Provincial government, municipality of Montreal, and private individuals will be solicited for funds to provide for efficient maintenance of the institution.

In the Province of Ontario there are 6,803 persons receiving institutional treatment in the various hospitals for the insane. This is one in every 367 of the population of Ontario. In 1890 the number of the institutional insane was 4,210, and this increase of sixty-one per cent. is due largely to the fact that the hospitals for the insane are now regarded like other modern, well equipped, and up to date hospitals. The old idea that they were houses

of detention has passed away. In the past hospital year it cost the government $1,043,145.57 to care for these patients. During the past ten years there has been expended $9,351,994.07. About one eighth of the total annual expenditure of Ontario is for its insane. There are at the present time in these institutions 648 persons who have been patients continuously for the past twenty years. It has cost the Province for the maintenance of these alone about two and a half million dollars. In the hospital for the insane at Toronto, for the year ending September 30th, thirty-two men or twenty-two per cent. of all male patients were admitted for paresis. In all these hospitals in the Province fully thirty per cent. of the men and ten per cent. of the women are there suffering from conditions due directly or indirectly to alcohol. It is estimated that fifty per cent. of the cases under treatment are due to avoidable causes; and of all those admitted to all the hospitals, nearly one fourth are cured, eighty per cent. of these recovering within a year after admission.

The Academy of Medicine, Toronto, on the evening of January 2nd, discussed the following resolution respecting fee splitting: 1. That the secret division of a fee, or fees, with any person, or persons, who may be potential in influencing a patient, or patients, to apply for operative care or professional advice is unworthy of any member of the medical profession; 2, that if such a division of fee is made by a member of the Academy of Medicine, Toronto, it should be counted as sufficient ground for the expulsion of the member; 3, that it shall be the duty of the council of the academy to investigate charges against members made on the basis of such division of fee; and on proof of offence the council may either permit the resignation of the person or expel him from the academy.

While fee splitting may be said to have appeared in Toronto, it is confined to a very few, but the discussion which followed upon the presentation of the resolution showed that all was not satisfactory to the medical man or general practitioner. It was decided to refer the matter to a special committee to investigate and report at a future meeting.

The Registrar General of Toronto has sent to the printers the report of his department for the year 1910. This, however, will not be ready for the public for some weeks to come, but the medical press has been favored with some advance information. In that year, in the Province of Ontario, there were registered 55,871 births, 24,036 marriages, and 33,539 deaths, a percentage of 24.9, 10.7, and 14.0 per 1,000 of the population respectively. Of the deaths 2,287 were due to tuberculosis in all forms, as against 2,380 in 1909, thus showing continued decrease in the deaths from tuberculosis in the Province. Cancer was the cause of death in 1,077 cases—a continuous increase. Two hundred and eighty-four women lost their lives in childbirth. With regard to mortality among infants, it was found that among those under five years of age 6,649 died under one year of age; 917, one year old; 424, two years old; 321, three years old; 247, four years old. Of the children born throughout the year, 28,664 were boys and 27,207 girls. There were 370 pairs of twins, 264 boys and 376 girls. There were five cases of triplets, nine boys and six girls. In 1910, 8,168 bridegrooms, or about one third of the total number of men, married between the ages of twenty and twenty-four years, while forty-seven per cent., or nearly one half the women, entered the bonds of matrimony between those ages.

Therapeutical Notes.

Fever.—Fever is not a disease, only a symptom. A temperature above 102° F. is accompanied by proteid destruction with which it may or may not be desirable to interfere. The temperature may become so high as to threaten life itself and then should be combated; but we are coming more and more to scrutinize symptoms so as to detect in them expressions of compensatory processes. That fever was a favorable state in the presence of the toxemia of infection was an idea long entertained; more lately it fell into disrepute and, now, most recently, is being advocated by thoughtful men and careful observers.

General Treatment of Grippe.—Regiol, in *Bulletin médical* for November 29, 1911, points out that the treatment of grippe comprises prophylaxis and direct curative measures. Prophylaxis includes isolation of the patient, disinfection of the stools, bucconasopharyngeal antisepsis of all those coming near the invalid. Quinine and tonics make up the curative treatment. Quinine should begin at once, in the form of either the sulphate or the hydrochloride, fifteen grains daily, the only contraindication being cardiac weakness. Tannic acid has a good effect on overabundant mucous secretion and calms intestinal pain beside being antiseptic in daily doses of twenty to thirty-five grains. To help elimination a modified milk régime is useful. The food should be highly nitrogenous, but not so bulky as to tire an already enfeebled stomach.

Skin Formation over Raw Surfaces.—Sir Lambert H. Ormsby, in the *Practitioner* for October, 1911, calls attention, in discussing the treatment of burns and scalds, to a method of promoting skin formation over small granulating surfaces, which has recently been advocated by French surgeons. The underlying idea is that the cells of the hair and hair sheath, being of epidermal origin, can easily be transformed into Malpighian cells, and the procedure is accordingly known as "hair grafting." A few hairs are removed from the patient, or from a relative of the patient—for consanguinity is of great importance—and their bulbous portion is cut up with small sharp scissors. This hair dust is spread over the raw area and a sterile pad or Unna's paste applied. The dressing is changed every third day, and at the end of a week white dots over the surface usually demonstrate the proliferation of a new skin. From personal experience the author has found it sufficient to avulse a large number of hairs and implant their bulbous ends on the raw surface without the preliminary reduction of the bulb to dust.

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NEW YORK, SATURDAY, JANUARY 20, 1912.

THE ADMINISTRATION OF TUBERCULIN PER OS.

Some few years ago Latham[1] called attention to the feasibility of administering certain bacterins—so called vaccines (that is to say, dead bacterial substance and bacterial products)—by the mouth, under guidance of a careful temperature record, instead of the opsonic index. The advantages of gastric administration over subcutaneous injection, and especially the greater ease of control by chart over the laborious method of Sir Almroth Wright, are self evident. Latham's careful clinical observations, checked by laboratory work with the opsonic index, showed that, in general, rise of temperature coincides with depression of opsonic index, and, conversely, that rise of opsonic index is shown by fall of temperature toward or to normal, according to the case. Latham administers Tuberculin Residue (T. R.) in horse serum when the stomach is empty, hence preferably in the morning before breakfast. The horse serum is believed to aid absorption. I have found diluted milk, whey, and physiological saline solution equally available; and bedtime, under some conditions, an equally opportune hour for administration. Like Latham, I have observed distinct reaction from very small doses (one one hundred thousandth of a milligramme of T. R.) thus given.

The advantage of early morning doses is that the time of the oncoming of reaction can be more readily observed and charted; when the dose is given at bedtime the temperature may rise, and the rise pass away during sleep, unnoted. On the other hand, the advantage of bedtime doses is that when a patient's reaction is well known to be mild, and he is kept in bed from the time of administration till the morning of the second day (thirty-six hours), sufficient rest is obtained without the irksomeness of a second day's confinement. Obviously, the method is applicable only with intelligent patients, or patients under care of intelligent persons. Moreover, it can serve only in cases sufficiently mild to be treated outside of hospitals; while Latham's original routine is applicable to any case in which tuberculin treatment is indicated. The general rules of minimal doses progressively increased, with absolute rest during reaction time, must be observed in this as in all other methods.

My own practice has been to begin with one one hundred thousandth milligramme T. R. rubbed up with one gramme of milk sugar; and to increase the dose by one one hundred thousandth milligramme until reaction is evident. One dose is given every third or fourth day, unless for some good reason—as prolongation of temperature rise or excessive local or general reaction—its omission is necessary.

After reaction is evident, no increase of dose is made until the reaction inducing dose has been twice repeated without causing rise of temperature; and so with each increment that again induces reaction—the dose must be tolerated at least twice before further increase is attempted. The maximum limit is fixed by the necessities of the case. If sufficient improvement results, for example, from one ten thousandth milligramme indefinitely repeated, no further advance in the dose is attempted. Usually, however, from one five thousandth to one one thousandth milligramme is needed. I have, thus far, never exceeded one one thousandth milligramme; but I should not hesitate if it seemed necessary and advisable. Naturally, the general and local symptoms are to be watched as well as the temperature.

After the case has been sufficiently long under the physician's direct watchfulness, intelligent patients can be taught to make the necessary observations for themselves. The treatment can thus be continued for prolonged periods. Thus, I have had one boy under treatment, watched by his mother, for nearly two years, and with persistent benefit. A young man employed as a traveling salesman

[1] Latham, Spitta, and Inman. *Proceedings of the Royal Society*, 1908.

has watched himself for more than six months—reporting to me, naturally, on his monthly returns to the city, and looking fatter and sturdier each time.

In conjunction with the gastric administration of tuberculin, I advise a highly nitrogenous (*beef*) and moderately fatty (*olive oil*) dietary, and use such medication (iodoform, creosote or guaiacol compounds, calcium salts, arsenic, iron, etc.), as appears to be indicated from time to time in the special case. SOLOMON SOLIS COHEN.

HEMORRHAGE OF THE CENTRAL NERVOUS SYSTEM IN THE NEWBORN PRODUCED BY THE FORCEPS.

The frequency and mechanism of meningeal hemorrhage by compression in cases of narrow pelvis or by direct attrition of the cerebral substance are at present well understood, but not until recently have hemorrhages into the nervous substance itself, due to compression of the head by the forceps, been studied. The latter, which cannot be diagnosticated at birth, are all the more interesting because the serious lesions in the nervous structures found at autopsy, resulting in the death of the child shortly after birth, lead one to suppose that, in certain cases, slight lesions must exist, in themselves insufficient to cause death, but capable of giving rise to more or less marked disturbances, which become manifest later on in the development of the child.

Ducrotoy (*Thèse de Paris,* 1910) points out that careful pathological researches carried out by Couvelaire at the Baudelocque clinic show that, in forceps application, the compression produced by the blades on the fetal head manifests itself some distance from the point of application, in the region which he terms the bulbocerebellomedullary cone. The excess of endocranial pressure tends to force the most declivitous portion of the cerebellum into the spinal canal, while the cerebral substance remains intact unless there is direct attrition with fracture of the skull.

These findings relative to the localization of the lesions are in accord with those of Marie in the adult following cerebral hemorrhage. In cases of slight hemorrhage in the central gray nuclei, the increase of endocranial pressure pushes the cerebellum downward, so that a portion of it may become engaged in the foramen occipitale, compressing the bulb, from which serious phenomena of bulbar anemia arise and undoubtedly play a part in the manifestations of apoplexy.

If the compression produced by a focus of hemorrhage or an experimental injection can produce at a distance such disorders, one can, with all the more reason, incriminate the compression produced by the forceps, and Farabeuf has demonstrated that the pressure of the blades is ten times greater than the traction exercised on the instrument by the operator. In a case with the head well engaged in a roomy pelvis the child died immediately after birth and autopsy showed the presence of a bulbomedullary hemorrhage, although cranial compression was reduced to the minimum. But microscopical examination showed changes in the walls of the vessels due to an hereditary syphilitic meningomyelitis. Consequently, it would appear that a lethal hemorrhage may result in clinically minute cranial compression, when the vessels have been the seat of hereditary syphilitic changes.

Beside these serious lesions causing rapid death of the newly born, it is quite permissible to suppose that cases exist where less important bulbomedullary hemorrhages are the cause of rather serious disturbances appearing later in the course of the child's development. Ducrotoy is of the opinion that incontinence of urine, convulsions, epilepsy, paralyses, mental changes, imbecility, etc., met with in children whose delivery was difficult, may be the consequence of meningeal or interstitial collections of blood, due to compression from the forceps and for this reason advises against their application at the superior strait.

SYMPATHETIC OPHTHALMIA.

Elschnig (Graefe's *Archiv für Ophthalmologie,* vol. xxviii) endeavors to harmonize the known facts concerning sympathetic ophthalmia with the phenomena of anaphylaxis. He dismisses the theories of Fuchs, Neller, Weigelin (all based on the microbic hypothesis) as insufficient, in that they do not explain all the facts relating to sympathetic inflammation. Bach's modification of Schmidt Reimpler's neuroirritation theory he finds most closely akin to his own. Elschnig holds that sympathetic ophthalmia is not bacterial in origin, but is due, in part at least, to the presence of certain organic diseases, such as nephritis or diabetes or to organic disturbances, such as autointoxication. This is the soil upon which sympathetic ophthalmia will most likely develop. The injury to the eye first afflicted induces an antigenous absorption of uveal tissue in that eye, resulting in hyperesthesia of the remaining portions of the uvea in that same eye, as well as of the uvea in the sound eye. In consequence of this induced hyperesthesia of the uvea in both eyes, the constitutional malady finds a point of attack and leads to that inflammation of the uvea of both eyes, which we designate as sympathetic ophthalmia. These two presumptions are absolutely

essential—the hyperesthesia of the uveal tissue and the constitutional dyscrasia or disease.

It is an accepted fact that a certain period must elapse before antibodies and the subsequent anaphylaxis due to resorption of antigens appears. The formation of antibodies occupies about ten days, whereas an anaphylaxis does not appear under twenty days; thus the appearance of sympathetic ophthalmia in never less than fourteen days and usually within four weeks is easily explained. This inflammation (the anaphylactic reaction of the hyperesthetic uveal tissue) should, because of the underlying constitutional dyscrasia, develop about parallel in both eyes.

Elschnig holds that, if his views are right, the enucleation of the injured eye can have no influence upon the course of an already established sympathetic inflammation in the fellow eye; for, as soon as the uvea of both eyes becomes sensitized by the antigenous absorption from the injured eye, the anaphylactic reaction of the second eye can no longer be influenced in any way. He urges that every case of sympathetic ophthalmia be subjected to the most painstaking examination at the hands of the internist, having mainly in view autointoxication and the constitutional dyscrasias.

Elschnig says very aptly that these views do not especially help us in the diagnosis of sympathetic ophthalmia, which, he contends, had best be called anaphylactic iridocyclitis. It will remain a clinical problem until complement of fixation experiments can prove the presence of antibodies in cases of uveal immunization, and this is scarcely to be expected. Animal experiment has shown that a most typical anaphylaxis may exist without the possibility of showing any changes in the blood serum (precipitins). In future, as in the past, the typical anatomical picture will have to be the proof that the inflammation of the second eye was a characteristic one, caused by anaphylaxis.

THE WASSERMANN REACTION IN SYPHILIS, LEPROSY, AND YAWS.

Dr. Horace D. Bloombergh, of the United States Army Medical Corps, reports his interesting experiments with the Wassermann reaction in syphilis, leprosy, and yaws in the *Philippine Journal of Science* for October, 1911. He states that he undertook these observations with the view of determining if the Wassermann reaction could be obtained in certain tropical diseases in which it has been reported by some authors to be positive. Ninety-five such cases were examined and of these seventy-five gave negative results. Among these were eighteen cases of leprosy, seventeen of syphilis or suspected syphilis, nine of syphilophobia, eight of dysentery, one of suspected leprosy, one of acute tertian malaria, two of dengue, etc. The eighteen cases of syphilis which gave a negative Wassermann reaction had all received syphilitic treatment. Among the twenty cases which gave a positive Wassermann reaction were twelve of syphilis, three of leprosy, and two of yaws. The major admits the limited experience he had with cases of leprosy and yaws. He thinks, however, that it is doubtful if a positive Wassermann reaction can be obtained as a result of infection with the bacillus of leprosy. He very rightly observes that before attributing a positive reaction in a leper to his leprosy alone it is necessary to consider the possibility not only of syphilitic taint, but also of present or past frambesia, which is especially important when working with leprosy in the tropics where yaws is prevalent. The sera of the two cases of yaws gave the same strong inhibition of hemolysis that is obtained from untreated cases of syphilis.

YELLOW FEVER.

The *Yellow Fever Bureau Bulletin* for December, 1911, speaks of the etiology of certain outbreaks of yellow fever which often occur in places where the disease has apparently been absent for a long time and where introduction from other foci seems not to have taken place. There is an explanation which seems to gain ground steadily that in such cases yellow fever is really always present, but not recognized as such on account of the mild and atypical character of the cases occurring in natives and immunized foreigners. Unquestionably, this theory has never been absolutely proved and objections have been raised to it. But as no other theory of this endemicity has been put forward it is the only one which will at present explain the well known epidemiological facts. There is another question of great importance and that is, are other mammals beside man susceptible to infection with the yellow fever parasite? If this were the case another explanation of sudden outbreaks of yellow fever could be given.

AMERICAN SCIENCE AND EUROPEAN JOURNALS.

It is interesting to note that in the report of de Bovis, in *Semaine médicale* for January 3d (abstracted in our columns, page 143, the French author does indeed give Edebohls full credit for his discovery of renal decapsulation as a remedy for certain forms of Bright's disease, but there is noth-

ing to lead his readers to suppose that Edebohls was an American or that the announcement of his discovery first appeared in American medical literature. Edebohls published communications in the NEW YORK MEDICAL JOURNAL, *Medical Record*, *Annals of Surgery*, and in the *British Medical Journal* from 1901 to 1903, and not till a year later did he report his further experiments for a Continental journal, viz., *Zentralblatt für Chirurgie*, xxxi, 1904. The uninformed reader of the recent communication to our French contemporary would be certain to believe that Edebohls was a surgeon of exclusively European career and reputation.

TOO MUCH CLIMBING IN NEW YORK.

Contracts for new subways in the greater city should provide for elevators or escalators at all stations of more than average depth, and these conveniences should be kept in constant operation and not shut off early in the evening. At certain points, especially in Brooklyn, the helpful installation should reach from the base of the subway stairs to the top of those of the elevated structure. The climb, particularly when it includes ascent from a subway to an elevated road, is too much to ask from citizens who have conferred the enormously valuable franchises upon the corporations, and is inimical to the cardiac integrity of people who live not only in an unusually flat city, but also largely in apartments in which the stairs are never used. No shop would dare demand of its patrons the climbing forced upon the public by transit companies.

ACUTE INDIGESTION AS A CAUSE OF DEATH.

The recent regrettable deaths of Rear Admiral Robley D. Evans and Alfred Tennyson Dickens were reported to be due to acute indigestion. While an attack of acute gastritis might conceivably prove fatal to a man of late middle age, from exhaustion or shock, the cases of which we hear so much as carrying off men of advanced years are very frequently the gastritis of Bright's disease, which ushers in the fatal coma of that affection. The violent vomiting may kill in itself, or the patient sinks exhausted into unconsciousness which is prolonged till the fatal outcome by uremia. In default of an autopsy, which is not always permitted, a diagnosis of acute indigestion is the only one possible, for that of nephritis is not scientifically possible without an examination of the kidney, whatever may be the suspicions of the attending physician.

ENLARGING THE ACADEMY OF MEDICINE.

The chairman of the finance committee of the New York Academy of Medicine, in sending out to members the treasurer's report, states that $110,000 has been raised by subscription from about one fourth of the members, and that it is expected to collect about double that sum within the academy in order to pay for the real estate purchased as a site for the proposed enlarged building, before appealing to the general public for funds with which to complete the edifice itself. In view of the fact that the invaluable library of the institution is open to all physicians, whether members or not, and that outsiders are welcome to hear scientific debates and lectures within the academy, a few donations from nonmembers would seem to be in order.

News Items.

Changes of Address.—Dr. F. Gray Blinn, from New York to 707-709 Broad Street, Newark, N. J.

Dr. Thomas W. Bailey, to 1636 South Eighteenth Street, Philadelphia.

Harvey Society Lectures.—The seventh lecture in the series will be delivered by Professor Henry Fairfield Osborn, of Columbia University, on Saturday, January 20th, at 8:30 p. m., at the New York Academy of Medicine, his subject being Unit Characters in Heredity as They Appear to a Paleontologist.

Lehigh Valley Medical Society.—The members of this society have elected the following officers to serve for the ensuing year: President, Dr. A. W. Seibert, of Easton; vice-president, Dr. Daniel Yoder, of Catasauqua; treasurer, Dr. Howard Fehr, of Allentown; secretary, Dr. C. S. Schwartz, of Allentown; censor, Dr. F. P. Leffert, of Bethayres.

The Physicians' Motor Club of Philadelphia.—At the annual meeting of this organization of Philadelphia physicians, Dr. S. Leon Gans was elected president to serve for the ensuing year. Other officers were elected as follows: First vice-president, Dr. L. Webster Fox; second vice-president, Dr. John J. Robrecht; third vice-president, Dr. Charles A. E. Codman; treasurer, Dr. Lewis H. Adler, Jr.; secretary, Dr. J. Gurney Taylor; directors, Dr. E. S. Saylor and Dr. T. J. Ellinger.

Flatbush Medical Society.—A permanent organization of Flatbush physicians was effected on Friday evening, January 12th, under the name of the Flatbush Medical Society. Fifty physicians became charter members and a constitution and by-laws were adopted. The officers for the first year are as follows: President, Dr. Burt D. Harrington; vice-president, Dr. Cameron Duncan; treasurer, Dr. George E. Merrill; secretary, Dr. William Bayles; assistant secretary, Dr. Edward S. Morton. For the present the meetings will be held in the Flatbush Republican Club House.

Anatomist Wanted in the Army Medical Museum.—The United States Civil Service Commission announces that an examination will be held on February 20th at various places throughout the United States to secure eligible persons from whom to make certification to fill a vacancy in the position of anatomist (male) in the Army Medical Museum, Office of the Surgeon General, and vacancies requiring similar qualifications as they may occur. Applicants should apply at once either to the United States Civil Service Commission, Washington, D. C., for application and examination Form 1312, and for further particulars regarding the scope of the examination.

German Physicians to Visit the United States.—The annual trip of German physicians for the study of medicine in foreign countries will this year include the United States. The voyage will take six weeks, and the party of physicians will leave Germany at the beginning of September. A complete programme will be published in the near future. Dr. A. A. Oliven is general secretary of the association.

Ohio State Medical Teachers' Association.—At the annual meeting of this organization, held recently in Columbus, Dr. John K. Scudder, of Cincinnati, was elected president. Other officers were elected as follows: Vice-president, Dr. L. E. Seemon, of Cleveland; secretary, Dr. V. A. Dodd, of Columbus; treasurer, Dr. C. W. McGawther, of Columbus. Dr. Kennon Dunham, of Cincinnati, was elected chairman of the Executive Committee.

The Dinner of the Postgraduate Medical School.—The faculty and the board of directors of the New York Postgraduate Medical School and Hospital gave a dinner on Friday evening, January 12th, to celebrate the opening of their new buildings and laboratories. More than two hundred were present. Dr. George N. Miller presided at the dinner, and among the speakers were Dr. Abraham Jacobi, Mr. James M. Beck, Dr Samuel W. Lambert, dean of the College of Physicians and Surgeons, Surgeon General G. H. Torney, of the United States Army, and Mr. Augustus E. Thomas.

Disease Prevention Work by Mount Sinai Hospital.—Mrs. Mayer Lehman, mother of Justice Lehman, who has been a member of the Board of Directors of Mount Sinai Hospital for many years, has given to the institution a fund of $100,000, the income of which is to be used in the work of preventing illness. Definite plans have not yet been made as to just what course this work of prevention will take, but it is thought that it will consist principally of an extension of the work of the visiting nurses. The task of laying plans for the carrying on of this work has been left in the hands of the physicians connected with the institution.

Endowment Fund of the Tuberculosis Preventorium.—At the annual meeting of the board of directors of the Tuberculosis Preventorium for Children, at Farmingdale, N. J., held at the New York Academy of Medicine on January 16th, announcement was made that Mr. Andrew Carnegie had offered $10,000 toward the $150,000 endowment fund which is needed by the institution. With an equal sum promised by Mr. John D. Rockefeller, the fund now amounts to $115,000. It was decided to ask the assistance of several churches and other organizations in raising the remaining $15,000. With the additional accommodations made possible by this fund, the institution will be able to care for about 600 children each year.

An Epidemic of Cerebrospinal Meningitis in Texas.—It is said that although the meningitis situation in Texas has improved somewhat, the health authorities are not relaxing their efforts to check the spread of the disease. Dr. Abraham Sophian, of New York, has had charge of the administration of the antimeningitis serum, clinics being held in Dallas where physicians from various parts of the State are instructed in the use of the serum and other means that have been used in the North in combating the diseases. There have been about 500 cases altogether, and of this number 190 were reported in Dallas. The disease is pretty well under control at present, and normal conditions will doubtless be reestablished in a few weeks.

The Health of Chicago.—During the week ending January 6, 1912, the total deaths from all causes reported to the Department of Health of Chicago numbered 685, corresponding to an annual death rate of 15.6 in a thousand of population. The death rate for the preceding week was 13.95 and for the corresponding week in 1911, 18.1. The average death rate for the entire year 1911 was 14.55. The leading cause of death during the year was pneumonia, the deaths from that disease being 4,929, while the deaths from tuberculosis numbered 3,726. Diarrheal disease in children under two years of age caused 2,977 deaths, a decrease of 415 from the preceding year. A fact worthy of mention in connection with the health report for the year was that the deathrate from typhoid fever reached the lowest mark ever attained in the city, being 93 per cent. lower than it was twenty years ago.

Brooklyn Medical Association.—The annual meeting of this association was held on the evening of January 10th, under the presidency of Dr. Frank C. Raynor. The paper of the evening was read by Dr. William D. Davis on the Legal Status of Diseased Mentality, which was followed by a general discussion. Officers to serve for the ensuing year were elected as follows: President, Dr. George F. Maddock; vice-president, Dr. Hubert Arrowsmith; recording secretary, Dr. Frederick C. Paffard; corresponding secretary, Dr. Adolph Wieber; treasurer, Dr. William H. Steers.

Manhattan Medical Society.—The next meeting of this society will be held in Reisenweber's Café on the evening of February 26th. The programme arranged for this meeting is as follows: The Physician as a Business Man, by Dr. S. Epstein; The Duty of One Physician to Another, by Dr. A. J. Huey; The Relation of the Specialist to the General Practitioner, by Dr. W. S. Gottheil; The General Practitioner as a Specialist, by Dr. T. F. Reilly; The Regulation of Fees, by Dr. Harold M. Hays; The Relation of the Physician to the Public, by Dr. Ira S. Wile. All who are interested are invited to attend this meeting and participate in the discussions.

Personal.—Dr. Leonard D. Frescoln, former assistant chief resident physician of the Philadelphia General Hospital, has resigned his position to become chief resident physician of the Episcopal Hospital, Philadelphia.

Dr. Albert Warren Ferris, of New York, who retired from the position of president of the State Commission in Lunacy on December 31st, to resume the general practice of internal diseases and nervous affections, has been appointed resident physician of the Glen Springs, Watkins, N. Y., and will take office in February.

The Medical and Chirurgical Faculty of Maryland gave a reception on the evening of January 5th in honor of Dr. Hugh H. Young, the newly elected president of the faculty.

Dr. Walter S. Cornell, an assistant medical inspector of the Philadelphia Bureau of Health, has been appointed chief of the new staff of school medical inspectors. His staff will include fifty inspectors and five district supervisors.

Dr. Richard C. Cabot has been elected chief of staff of the Mount Sinai Hospital of Boston.

Dr. S. J. Meltzer, of the Rockefeller Institute, has been reelected president of the American Physiological Society, to serve for two years.

Dr. Frederick Cheever Shattuck, of Boston, has resigned as Jackson professor of clinical medicine in the Harvard Medical School, his resignation to take effect on September 1, 1912. Doctor Shattuck, whose period of instruction in the school extends over thirty-two years, has been made professor emeritus of clinical medicine.

Meetings of Local Medical Societies to be Held During the Coming Week:

MONDAY, *January 22d.*—Medical Society of the County of New York.

TUESDAY, *January 23d.*—New York Dermatological Society; Metropolitan Medical Society of New York; New York Medical Union; New York Otological Society; Riverside Practitioners' Society, New York; Washington Heights Medical Society, New York; Alumni Association of Seney Hospital, Brooklyn; New York Psychoanalytic Society; Buffalo Academy of Medicine (Section in Pathology).

WEDNESDAY, *January 24th.*—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society; New York Society of Internal Medicine; Medical Union, Buffalo.

THURSDAY, *January 25th.*—New York Academy of Medicine (Section in Obstetrics and Gynecology); Bronx Medical Association (annual); The New York Physicians' Association; Hospital Graduates' Club, New York (annual); New York Celtic Society.

FRIDAY, *January 26th.*—New York Clinical Society; Academy of Pathological Science, New York; Society of German Physicians, of New York; Manhattan Medical Society; Audubon Medical Society, New York; Hospital Graduates' Club, Brooklyn.

SATURDAY, *January 27th.*—West End Medical Society; New York Medical and Surgical Society; Harvard Medical Society (annual); Lenox Medical and Surgical Society.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

January 4, 1912.

1. Maurice Vilun Tyrode: Relation of Chronic Appendicitis to Colitis.
2. H. W. Van Allen: Roentgenology of the Enteron.
3. J. Collins Warren, John Barst Blake, and David Cheever: Memorials to Dr. Thomas Dwight.
4. Justus G. Hansen: A Case of Cesarian Section for Placenta Prævia.

1. Relation of Chronic Appendicitis to Colitis. Tyrode reports a number of cases and quotes a number of authors who have reported the presence of other lesions that presented the symptoms of chronic appendicitis, to demonstrate that colitis is much more frequent than appendicitis and is the usual etiological factor in the latter disease. He believes the importance of recognizing this relation is twofold. First, that at operations for chronic appendicitis thorough search should be made not only in the duodenopyloric and gallbladder region, but throughout the whole intestinal tract for adhesions, kinks, and dilatations. Second, that patients who do not present indubitable evidence of acute appendicitis should not be hurriedly rushed to operation, but should have a chance to experience medical treatment of the colon. After the colitis has been quieted the patient should be referred to a surgeon, not merely to have his appendix snipped out, but to be examined properly after the abdomen has been opened, for all the various mechanical complications which may exist alone, or more frequently in combination with a chronic appendicitis.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

January 13, 1912.

1. Henry Koplik: Education of the Physician and Postgraduate Study of the Nursing Infant.
2. William D. Fullerton: Hexamethylenamine. Report of a Case of Medicinal Cystitis.
3. T. Mitchell Burns: Cæsarean Section.
4. Thomas J. Orbison: Training Camp in the Treatment of the Functional Neuroses.
5. P. W. Monroe: Chloroform Fatalities.
6. Charles Gardner Child Jr.: Ideal Abdominal Incision for Pelvic Surgery in the Female.
7. W. B. Dakin: Apparatus for the Intravenous Injection of Salvarsan with Salt Solution.
8. George Howard Hoxie and Frederick C. Lamar: Fungous Tracheobronchitis.
9. Alfred Gordon: Convulsive Movements of the Face: Effect of Alcoholic Injections.
10. Herbert P. Cole: Postoperative Gynecological Psychoses.
11. F. Buckmaster: Phenol Gangrene.
12. E. W. Scripture: Hemiatrophy of the Tongue.
13. Oscar Berghausen and Charles E. Howard: Treatment of Wounds; Tetanus Prophylaxis.
14. Tom C. Williams and John Dunlop: Adiposis Pituitary Syndrome of Lannois with Narcoleptic Fits without Genitourinary Symptoms.
15. J. H. Sayer: Hemophilic Bleeding Checked by Foreign Blood.
16. Benjamin K. Hays: State Board of Medical Examiners.
17. Simon Flexner, Frances W. Peabody, and George Draper: Epidemic Poliomyelitis. Visceral Lesions.
18. Herbert M. Rich: Paroxysmal Tachycardia.
19. Charles B. Younger: Public Agitation and Unnecessary Adenectomies.
20. J. F. Baldwin: Synchronous Ligation of Subclavian and Carotid for Aneurysm of Innominate.
21. Leroy S. Peters and E. S. Bullock: Hemorrhage from the Bowel in Tuberculosis.
22. Edward T. Milligan: Double Tubal Gestation.

1. Postgraduate Study in the Hygiene and Diseases of the Nursing Infant.—Koplik says effort has been mostly expended on the idea of making the medical student a good diagnostician and very little time has been given to the study of how, by hygiene and prophylaxis, the physician may teach the mother to avoid disease. Outside of the clinics the private physician seems to think that with a few directions as to the preparation of an artificial food, his duty is ended. The general welfare of the child, the simple teachings as to the care of the mouth, the body, the eyes, the genitals, all are passed by, perhaps on account of the stress of other duties. The physician does himself, as well as his patient, injustice by the indifference hinted above; the result is that the laity have been quick to respond to the impetus of specialism, even in pediatric work, much to the harm and chagrin of the general physician. The remedy is still with the physician, and the author is certain that he will be quick to respond to the demand for extraordinary work on his part. With large work done by the municipalities in the past there is in the future growing up a distinct class of activities, those concerned with *gouttes de lait* (milk stations), school inspection, home nursing, visits and instruction, day nursery and kindergarten inspection, the summer management of infants and children, which will bring into existence and furnish study to a distinct set of physicians, because the physician, whose work is in the sickroom, cannot find time to be in the *gouttes de lait* or in the schools. It would be well for our universities to recognize these facts. The author sees this postgraduate and higher education of the physician fast becoming a separate calling, a cult, apart from the active practice of medicine. The laity are quick to recognize the great resource placed at their command and are now using it in connection with the services of the regular physicians. The New York Department of Health has established a serum treatment activity. In diphtheria, meningitis, rabies, tetanus, they stand ready not only to apply the remedy, but the means of diagnosis, such as the lumbar puncture. Will the universities take up this phase of the practice of medicine? Will there be created an elective course for younger men of hygiene and preventive medicine in correlation with diseases of infancy and childhood? This seems not imaginative if we look at the daily activities of the health board among the infants and children of the poor. The increase of the work, the need for more physicians, young and enthusiastic, highly trained in the lines indicated will, the author thinks, eventually result in a remodelling of the course of studies in the universities, so that men may elect to follow as a lifework, the study and treatment, the hygiene and prophylaxis of diseases of infancy and childhood under municipal control, and in the most scientific paths.

2. Hexamethylenamine; Medicinal Cystitis Following its Use.—Fullerton reports, after a critical study of this drug (also known as formin, cystogen, aminoform, urotropin, cystanin), a case in which large doses of the drug caused intense cystitis. The bladder symptoms began after taking 200 grains over a period of four days. The woman voided every ten or fifteen minutes, had pain and burning, especially at the end of urination. The day following another drug was prescribed and the hexamethylenamine was ordered to be stopped. Through a mistake, the patient received forty-five grains more of the drug during the day, and in the evening, twenty-four hours after the first symptoms, which had increased in severity during the day, she had marked hematuria, passing many small blood clots as well as pieces of bladder membrane several centimetres square. The urine was acid and contained pus and a considerable amount of

albumin. The drug was stopped and appropriate treatment of the cystitis was instituted. For three nights and two days after the onset of the hematuria, blood clots and bladder membrane were passed. Red blood cells were passed for ten days, the pus and albumin gradually diminished and only disappeared entirely after three weeks. That this cystitis was not due to an infection was proved. No organisms were found in centrifugalized specimens or in cultures made from the latter. The author concludes with a word as to the dose of the drug, which depends on the condition for which it is used. As a genitourinary antiseptic, or prophylactic against infection, and in infection of the respiratory passages, from ten to fifteen grains three times a day, is deemed sufficient. When its effects are desired in the biliary passages, at least seventy-five grains per diem should be given. When the cerebrospinal cavities are to be protected, the dose may be as much as 200 or 250 grains daily, though a dose of 100 or 150 grains is no doubt as efficient, and irritative effects are less apt to be met with. Here the object of the larger doses is to saturate the cerebrospinal fluid thoroughly and to keep it saturated during the period of greatest danger of infection. The small doses may be continued for a considerable period of time without ill effects, but the larger doses are to be used for short periods of a day or so. Hexamethylenamine in itself has some diuretic action, but water should be liberally given, as it allows a freer excretion and lessens the danger of irritation.

4. Training Camp Method in the Treatment of the Functional Neuroses.—Orbison states that the training camp is an evolutionary result of clinical experience. The best results in the rational treatment of the functional neuroses are obtained by the application of some form of work at a selected stage of the treatment. The motto of every training camp is "obedience." Every necessary psychotherapeutic measure is tried according to the case; seldom has it been necessary to attempt any of the extraordinary methods of psychoanalysis in the training camp cases (in one of the author's cases it had been tried by a physician with disastrous results; and in two others by an exponent of the Emmanuel movement with no effect owing to faulty diagnosis). The author has found this method to be a specific in the true neurasthenics—combined with the other forms of rational therapeutics. Final results have been more gratifying in the cases in which it has been enforced than was believed possible, especially was this true of the cases of dementia præcox. Additional experience has led him to try it in a variety of functional disorders characterized by atonicity either psychic or physical—e. g., in convalescence from the various infections and migraine. In a series of nine cases of neurasthenia (four men, aged twenty-seven to forty-three years, and five women, aged twenty-three to forty-eight) there were eight cures, and one cure with recurrence. In a series of ten cases of psychasthenia (six women, aged thirty-five to fifty-two years, and four men, one with dipsomania, aged thirty-six to fifty) six were permanently cured, two had a recurrence, and two were improved. In a group of seven cases of dementia præcox (one woman, aged twenty-five years, and six men, aged twenty-two to thirty-five) five were permanently cured and in two the issue was unknown. Two hysterical women, aged twenty-five years, were cured. One patient with psychasthenia with melancholia, aged twenty-three years, was cured and one with recurrent melancholia (woman, aged sixty-nine) was cured.

5. Chloroform Fatalities.—Monroe reports six fatal cases. The prevalent use of chloroform as the anesthetic of choice in many districts of the United States, and its use throughout the country almost to the exclusion of ether, and this in spite of the increasing evidence and more or less general knowledge of its grave dangers, induced him to make this report. He states that in these cases of sudden death during the administration of chloroform, it will be noted that death occurred in all of these during the early stage of anesthesia. Cessation of respiration was the first symptom noticed in each case.

6. Ideal Abdominal Incision for Pelvic Surgery.—Child has adopted a modified Pfannenstiel transverse suprapubic incision as the ideal one. Though intended primarily for pelvic surgery, this incision with a little practice in its use, admits of a much wider field of application (many cases of ovarian cyst, fibroma, etc., where the tumors are, or extend well up, out of the pelvis). The author summarizes the advantages of the transverse suprapubic incision as follows: 1, Freedom from shock and postoperative hernia; 2, close proximity to the pelvic organs, with easy access to the field of operation; 3, high percentage of primary wound unions; 4, cosmetic perfection.

7. Apparatus for Intravenous Injection.—Dakin describes, with illustration, an ingenious apparatus for the intravenous injection of salvarsan with salt solution preceding and following. The advantages which he asserts for the combined apparatus are: 1. The salvarsan solution is not injected until the needle is positively in the vein; 2, no salvarsan escapes into the tissues on withdrawing the needle from the vein; 3, accurate amounts of the drug may be given; 4, positively no air or foreign particles can enter into the vein; 5, the apparatus is compact, all within reach, and the injection, if need be, can be given without assistance.

8. Fungous Tracheobronchitis.—Lamar has had recently under observation two cases of bronchitis in which careful examination of the sputum revealed the presence of fungus stalks as the only causative organism. Attempts to grow the fungi failed, and therefore their identity was not definitely established. The absence of literature on the subject and the failure of the author's cultures caused him to be doubtful as to the correctness of his conclusions. A recent paper by Bridge on streptothrix, in which he calls attention to the difficulty of the culture and identification of such fungi, led the author to report his cases.

9. Convulsive Movements of the Face; Diagnosis; Effect of Alcohol Injections.—Gordon has used alcoholic injections in the treatment of convulsive movements of the face (tic, facial spasm).

Treatment with medications is of no avail in such cases, with the exception of syphilitic cases, in which mercury, iodides, or salvarsan may be of benefit. The treatment of facial spasm with injections of a few minims of alcohol is a very important addition to our therapeutic armamentarium. Five minims of eighty per cent. solution of alcohol is the amount required. Repeated injections of alcohol do no harm. In the author's first case seven and in the second case twelve injections showed no untoward symptoms, excepting slight burning, which disappeared promptly, and a certain amount of tenderness which may last several days. No permanent damage to the tissue has been observed. As to the intimate action of the alcohol on the nerve or on its centre, nothing definite can be said at present, until experimental investigations will come to our aid. The patients treated and reported by the author were free of spasm at time of writing, thirteen months in the first case, and nine months in the second case after the successful injections of alcohol.

11. **A Case of Phenol Gangrene.**—Buckmaster reports a case of gangrene from the accidental use of phenolized petrolatum on an abraded skin surface. After applying the preparation a few times the tissues broke down into a progressively enlarging gangrenous ulcer, which continued to get larger and deeper. A similar case of gangrene from the application of phenolized ointment was reported recently by E. J. Brown, of Decatur (*Journal American Medical Association*, November 11, 1911).

12. **Hemiatrophy of Tongue with Defective Speech.**—Scripture reports a case of this character in which the treatment consisted of appropriate exercises. In a few weeks the patient progressed rapidly toward a complete cure of her speech trouble.

13. **Wound Treatment and Tetanus Prophylaxis.**—Berghausen and Howard feel, after a careful study of perforating, penetrating, and lacerating wounds contaminated directly by soil or manure, especially those contracted in the streets or about stables, and all blank cartridge and giant cracker perforating and lacerating wounds, that no wound of such a nature should be treated lightly by any physician. By carefully cleansing each wound, using a general anesthetic if necessary to remove all foreign material, and employing a diluted antiseptic to prevent sepsis, and then treating each one as an open wound, the physician has done much to prevent tetanus. By employing one immunizing dose of 1,500 units of antitetanic serum, to be repeated only when suppuration has not ceased after a week, he can practically assure the patient perfect safety from tetanus.

19. **Recurring Adenoids in Children.**—Younger always suspects syphilis in these cases. The coexistence of syphilis and adenoids suggests cause and effect. The author advises, in addition to the inspection of the glands, examination of the liver and spleen for syphilis, and a careful inquiry into the family history of the patient. It is useless, he states, to remove by curettage a mass of adenoid vegetations which may be due to, or have an underlying foundation of, syphilis. Specific treatment also is indicated and must be employed.

MEDICAL RECORD

January 21, 1911

1. J. Leonard Corning: Medical Measures and Its Developments (Amusia).
2. W. D. Hamilton: Surgical Treatment of Goitre.
3. S. H. Blodgett: Toxemias of Pregnancy.
4. John H. Richards: Omphalorrhagia Neonatorum.
5. M. Ziegler: Unusual Case of Fibrous Sarcoma of the Corpora Cavernosa.

2. **Surgical Treatment of Goitre.**—Hamilton advises careful examination of the thyroid gland in every case of goitre, as many cases of enlargement are due, apparently, to a circumscribed nodule, cyst, or neoplasm in its substance, either in one lobe or in the isthmus of the gland. He calls attention to the apparently prevalent medical notion that iodine, used in some way or other, is generally a useful therapeutic agent in the treatment of goitre, without reference to the type of disease represented. If it is due to a growth in the substance of the gland, the iodine may not only be useless, but if it has been used by injection, aside from the immediate risk of sepsis, hemorrhage, hematocele, thrombosis, or embolism from its use, it may give rise to dense and leathery adhesions on account of which the subsequent removal of the goitre by operation will be made very much more serious and difficult. In the treatment of Graves's disease there should be a resort to surgery as soon as there is strong presumptive evidence that the disease is imminent or actually present. The operation usually contemplates the eventual removal of a part of the thyroid gland. As a preliminary, the bloodvessels of supply to the gland may require ligation, so that after the lapse of an interval, when the patient is stronger, the removal of a portion of the gland may be more safely done. After simple ligation of the vessels of supply, a great many patients increase in weight from a few pounds to forty or fifty pounds within a few months. Early operation, in the author's opinion, will minimize the risk and offer a better chance of cure in most goitres, excepting those of the small parenchymatous variety, not causing dyspnea, which are not surgical cases. There is no reliable medical specific for either ordinary or exophthalmic goitre.

3. **Toxemias of Pregnancy.**—Blodgett, in the consideration of this subject, limits himself to those toxemias of which some of the symptoms can be discovered by means of an examination of the urine. Of these two are known: First, the commonly so called uremic toxemia; and, second, that one (to which so far no name has been given) which causes an incorrect action of the pancreas and which is marked by vomiting and by the appearance of acetone and diacetic acid in the urine. There are two forms of poisoning due to the uremic toxine; one develops very slowly and the poisoning goes on for some time, more or less progressively, and may occur at any time during pregnancy after the third month, but most frequently during the seventh or eighth month. The other form develops more rapidly and usually occurs during the ninth month. In the first form the patient will give a history of headaches at intervals for some time, partial loss of appetite, lassitude, and digestive disturbance, not, as a rule, to the extent of vomiting, perhaps, even of blindness and pains along the course of the nerves.

The urine will show an excretion of solids from thirty to sixty grammes, an excretion of urea from five to ten grammes, and from a slight trace to a considerable amount of albumin, with possibly a few casts, while the patient is taking an ordinary nitrogenous, varied diet. As the condition progresses the urea is eliminated slowly, but steadily decreases, while the nitrogenous food taken is not decreased. This, the author considers one of the most important symptoms and he believes that when the daily excretion of urea has fallen below nine or ten grammes per diem, while the patient is taking the average amount of nitrogenous food, the case should be very carefully watched. The indications are to limit very decidedly the nitrogenous food, especially animal fibre; give large amounts of liquids (water, milk, and hot drinks), and curtail the amount of exercise, by which means the amount of urea excreted will slowly increase. If the deficient elimination of urea has not been discovered early, or if early treatment is not effectual, the nitrogenous elements of the diet should be still further reduced, and the patient should receive only fruit (oranges, grapefruit, etc.) and a milk diet, with what bread or crackers she may like. The author advises a milk low in fat content, using a partially skimmed milk or milk which has stood for twelve hours and the upper third of which has been removed. Physical exercise should be reduced to a minimum, and if the urine voided does not amount to at least 1,200 c.c. in twenty-four hours, the patient should drink, at intervals during the day, at least eight ounces of water as hot as possible, and plenty of water at any time. In this form of toxemia the first serious effect of the poison is on the fetus, and if the fetal heart begins to weaken or ceases, labor should be induced at once. The uranalysis, the viability of the child, the clinical symptoms, and the prospect of improvement from treatment should influence decision in regard to the induction of labor. In these cases, where the patient has been taking an average amount of nitrogenous food daily, and the urea output has been decreasing, if we stop the nitrogenous food entirely for several days, the urea output will increase very markedly, and the patient will feel much better. The second form of toxemia, attended by a low urea output, comes on very rapidly, sometimes within a day or two. The symptoms are much more sudden in their onset. The patient is apparently well up to the occurrence of the convulsions, but careful inquiry will reveal severe, sudden headaches for a few days, pain along some of the nerves, gastralgia, coated tongue, and anorexia. The urine is scanty, as a rule, specific gravity is rather high, and the amount of urea low, perhaps only four to six grammes in twenty-four hours. Convulsions are now imminent, and the uterus should be emptied at once, with the least possible exertion for the patient. Convulsions occurring in these cases are likely to be more severe than in the previous class, and the prognosis is more serious for the mother but better for the child, because the poisoning comes on so rapidly that there has not been time for the child to be seriously affected. As in the fatal cases of this form of toxemia, marked changes in the liver are found. If an anesthetic is necessary ether should be used, but after convulsions have occurred, use no anesthetic unless absolutely necessary; if necessary use only ether and oxygen; if the convulsions do not then cease, use hot packs, freely evacuate the bowels, and bleed, but do not force the ingestion of liquids. The other toxemia (until now unnamed), though not strictly limited to pregnancy, ninety per cent. of the cases occur during pregnancy. This toxine affects primarily the pancreas, and the clinical symptoms are nausea and vomiting; the means by which we determine that they are due to this particular toxine is by the discovery of acetone and diacetic acid in the urine. In every one of these cases there is a decided sore spot over the head of the pancreas, found by deep pressure; sometimes, even without pressure, pain deeply seated in the pancreatic region is complained of. The symptoms vary in degree from vomiting during part of the day to a vomiting of mucous fluid every few minutes, day and night, even when food has not been taken. If in a case of vomiting, acetone and diacetic acid are found in the urine, this form of toxemia is present, and the administration of sodium bicarbonate and a proper regulated diet will relieve; in some cases improvement is immediate, but in severe cases (persistent vomiting or of long duration) it may be several days before improvement is seen. The diet is not restricted, except in amount (at first very small and increased slowly). As the acetone and diacetic acid disappear from the urine, the dose of sodium bicarbonate is decreased daily. The author has observed that the vomiting due to this toxine is more persistent and is longer in yielding in the early part of pregnancy than during the later stages. To prove his claims as to the benefits of early operation in cases of suspected convulsions the author gives statistics of 1,000 cases.

4. **Omphalorrhagia Neonatorum.**—Richards describes this rather rare disease and reports a case under his care. Various authors have described this condition as hemophilia of the newborn, secondary hemorrhage from the umbilical stump with sepsis, hemorrhagic manifestations of syphilis, and other diseases in the newborn. The majority of writers on the subject, however, believe that there is no relation between sepsis, syphilis, or hemophilia and this condition. Very little is known as to the cause of this disease. It has been variously stated as due to syphilis and other infections, and to injury to the floor of the fourth ventricle (this last theory is supported by animal experimentation, but fatal cases of the disease do not verify this as a cause). During recent years chemical changes in the blood have been ascribed as causes, and on account of the failure of the blood to clot, it would seem plausible. From the results obtained from the treatment of this condition by the injection of human serum, or by direct transfusion, the author thinks the cause of this condition will be found on complete examination of the serum by the more modern means of serum analysis. He believes with Morowitz, that there is a thrombokinase from the tissue cells and from the intima of the bloodvessels which, by the action of the calcium salts, is enabled to act on the prothrombin to form active thrombin which unites with the fibrinogen to form fibrin. The disturbance is in the prothrombin or its antecedents,

as demonstrated by the blood examinations made in the author's case. From the fact that the amount of serum needed to cure omphalorrhagia for all time is very small, it would appear that this condition is due to a diminished production of blood-plates, and that this production is increased permanently by the administration of serum. The serum in this case acts as an activator. What it is that causes this modification of bloodplates has not been demonstrated.

5. Fibroid Sclerosis of the Corpora Cavernosa.—Zigler reports a case of this unusual disease in a man, fifty-one years old, married twenty-five years. There was no history of trauma, gout, or diabetes. Syphilis was denied, but a mild gonorrhea had been contracted before marriage. He had three healthy children. The patient complained that intercourse had been almost impossible for several weeks because of severe pain in the penis during erection, and also because the distal end of the penis, during the attempted act, bent upward to an angle of ninety degrees toward the abdominal wall. Attempts to straighten the penis intensified the pain. Examination showed two thickened almost calcified plates on the dorsum of the penis, one at the distal end, extending from the corona backward for about one half inch. It was a half inch wide and about one eighth of an inch thick. The other was at the root of the penis, extending forward about two thirds of an inch, of similar width and thickness as the anterior plate. Both plates were hard and tender to palpation, the latter more so. The Wassermann test was positive. On account of this reaction he received iodides in increasing doses, beginning with ten grains, three times daily, until he finally reached seventy grain doses. Improvement gradually followed. After six weeks he was able promptly to straighten the organ when it curved and was then able to effect a vaginal entrance and have successful intercourse. Later the organ did not curve so much and the plates seemed softer and smaller. There was no pain. The author reports this case because of its rarity, its unusual etiology, and its partial response to specific therapeutic measures. In view of the latter and of the positive Wassermann reaction he believes the case to have been one of specific origin.

BRITISH MEDICAL JOURNAL.

December 30, 1911.

1. P. Lockhart Mummery: The Varieties of Colitis.
2. J. B. Hurry: Vicious Circles in Skin Diseases.
3. S. Hillier: Epidemic Poliomyelitis.
4. G. F. England: Epidemic Paralysis.
5. J. H. Moir: Epidemic Anterior Poliomyelitis.
6. E. Weatherhead: Retention of Fetus in Abdomen for Forty Years.

1. The Varieties of Colitis.—Mummery excludes from his discussion such entities as ulcerative colitis, follicular, and tuberculous colitis and pericolitis, and the specific types occurring in the tropics. He turns his attention to the subject of chronic mucomembranous colitis and characterizes it as "a collection of symptoms which, owing to want of better knowledge as to the pathology and physiology of the colon, have been placed together and labelled as a disease"; whereas the symptoms may arise from any one of a number of different conditions. For example, he has found the symptoms to be due to one or other of the following, partial obstruction of the colon from kinking, adhesions or pericolitis; dilatation of the colon and visceroptosis; chronic appendicitis; displacement or inflammation of the uterus or appendages; cancer of the colon; fibrous stricture of the colon; aneurysm of the abdominal aorta; floating kidney. Many of these are only indirect causes by the production of an obstruction to the fecal passage. Mummery can distinguish three distinct types of inflammation of the colonic mucosa: a *hypertrophic* in which there is swelling due to submucous edema, a pale color, and much sticky mucus; a *granular* variety in which the mucosa is very granular in appearance with much inflammation and a dusky red color; and a third type in which the mucosa looks as if it had been sandpapered, the surface epithelium seems to have been removed, and the glistening appearance is lost. The diagnosis of many of these conditions is very difficult, but by systematic, careful sigmoidoscopic examination, examination of the stools, and of the abdomen much can be made out. If carefully used he does not believe that there can be any possible harm from the use of the instrument. An important element of success lies in thorough emptying of the rectum just before the examination. The treatment must rest upon the primary cause of the condition.

2. Vicious Circles in Skin Diseases.—Hurry holds that many cutaneous affections are capable of setting up a vicious circle in the sufferer. To take one only, eczema, as an example, he remarks that the disease causes itching, in turn this demands scratching, and this aggravates the disease and causes it to extend. The vicious circle similarly appears in such affections as varicose ulcer, urticaria, lichen ruber, clavus, iodide eruptions; those harboring oxyurides, scabies, pediculi; in ringworm, impetigo, pruritus, and in many others too numerous to mention. The very existence of these circles renders some of these diseases almost wholly incurable. In others some accidental or intercurrent condition may break the circle as, for example, an acute pain may confine a patient having varicose ulcer to bed; the edema subsides on lying down, itching disappears, the excoriations heal, and repair sets in. In general, however, where a vicious circle is present the disease is an obstinate one.

3. Epidemic Poliomyelitis.—Hillier reports an epidemic of this disease in which he observed the interesting fact that in one house there occurred three cases, an interval of five and four days respectively separating the appearance of the cases. In two other houses there were two cases each, where the interval was three days in each pair. The majority of cases in the epidemic of twenty-five occurred in adjacent houses.

6. Retention of Fetus in the Abdomen for Forty Years.—Weatherhead reports a remarkable instance of a ruptured ectopic gestation with subsequent development of the fetus in the abdominal cavity. After false labor pains the patient resumed her general state of good health, and aside from one or two attacks of what was diagnosticated at the time as peritonitis she remained in good health until her seventy-ninth year, when she died

of asthenia as a result of an obstinate diarrhea. At the autopsy there was found in the abdomen, attached to the posterior face of the uterus, a well developed set of membranes in which lay a very well preserved fetus of what seemed to be about eight months' development. It had undergone some calcification externally, while the general substance was of a peculiar waxy consistence, being possibly that rare substance, adipocere.

LANCET

December 30, 1911.

1. P. Lockhart Mummery: Cancer of the Rectum.
2. A. C. Jordan: Radiography in Intestinal Stasis.
3. I. B. Muirhead: Ruptured Extrauterine Gestation.

1. Cancer of the Rectum.—Mummery observes that by far the greatest number of cases have the growth at the very worst point for treatment, that is high up, involving the peritoneal cavity. With regard to age incidence, he believes that statistics are misleading and that in general the disease is most frequent between fifty and sixty years rather than earlier, as is commonly given. The male sex is also slightly more commonly affected than the female. The one most important predisposing factor is the occurrence of a simple benign growth such as polypus or simple adenoma. Multiple polypi of the colon are likewise frequent precursors of malignant disease of the rectum. In the rectum as elsewhere the cancer spreads by way of the lymphatics and by direct extension to the neighboring tissues. Metastasis does not occur early, though when it does appear it is usually to be found first in the liver. The disease, particularly in its early stages, when surgical interference gives the best results, unfortunately causes no symptoms of importance. Cancer of the rectum is, in fact, not incompatible with perfect health for a long time and until it has become very extensive in its development. The "textbook symptoms" appear only in the later stages. The most typical early symptom is a slight diarrhea which is spurious—that is only a small amount of material is expelled at one time, though the patient has to move his bowels frequently. There is often only a little mucus which may be blood stained. Exercise and meals bring on the diarrhea; the call to stool is so urgent that the victim is often afraid to go far from some place of relief. It is Mummery's opinion that any person presenting this symptom of diarrhea should be examined rectally for the possible presence of an early cancer. Pain or discomfort in the sacrum is also quite common and it is characteristic that the pain is not relieved, but increased by recumbency. No differential diagnosis is necessary between benign and malignant growths of the rectum, for in any case of neoplasm here surgical measures are essential if the condition is not too far advanced. The differentiation may then be deferred in difficult cases till the patient is under the anesthetic. There is but one form of treatment and that is radical removal of the growth and all infiltrated or neighboring tissue. Mummery finds a combined abdominal and perineal operation is the most satisfactory in all but the lowest cases. The prognosis is less unfavorable than would be imagined, for early complete excision gives a good prospect for complete freedom from recurrence.

2. Radiography in Intestinal Stasis.—Jordan believes the condition of intestinal stasis to be due to the presence of kinks in the gut caused by the occurrence of abnormal mesenteric bands, which, in turn are, in great part, the result of man's assumption of the upright posture. The common sites for these kinks are at the junction of the duodenum with the jejunum, in the distal portion of the ileum which falls into the pelvis and then rises as a long straight tube to the cecal orifice, in the hepatic and splenic flexures, the sigmoid, and in the first portion of the rectum. It is unusual to find a kink at but one of these points, one being due to the common cause of all. There are, therefore, generally several points of obstruction. The gut proximal to the kink is more or less dilated, there is a stasis of the contents with the resulting intoxication from absorption of the products of decomposition. Jordan believes that it is feasible to diagnosticate this condition of obstruction and dilatation by means of the fluoroscope and radiograph. A bismuth meal can readily be traced in its passage through the intestine and the several sites of obstruction can be located with fair accuracy. The successful treatment would seem to be the radical operative correction of the obstruction at each of the several points, usually by means of intestinal anastomosis.

PARIS MÉDICAL.

December 30, 1911.

1. H. Gougerot: Growing Frequency of Mycoses. Acremoniosis.
2. De Martel: English Boxing.
3. A. Cayrel: Meningitis Preceding Mumps.

1. Mycoses.—Gougerot states that the mycoses, once thought to be rare, are growing not only in recognition but in actual frequency, and that new forms are being discovered. Potron and Noisette have discovered an acremoniosis due to *Acremonium Potronii* (Vuillemin), and consider that the diagnosis saved the patient, for as soon as the parasitic nature of the disease was suspected the iodide treatment was begun with immediately good results. Grave septichemia had developed, very resistant to other methods of treatment, the marked symptoms being fever, loss of weight, general malaise, cough from a bronchitis, and a sort of explosion of subcutaneous gummata, together with an arthritis of the knee. A relapse in one case was characterized by an osteomyelitis of the tibia, which yielded to the iodides. Cultures from the liquid in the knee joint, from the gummata, and from the mouth, showed *Acremonium Potronii*, mixed in the latter case with *Endomyces albicans*. The authors give full details regarding *Acremonium*. In these cases it is important to continue the iodides for some time after symptoms have disappeared, as they have a marvellously specific action in all mycotic affections.

2. English Boxing.—De Martel has great admiration for this sport as an exercise for young men in helping the wind and muscle, and in warding off old age, besides improving the temper and personal courage. It shows also, he says, the intimate relations between the point of the jaw and the base of the brain, the extreme sensitiveness of the solar plexus and the effect on the heart of its excessive stimulation.

PRESSE MÉDICALE.

December 27 and 30, 1911.

1. R. Lhomme: New Emergency Extension Apparatus for Fractures of the Leg.
2. A. Rochaix: Sanitary Organization and Hygiene in the Anglo-Norman (Channel) Islands.
3. Emile G. Socor: Action of Stovaine on the Myelinic Nerves.
4. F. Helme: Contradictions in the Modern Soul.
5. L. Lortat-Jacob: High Prices and Cold in the Preservation of Food Stuffs.

2. Hygiene in the Channel Islands.—Rochaix points out that these islands are largely self governing and that the king of England reigns therein only as duke of Normandy. Their autonomy has enabled them to develop an interesting system of sanitary regulation of their own, which took its rise in 1887 on the occasion of an outbreak of smallpox. Jersey has a medical inspector, assisted by a sanitary inspector, not a physician, who sees that the laws are enforced, a State veterinary surgeon, and an official analyst. Guernsey has a similar system. A fine of ten pounds is imposed for failure to report contagious diseases, the patient's relatives being responsible for the report if a physician is not obtainable. In addition to the official report, a telephone message is sent in order to avoid delay in quarantining. Isolation is immediate and rigorous and the subsequent disinfection is thorough. The occurrence of tuberculosis demands examination of the house, which may be condemned and from this decision there is no appeal. In 1910 the death rate in Jersey was 14.4 in a thousand, in Guernsey 12.36.

3. Stovaine and the Myelinic Nerves.—Socor, using stovaine in solutions of varying strength, found that as the anesthetic action gradually manifested itself, stronger and stronger electric currents were required to excite contraction. This phenomenon seems to indicate an alteration in the nerve substance. The histological examination of the nerve having shown a degeneration of the axis cylinder, Socor believes stovaine to possess a toxic action as well as an anesthetic one.

5. High Price of Food.—Lortat-Jacob attributes the high price of meat in Paris to the practice of killing animals younger than formerly, thereby losing some twenty-five per cent. of the meat; to the epizootic and other diseases; to drought; and to cold storage. Cold storage, however, he considers indispensable, if only for the sake of the army, and he points out that Germany has enough meat thus stored to feed her troops for two years. A full description of the cold storage establishments of Paris follows, including the department for microscopical inspection.

SEMAINE MÉDICALE.

January 3, 1912.

R. de Bovis: Renal Decapsulation and Its Results in Puerperal Eclampsia.

Renal Decapsulation.—De Bovis believes that the mortality of Edebohls's operation is as high as forty per cent., but this is to be attributed to the fact that the operation is frequently performed as a *dernier ressort*, in the very serious post partum eclampsia as well as the ante partum. Still, the results reported are extraordinarily contradictory and it is not now possible to state definitely whether the operation will eventually take a permanent place in our surgical therapeutics. The experiments of Ilin and Ehrenfest on dogs show apparently that certain cases will specifically indicate the operation, when, perhaps, we may hope for a higher percentage of successful results.

BERLINER KLINISCHE WOCHENSCHRIFT

December 11, 1911.

1. Conrad Pochhammer: Operation [illegible] Properitonealis Abdominalis.
2. C. Hamburger: Successful Attachment of a Severed Eyelid.
3. Willy Katz: Severe Injury to a Finger.
4. G. Schickele: Results of the Alexander-Adam Operation.
5. Strubell: Pharmacodynamic Problems.
6. M. Mosse: Success in the Treatment of Splenomegaly.
7. Géza Kiralyfi: Solitary Tuberculosis of the Wall of the Intestines, Experimentally Produced in Guineapigs.
8. Alfred Bretschneider: Latent Tuberculosis of the Intestines and the Mesenteric Glands as Causes of Peculiar Hematological Syndromes.
9. R. Kaufmann: Therapeutical Use of Iodine in the Nascent State.
10. R. du Bois-Reymond: German Gymnastics.
11. Hoffmann: Diseases of the Tropics.

4. Results of the Alexander-Adam Operation.—Schickele refers to the question raised by von Dührssen, should we still use the Alexander-Adam operation, and reports that this operation has been performed at the Strassburg University clinic in 350 cases during the past ten years, for the shortening of the round ligaments. Of this number of cases he was able to reexamine 171 women, who showed eleven recurrences, or 6.4 per cent. He concludes that the results observed by him are greatly in favor of this method of operation and a change in the technique is not indicated. Schickele remarks that it is absolutely wrong to compare the operation of Alexander-Adam with the one of von Dührssen.

December 18, 1911.

1. Felix Klemperer: On the Treatment of Tuberculosis of the Lungs by Artificial Pneumothorax.
2. J. W. Samson: The Treatment of Tuberculosis of the Lungs by Artificial Pneumothorax.
3. M. Mosse: Statistics of Tuberculosis.
4. Hermann Küster: Etiology and Early Symptoms of Thrombosis and Embolism.
5. Axhausen: Surgical Case Histories.
6. Ernst Unger: Varicose Veins.
7. Hahn: New Remedy in the Technique for Wet Nursing.
8. H. Coenen: Basedow's Disease.
9. Hoffmann: Diseases of the Tropics.

1 and 2. Treatment of Tuberculosis by Artificial Pneumothorax.—Klemperer states that patients who have tried all kinds of treatment in tuberculosis, such as tuberculin injections, sanatoria, dietetic, and physical treatment, and in whom the disease slowly progresses, are the ones who will give the best results with artificial pneumothorax. He states that this method has found many followers during the past five years and quotes from the literature. The operation itself, although a serious one, is not difficult, and should never be adopted in light beginning cases of tuberculosis.—Samson is of the same opinion as Klemperer. In his present paper he only reviews the literature and gives general remarks.

4. Etiology and Early Symptoms of Thrombosis and Embolism.—Küster states, from his observation, that at present we have no premonitory symptoms which would make it possible to give an early diagnosis in thrombosis and embolism. The author speaks in his article especially of thrombosis in women after labor, and he thinks that the best prophylaxis in these cases is the frequent changing of positions of the lower extremities much more than the early leaving of the bed.

6. **Varicose Veins.**—Unger says that an operation should be performed for varicose veins on all young people in the early stage of the disease. Such operation is much to be preferred to conservative treatment, but should not be undertaken in old age or general malaise.

MEDIZINISCHE KLINIK.

December 24, 1911.

1. Fedor Krause: Aspiration in Operative Surgery.
2. Wilhelm Knöpfelmacher: Meningeal and Cerebral Diseases in the Newborn and the Nursling.
3. Otto von Franque: Treatment of Retention of Parts of the Ovum during Fever.
4. Wehmer: Inhalations in Phthisiotherapeutics.
5. P. Jödicke: Treatment of Epilepsy with Borax.
6. Klewe: Osteomalacia and Dementia Præcox.

4. **Inhalation in Phthisiotherapeutics.**—Wehmer speaks of three forms of inhalation, powder, fluid, and gas. He does not think that the inhalation of powder has many followers. Fluids can be inhaled in cold or warm conditions or as steam. Gas inhalations, of which a great deal was expected, have not fulfilled the expectation. The only inhalations which really should be used are the indirect warm inhalations.

5. **Treatment of Epilepsy with Borax.**—Jödicke has not received such good results as were published by other physicians with borax in the treatment of epilepsy. He has used sodii boras three times a day after meals in increasing doses from 0.9 gramme to 2 grammes. From fourteen patients he can report two successes, that is an improvement during treatment. His conclusions are that we should be careful in the use of this remedy, the benefits from which are in no proportion to the dangerous sequelæ.

December 31, 1911.

1. H. Wolff: Malignant Ulcers of the Large Intestine.
2. Oberndorfer: The Etiology of Appendicitis.
3. A. Phillippson: Nervous Diarrhea.
4. Rudolf Müller: Autoplastic Method for Prolongation of Long Bones.

1. **Malignant Ulcers of the Large Intestine.**—Wolff speaks of ulcers of the large intestine in which carcinoma is found to be more prevalent than sarcoma and sarcomatous myoma. A great adjuvant in diagnosis is the well known bismuth-Röntgen ray examination, still it is very hard to decide whether the functional occlusion originates from benign or malignant stenosis. One of the important symptoms of the affection of the large intestine are the pathological irritation which shows itself in diarrhea, the changing from constipation to diarrhea, the finding of blood and mucus in the feces, and painful tenesmus. These symptoms are nearly always present in carcinoma of the rectum and the flexure. In aged people these symptoms are nearly conclusive. Statistics show that fifty per cent. of all carcinomata of the large intestine are located in the rectum, and thus digital examination becomes imperative.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

December 26, 1911.

1. Hacar: The Martyrium of the Sexual Apparatus.
2. Wolff and Wiewiorowski: Diagnosis and Treatment of External Anthrax.
3. Röver: Plethora Polycythæmica.
4. Grin: Radium Emanation as a Diuretic.
5. Sommerfeld: Excretion of Indigo Blue in the Urine.
6. Schuric: A Folding House Shoe for Easy Ascension of Stairs.
7. Mendes de Leon: Dangers of Sepsis Produced through Speaking during Operations.
8. Fritzsche: Perimetry of the Joints.
9. Axmann: Conjunctivitis and Acne Rosacea.
10. Werner: Cancer Statistics in Baden.
11. Helferich: Transplantation of the Intermediary Cartilage.
12. Drenkhahn: Pharmacology of Extractum Filicis Maris.
13. Daser: John Hughlings Jackson.

2. **Diagnosis and Treatment of External Anthrax.**—Wolff and Wiewiorowski report thirteen cases of anthrax in which ten patients received absolutely conservative treatment, which consisted of tincture of iodine, jodanisol, aluminum acetate, boric acid, etc. The best results were seen with simple boric acid.

12. **Pharmacology of Extractum Filicis Maris.**—Drenkhahn warns against the careless use of extractum filicis maris and says that the present maximum dose in the German Pharmacopeia is rather too high (ten grammes).

PRAGER MEDIZINISCHE WOCHENSCHRIFT.

December 21, 1911.

1. Richard Rosenfeld: Ulcus Duodeni.

WIENER KLINISCHE WOCHENSCHRIFT.

December 28, 1911.

1. M. Weisz and B. Smieciuszewski: Urorosein and Its Clinical Importance.
2. J. Brudzinski: Experimental Observations of the Contralateral Reflex and on the Phenomenon of the Lower Extremities.
3. A. Novák: Radiological Diagnosis of Stenosis of the Small Intestines.
4. J. Philipowicz: Case of Typhoid Bacillus Carrier.

1. **Urorosein.**—Weisz and Smieciuszewski report on their observations of urorosein and its clinical importance. Urorosein belongs to the coloring matter of the urine, where it does not exist as a primary matter but is formed by oxidation from its chromogen, which belongs to the deterioration products of albumin, similar to indican. The authors have made their observations on 380 persons. It is a question whether urorosein is found in normal urine, but it will appear after rich vegetable diet, also during severe constipation. Constipation and catarrhal inflammation of the intestines will produce a richer discharge of the urorosein. In sick people the authors found urorosein in greater quantities in the urine of diabetics; while in tuberculous patients an increase was observed in only two out of twenty-nine cases. The authors come to the conclusion that the chromogen of urorosein is to be found in small quantities in normal urine. Increased putrefaction of the intestines produced through stagnation of the contents will be followed by increased discharge of urorosein; while carcinomata of the intestines can also increase the volume of urorosein, without such stagnation.

4. **Typhoid Bacillus Carrier.**—Philipowicz reports a case of a woman who had an attack of typhoid fever thirty-eight years ago. Upon extirpation of an acutely inflamed gallbladder the contents showed typhoid bacilli in great numbers. Since her first attack the patient had never had another, but it is interesting that no cases of the disease have been observed among the neighbors of the carrier.

ZENTRALBLATT FÜR CHIRURGIE

December 23, 1911.

Theodor Hausmann: The Relations of the Flexures of the Colon to the Kidneys and the Renal Tumors.

Colon and Kidneys.—Hausmann asserts that tumors of a kidney that retains its normal position lie behind the flexure of the colon, but that when the kidney is displaced the tumor may lie behind the

flexure, if the latter is attached to the kidney, or in front of it, when there is no such connection. The latter is less frequently the case with the left kidney than with the right, because the left flexure occupies a higher position and is united more firmly with the kidney.

ZENTRALBLATT FÜR GYNÄKOLOGIE.
December 30, 1911.

1. G. SCHUBERT: A New Forceps for Securing Tissue Particles for Examination.
2. N. I. HORIZONTOW: Secondary Tuberculosis of the Female Sexual Organs.
3. M. HIRSCH: A Case of Incurable Vomiting in Hematometra.

2. Secondary Tuberculosis of the Female Sexual Organs.—Horizontow has studied the question of secondary tuberculosis in the female sexual organs. After a condensed review of the literature he reports his results with experiments on thirty guineapigs and eleven rabbits. Of his findings two are very important: 1. The discovery of a tubercle bacillus in a cell of the membrana granulosa of a ripe follicle of an animal; and, 2, the finding of a number of tubercle bacilli in the lumen of the abdominal section of the tube in another animal. The author concludes from his observations that the female sexual organs are easily affected by secondary tuberculous infections. The tuberculous infection of the abdomen is of great importance in the attack of secondary tuberculosis of the genital apparatus. The tuberculous changes can develop in all kinds of tissue and in all layers of the sexual organs. These changes are usually localized in the mucous membrane of the vagina, the tubes, and the uterus; and in the stroma of the cortical layer of the ovaries. But these changes are usually so small that they can only be found by microscopical examination.

CALIFORNIA STATE JOURNAL OF MEDICINE.
December, 1911.

1. R. L. WILBUR: The Significance of Pelvic Pain.
2. W. D. BOGGS: A Practical Method of Artificial Feeding.
3. W. P. WILLARD: The Prostate in Chronic Gonorrhea.
4. G. P. WINTERMUTE: The Differential Diagnosis of Labrynthine Affections.
5. W. F. BLAKE: The Eye and Its Semeiological Aspect.
6. M. P. E. GROSSMAN: Tentative Classification of Exceptional Children.

1. Significance of Pelvic Pain.—Wilbur considers autonomic pain, i. e., pain of a visceral origin felt in some superficial area of skin or muscle, as of great diagnostic importance, since the somatic nerves from definite areas meet in the cord visceral sympathetic nerves from definite areas or organs and thus the true source of the pain can be quite definitely ascertained. Head found that in pelvic affections the most tender point posteriorly was near the last lumbar and first sacral spines and that in profound visceral disease of the pelvis there is often a sensitive area on the back of the thigh, extending down the leg. He indicates the following areas of skin hyperesthesia, as tested by light pinching of the skin: For the ovary, the area enclosed above by a line running horizontally from top of first lumbar spine to the umbilicus and below by a line from the third lumbar spine to midway between the pubes and umbilicus, but having a little downward tag near anterosuperior iliac spine; for the body of uterus and Fallopian tube, an area bounded above by the preceding one, and below by a line running from a little below the top of the sacrum to the symphisis, but having a dip down over the buttock and another on the front of the thigh; for the cervix (uterine), the area over the lower part of the sacrum. For the female genital organs three zones have been made out by Reed with special reference to the muscular system. 1. The upper genital. Fundus of uterus, tubes and ovaries (supplied by sympathetic branches, sensory branches of twelfth dorsal and first and second lumbar nerves) with autonomic filaments afferent from zone to cord, and reaching finally the intertransversarii, quadratus lumborum, and the two psoas muscles. 2. Middle genital zone. Cervix (supplied by sympathetic branches from lower ganglia, sensory branches of second, third, and fourth sacral nerves with autonomic branches to the two glutei, quadratus femoris, coccygeus and levator ani muscles. 3. Lower genital zone. External genitalia and vagina. Reed found pain in costoiliac interval and along the posterior ramus of the twelfth dorsal in ectopic gestation, submucous fibroid and follicular degeneration of the ovaries, and pain in the ileogluteal region in painful cicatrix of cervix, cervical erosion, intramural myomata of cervix, and Nabothian cysts. These zones of hyperesthesia often fail us, as in pelvic inflammations the pain may affect any part from the umbilicus to the knees. Kelly, of Baltimore, considers backache as seldom due to uterine displacement of inflammations, but dependent on anemia and other conditions.

3. The Prostate in Chronic Gonorrhea.—Willard states that in sixty to ninety per cent. of all subacute or chronic gonorrheas the prostate is infected and that microscopical examination of the secretion is the only reliable method of determining whether infection is present or not. Palpation alone is often misleading. A slight morning drop and a few threads in the urine may be the only signs a patient may have, whose prostate has been infected for years, later to be lighted up by intercourse or drinking. Many of the patients suffer from pain in the back, loins, thighs, pubic region, or testicles, or are neurasthenic and impotent. Sterility may be present, the spermatazoa being killed by pus or absence of lecithin. Prostatitis may be catarrhal, follicular, parenchymatous, or phlegmonous. In catarrhal prostatitis pus germs eliminate the gonococci and keep up a low grade inflammation, with perhaps a slight amount of clear secretion, but excesses do not set up a profuse discharge, although indefinite pain and sterility may be present. The secretion contains numerous scattered pus cells and a few lecithin globules. In follicular prostatitis soft areas can be palpated. Frequent micturition and pain at the end of miction are complained of. The secretion shows fields of normal secretion surrounded by others full of pus cells. In parenchymatous prostatitis all the secretory portion is affected and the gland feels tense on palpation. The secretion is abundant and full of pus. Fever and constitutional symptoms, with difficulty in defecation and urination, will likely be present. Single or multiple abscesses may be present in the phlegmonous form and the gland partially or wholly destroyed. The pus may invade neighboring structures or follow the cord. Massage of the prostate is the most im-

portant part of the treatment, but should never be done if the gland is acutely inflamed. Instillation of thirty minims of one half to two per cent. silver nitrate solution is better than large injection of weaker solutions, and more effective than the newer silver salts. Treat the patient twice a week, and inhibit alcohol, intercourse, strenuous exercise, and condiments during treatment, and for a few weeks after it stops.

THE JOURNAL OF NERVOUS AND MENTAL DISEASE.

December, 1911.

1. Charles K. Mills and E. W. Williams: Chronic Hypertrophic Spinal Pachymeningitis.
2. H. C. Gordinier and H. P. Sawyer: Multiple Ependymomata of Brain and Spinal Cord, with Tabetic Symptoms.
3. T. Diller and G. J. Wright: A Case of Pseudo or Diffuse Sclerosis.

1. **Spinal Pachymeningitis.**—Mills and Williams, after considering the differential diagnosis of hypertrophic spinal meningitis, present a very thorough report of an unusual and interesting case of this disease which came to operation and necropsy. The symptoms were suggestive of circumscribed serous meningitis or spinal tumor, and were very fluctuating in their intensity. The course of the disease lasted over a period of several years, progressing gradually with periodical exacerbations and remissions. Prominent symptoms were pains at the back of the neck and between the shoulders, epileptiform convulsions, atrophy of the muscles of the hands and forearms and those of the trunk, motor weakness, and generally increased reflexes and sensory changes, especially a partial dissociation with thermanesthesia, most marked in the right hand. Necropsy disclosed extensive thickening of the meninges, and in the cervical and dorsal regions the cord was involved in the process. The pathological notes are very comprehensive and the clinical symptoms carefully correlated with the pathological findings.

2. **Multiple Ependymomata.**—Gordinier and Sawyer present a clinical and pathological report of a case of multiple ependymomata, the locations of which were such as to cause gradual compression and destruction of the posterior nerve roots, resulting in a symptom complex closely simulating tabes dorsalis. The authors were unable to find reported in the literature a case of similar pathology. The principal necropsy findings were a diffuse new growth, probably primary, in the cerebral ventricles, widespread involvement of the frontal lobes with necrosis, multiple nodules on the crura and pons, and implication of the posterior nerve roots and dorsal part of cord throughout its whole length.

3. **Sclerosis.**—Diller and Wright find in the literature no record where pseudo or diffuse sclerosis has been diagnosticated clinically and confirmed by necropsy. Oppenheim, in his textbook, doubts whether a diagnosis can be made clinically. Diller and Wright, after reviewing the literature, record a case in which they consider the diagnosis of diffuse sclerosis to be the most reasonable one. The patient, a boy of thirteen years, appeared normal until nine or ten years old when mental deterioration began. When examined the prominent symptoms were dementia, motor weakness, tremors in the hands and arms, increased reflexes, and Babinski's sign. Eyegrounds normal; no ocular palsies or nystagmus; cerebrospinal fluid normal. The case would seem to stand between disseminated sclerosis and juvenile paresis; from the former it was differentiated by the dementia, the age of onset, the absence of nystagmus, and eyeground changes; from paresis by the absence of any striking ocular symptoms and by the fact that the cerebrospinal fluid was normal.

LONG ISLAND MEDICAL JOURNAL.

December, 1911.

1. C. E. Scofield: Chronic Catarrhal Deafness.
2. G. H. Turrell: Sporotrichosis.
3. J. B. Bogart: The Surgery of the Large Intestine.
4. A. T. Bristow: A Note on Vaccine Therapy in Surgery.
5. G. M. Muren: Transplantation of the Vas Deferens for Sterility in Man.

1. **Chronic Catarrhal Deafness.**—Scofield remarks that the histories of cases of chronic catarrhal deafness are all most similar, i. e., frequent colds in the head, hypertrophied tonsils and adenoids in early life, and later on overindulgence in alcohol and tobacco, working in a dusty atmosphere; or some general condition, as rheumatism, gout, nephritis, or syphilis. So insidious is the onset that the disease is usually far advanced before advice is sought. The repeated colds gradually cause chronic thickening of the tissues and by and by hissing, buzzing, hammering, or musical noises are complained of. Examination shows the tympanic membrane thickened and retracted, with perhaps a spotted appearance. The cone of light may be displaced or absent. Nasopharyngeal examination usually discloses a catarrhal process extending to the Eustachian tube by continuity and causing congestion, obstruction, or stenosis of the tube. Since pathology of the tube precedes chronic catarrhal deafness, it should be sought for and treated. Nasal obstruction (from polyps, spurs, deviated septum, or hypertrophied turbinates) or accessory sinus disease is found in nine out of ten cases. Enlarged but buried tonsils may narrow the tube by pressure. The prognosis is always unfavorable if hearing is better in a noisy than in a quiet place. Catarrhal deafness, unless complicated by internal ear trouble, never causes complete deafness. Cases in youth give the best prognosis. Potassium iodide is useful in every case. The treatment briefly is to remove nasal obstructions, treat sinus disease if present, and treat catarrh if found. Then only will the usual routine treatment—i. e., politzerizing, catheterization, instilling liquids or vapors, passing sounds, etc.—be of value.

2. **Sporotrichosis.**—Turrell describes the case of a healthy looking boy about twelve years old who suffered from an ulcer on the top of the great toe and another on the instep. The ulcers were covered with dirty yellowish tenacious pus and resembled gummatous ulcers. There was no inflammatory areola. Later a bluish nodule appeared on the wrist, soft and fluctuating and entirely painless. When incised the contents proved to be a thick tenacious pus, brown in color. In spite of antiseptic treatment the ulcers enlarged and others appeared, but there were no fever, no enlarged glands, no constitutional symptoms, and little or no pain. In

smears from the yellowish pus the sporotrichon was found, consisting of an interlacing network of rather coarse mycelial threads, interspersed with sharply defined oval spore bearing bodies, or conidia. The organism is aerobic, Gram positive, and stains well with basic dyes. Potassium iodide, ten grains after meals, and dressing the open sores with a solution of tincture of iodine, one ounce to a pint of water, is specific and cured the lesions. Tertiary syphilis, glanders, actinomycosis, and tuberculosis must be excluded.

5. Transplantation of the Vas Deferens for Sterility in Males.—Muren asserts that in childless marriages where children are desired the sterility is on the male side far oftener than is supposed, and in many cases is caused by inflammatory obliteration of the genital tract. The obstruction is usually in the tail of the epididymis, although it may be elsewhere, as in obliteration of the ejaculatory duct from long continued posterior urethritis. Martin's operation for transplantation of the vas is recommended as giving the patient the only possible hope. Briefly this consists in making an anastomosis between the vas, above the supposed stricture, and the head of the epididymis. The operation often fails to relieve the condition.

CLINICAL JOURNAL

December 27, 1911.

1. O. Grunbaum: Methods of Making an Accurate Prognosis in Renal Disease.
2. With Dr. Samuel West in the Wards of St. Bartholomew's Hospital.
3. James Rae: The Deaths of English Kings.

1. Methods of Making an Accurate Prognosis in Renal Disease.—Grunbaum remarks that the two main causes of death in renal disease are uremia and cerebral hemorrhage. The percentage of albumin in the urine is no measure of the efficiency of the kidney, as even urine which solidifies on boiling may not be incompatible with long life. If the heart is not enlarged; the aortic second sound not accentuated; blood pressure not high, albuminuric retinitis absent; arteriosclerosis not present, and the hemorenal index normal, the albuminuria may be treated with contempt. The hemorenal index shows the excretory work of the kidney by comparing the ratio of the salts in the blood serum and in the urine. This is ascertained by the freezing points, or by the resistance to conduction of electricity. The conductivity of urine is normally double that of serum, or two to one. The patient urinates, and fifteen minutes later a sample of blood is taken from his finger. He is told to urinate again after fifteen minutes, and a sample of the second urine and the blood serum tested by electricity as above. If the index is 1 to 1 or less the prognosis is not good. If above 1.5 it is unlikely that uremia will develop, without fresh disease of the kidney, within five years. Three years is the usual duration of a case where the index persists about 0.8. Full doses of calcium lactate, two drachms in twenty-four hours, will clear up albuminous urine if renal disease is not present. The presence of casts other than hyaline confirms renal disease. Phenolsulphonephthalein injected intramuscularly (one c.c. of water containing 0.6 milligramme) is reliable. It should appear in the urine in eleven minutes and be entirely excreted within two hours. Delayed appearance means probable renal disease. Cheyne-Stokes breathing points toward a severe toxemia and usually means death within four months. Vomiting, headache, convulsions, hallucinations, and mania mean toxemia in various degrees, but the prognosis should be guarded, as these patients may recover and live for six months.

THE AUSTRALASIAN MEDICAL GAZETTE.

November 20, 1911.

1. G. Rothwell Adam: Presidential Address [illegible] Obstetrics Section.
2. W. N. Robertson: Presidential Address [illegible] gology Section.
3. James Purdy: Presidential Address, Naval and Military Section.
4. F. I. Clendinnen: Presidential Address, Dermatology, Radiology, and Medical Electricity.
5. A. Jefferis Turner: The State and Venereal Diseases.
6. J. C. Verco: Phthisis in Married Couples.
7. R. W. Hornabrook: Open Ethyl Chloride Anesthesia for Minor Operations and as Preliminary to Open Anesthesia.
8. J. W. Bean: Hints on the Administration of Anesthetics.
9. F. J. E. Juttner: Fatal Postoperative Thrombosis.
10. Ralph Worrall: Leucoplakia of the Vulva.
11. F. G. Antill Pockley: Ectopic Gestation; Abortion into Uterus.
12. E. S. Jackson: Diabetes Mellitus Treated with a Diet of Milk and Potatoes.

7. Open Ethyl Chloride Anesthesia.—Hornabrook advocates the open method of ethyl chloride administration because the drug enters the system gradually, with free admixture of air, so that the shock given is rather that of a gentle push into unconsciousness than of the more violent and rapid rush into a state of insensibility by the closed method, with no feeling of suffocation or desire to fight for air. The drug is rapidly eliminated from the system so that the patient is fit to go home a few minutes after the completion of the operation. An important point when dealing with operations in the posterior nares and throat, as well as in dental cases, is that the swallowing and coughing reflexes are retained, so that any blood in the back of the throat is swallowed, or if it enters the larynx it excites a spasm of coughing. As compared with somnoform he considers open ethyl chloride to be much safer and more pleasant. The stage of anesthesia is followed by one of analgesia in which the patient seems to be quite awake, can hear what is said and remember it, and can obey directions, but does not feel pain. Finally the writer gives the following directions: For minor operations of short duration a single layer of honeycomb towelling of medium thickness is the best material to use, when open ethyl chloride is used by itself. When its use is to be followed by that of ether a thicker mask is employed. A few drops of chloroform may bridge over the stage between the ethyl chloride and the ether. Lint is objectionable as a material for covering the mask because of its thickness and the vapor of condensation forms on its inner surface. Care must be taken not to get the ethyl chloride into the patient's eyes, as it is very painful. Do not rush the anesthetic at first, but keep its vapor well mixed with air and the patient relaxed. Rigidity of the patient usually means that the drug, whatever it may be, has been given in too great concentration. In all patients over twelve years of age the writer gives one eighth grain of morphine and 1/150 grain of atropine about an hour before operation, when the ethyl chloride is to be followed by ether.

BULLETIN DE LA SOCIÉTÉ FRANCAISE DE DERMATOLOGIE ET DE SYPHILIGRAPHIE.

November, 1911.

1. M. Milian: Ulcerating Lymphadenoma of the Neck Simulating Gumma.
2. M. Milian: Tuberculous Chancre of the Chin.
3. L. Brocq and P. Fernet: Lesions Simulating Reinfections after Mixed Treatment with Salvarsan and Mercury.
4. Jeanselme and A. Vernes: Syphilitic Reinfection in Two Cases Cured with Salvarsan.
5. Hudelo, Darbois, and Gallet: Confluent Adenoma Sebaceum Successfully Treated by Radiotherapy.
6. Gaucher and Brigout: Twenty Successive Syphilitic Chancres of the Penis; Autoinoculation Favored by Scabies.
7. Balzer and Godlewski: Contribution to the Study of the Treatment of Syphilis by "606."
8. Du Bois: Syphilis Reappearing after Three Salvarsan Injections, and in Spite of a Negative Wassermann Reaction.

5. Adenoma Sebaceum.—Hudelo, Darbois, and Gallet say that treatment of this affection has been unsatisfactory in the past; curettage and electrolysis, the usual measures employed, being of little use when the tumors are confluent and numerous. Radiotherapy has given the authors interesting results in an extensive case. The patient was a woman of forty-seven years; the affection had begun in childhood and had been progressive, until the skin of the entire face was covered with the small, closely aggregated, and confluent tumors in immense numbers. Irradiation was begun April 28, 1910; and each area treated received four to five hours every month. At the end of three months there was a very marked amelioration of the condition. In some places the adenomata had entirely disappeared, and all of them were much less prominent. The treatment has been continued until March, 1911, individual areas being rayed about once every forty days. The patient is not completely cured as yet; but the improvement was so great that success may be expected. In any case there is no other method available in so extensive a case of this form of tumor.

DERMATOLOGISCHES CENTRALBLATT.

October, 1911.

1. F. Sprecher: A Further Contribution to the Study of the Extragenital Acuminate Condylomata.
2. G. Trautmann: Alopecia following Operative Lesions of Nerves.

2. Alopecia after Operations on Nerves.—Trautmann's record is of two cases in which a typical and extensive alopecia areata followed operative procedures so closely as to be unmistakably occasioned by them. The first was in a woman suffering from chronic suppurative processes of all the accessory nasal sinuses, necessitating clearing out of the ethmoidal sinus and curettage of the sphenoidal sinus after removal of its anterior wall. A few weeks later, there appeared a very large patch of alopecia areata, occupying practically the entire occipital region of the scalp. The hair grew again over the area in three months. The second case was in a young man in whom Trautmann had opened the frontal sinus and removed a portion of the left supraorbital nerve several centimetres in length. The day after the operation the patient remarked with astonishment that his head was resting on a mass of fallen hair, and that over the entire back of his scalp the hair all came out on the slightest traction, like the bristles of a worn out brush. Here also the alopecia was arrested in a few months. The author believes that the injuries to the trigeminal nerves were the occasions of the alopecias.

November, 1911.

1. Franz Fischer: Varicose Ulcers; Their Treatment in Accordance with the Indications.

December, 1911.

1. Franz Fischer: Varicose Ulcers. (*Continued.*)
2. D. Friedlander: Treatment of Nævus Vasculosus with Carbonic Acid Snow.

2. Nævus Vasculosus.—Friedlander points out that congelation by this method differs from all others, inasmuch as by variations of pressure the tissues may be frozen to any desired depth. It has many advantages over other agents, and but few drawbacks. According to Hussard, an application of five seconds suffices to remove the outer corneous layer, one of ten seconds attacks the papillary layer, and one of twenty to sixty seconds is required for deeper growths. By its proper employment the vascular tissue of an angioma may be sufficiently irritated to occasion a complete or partial obliterative endarteritis, at the same time leaving enough uninjured epidermis cells to get a normal epidermic covering afterward. Juliusberg has proved by microscopical examination the correctness of this hypothesis, which was based on the clinical results; and Friedlander has repeated and confirmed it. And while many investigators have shown experimentally that prolonged exposure to cold does not interfere with the growth of pathogenic organisms, the author believes that a sufficient depression of their vitality is occasioned to enable the natural tissue forces to overcome them. Comparing the snow (best called solid carbon dioxide) with the six other methods for the cure of vascular nevi, he states that liquid air is efficacious, but expensive, difficult to apply accurately, and unobtainable commercially; radium is too costly and uncertain, and takes too long; surgery is repugnant to the patient and cosmetically undesirable; caustics are painful and deforming; electrolysis is painful, and entirely too slow and tedious for use in extensive cases; and fulguration is open to all the objections to the other methods. On the other hand, carbon dioxide is cheap, always at hand, quick, comparatively painless, can be readily limited both as regards the extent and the severity of its application, and needs no special apparatus for its employment. The author concludes that in solid carbon dioxide we possess a simple, efficacious, comparatively painless, bloodless, and certain method for the cure of nævus vasculosus, and one that is superior to every other method in its rapidity, ease of application, and acceptability to the patient. It is unsurpassed in its cosmetic results.

Proceedings of Societies.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, December 18, 1911.

The President, Dr. Reynold Webb Wilcox, in the Chair.

Nomination of Officers.—The following nominations were made: For president, Dr. Reynold Webb Wilcox; for vice-president, Dr. Ransford E. Van Gieson; for corresponding secretary, Dr. Frank C. Raynor; for treasurer, Dr. A. Ernest Gallant; for chairman for the Borough of the Bronx, Dr. N. B. Van Etten; for chairman for the Bor-

ough of Brooklyn, Dr. Robert E. Coughlin; for chairman for the Borough of Queens, Dr. L. Howard Moss.

Lipotomy Abdominis.—The patient, presented by Dr. EDWARD WALLACE LEE, was a middle aged woman who before operation weighed some 250 pounds. The accumulation of fat in the abdominal region, he said, had been so enormous that it caused her much pain, which was more marked on the left side, and all motion was difficult. She was unable to perform her ordinary household duties and could not assume the sitting posture with any degree of comfort. The tissues were also much indurated, and he expected to find some form of hernia when he operated. The heavy abdomen hung half way down to the knees. On the third of May last Doctor Lee made a semicircular incision from one side of the abdomen to the other which measured no less than thirty-six inches and cut away a large section of fat, weighing about fifteen pounds. He also removed an additional amount by curetting, and afterward from four to six pounds of liquid fat came away through drainage tubes inserted at the time of operation. There was absolutely no suppuration, and no sepsis of any kind. The patient remained in the hospital for three weeks, and since then (wearing a suitable abdominal support) she had enjoyed entire comfort and had been able to resume the duties of life.

Dr. J. HERMAN BRANTH inquired whether there was an overgrowth of adipose tissue in other parts of the body, as the arms and legs, stating that he had seen a case in which such an overgrowth had occurred.

Doctor LEE said there were no isolated deposits, the excessive fat being uniform. Originally, he had intended at a second operation to remove the breasts, on account of their enormous weight; but as the patient had obtained such complete relief from the excision of the abdominal fat, he had abandoned this idea.

Amputation of the Thigh for Gangrene.—A patient, a retired sea captain sixty-eight years old, was presented, in excellent health, by Dr. J. HERMAN BRANTH, who stated that he was called to see the man in consultation on January 5, 1911, at Milford, Conn. He was suffering intense pain in the left foot, and on the upper surface of the second and third toes was a faint bluish discoloration. The foot and leg were cold, and no pulsation could be felt in the leg. The general temperature was 101° F., and the radial pulse rapid, soft, and intermittent. The diagnosis made by Doctor Branth was occlusion of vessels, with approaching gangrene. Senile gangrene was thought improbable, on account of the robust appearance of the patient, and careful urinary analyses excluded diabetes and renal disease; while there was no alcoholic habit. Frostbite was considered, but such a history was denied. Subsequently, however, the patient admitted that he had sat for a long time playing cards one cold night in a summer cottage where the only heat was furnished by a kerosene stove. Before retiring he immersed his chilled feet in a vessel of hot water, and the sudden change of temperature from somewhere below freezing point to 120°, or more, no doubt caused coagulation of blood in the vessels. All that could be done for the time being was to stimulate the heart, improve nutrition, control pain with opiates, and await Nature's marking out the line between the dead and living tissues. In this instance, however, the line of demarcation never became positively definite. The entire foot grew black, as well as the tibial region up to two inches below the attachment of the patellar ligament, and also the peroneal side of the leg. The calf looked white to half way down the leg, and the soft tissues near the tibia and fibula were now liquefying.

On February 20th the patient was taken to the Bridgeport Hospital for operation. The proximity of the lesion to the knee joint (inflammation in which would no doubt have resulted fatally) suggested the propriety of a thigh amputation, which was performed on February 25th. Femoral myelitis and aneurysm of the femoral and popliteal arteries were not suspected, but as these were discovered at the operation to be present (probably as the result of the conditions in the limb below), it was found necessary to make a second amputation several inches higher, at the junction of the upper and middle thirds, in order to get above the infected marrow and the femoral aneurysm. After the femur had been sawed off the second time, the marrow was cleaned out with the finger for about an inch further up and a blood cast, perhaps five inches in length, was removed from the femoral artery.

Doctor Branth described his operation for amputation of the thigh as follows: The anterior flap was composed of the quadriceps extensor muscles, and the posterior flap of the adductor and abductor muscles, and these were stitched together (anterior to posterior) over the bone stump. The fatty tissue and skin were sutured in a separate layer, all with the Pagenstecher ligature. The sciatic nerve was cut short, and the two small arteries in the nerve sheath ligated, so that no bloodclot could surround and compress the nerve end and form an organized clot to develop amputation neuralgia, a condition often giving rise to pain and cramps which were felt by the patient just as though the limb had not been removed. The aneurysms in the femoral and popliteal arteries were not composed of layers, and each had a channel for the blood current. The former was of the size of a hen's egg and contained a clot resembling brown putty, and the popliteal aneurysm was fusiform in outline. The amputated limb was black and with the foot withered. The anterior tibial and fibular regions were semiliquid and the muscular tissue, on section, was of a gelatinous consistence. The calf was a mere shell of skin, holding together the putrid mass.

After the operation the patient suffered from shock, which was met by the usual remedies. He soon had a good appetite, and by the end of the first week was allowed full diet. On March 5th the dressing was removed. The wound was dry and aseptic (with not even a stitch abscess); a result which spoke well for the high degree of asepsis maintained during the operation, and one due also, the speaker believed, to the fact that the saw was kept cool by means of a stream of water, so that the heat produced by friction could not injure the bone. In addition, the highly successful re-

sult was attributed to a considerable extent to the flushing of the wound surface with water at a temperature of 120° F., poured from a pitcher for the purpose of removing bone dust and any other loose particles. The stump was also thoroughly sponged off with the hot water before the application of the dressing. At the removal of the first dressing two drainage tubes which had been employed were taken out, and a new dressing was then applied. On March 9th the patient was able to wheel himself in a wheel chair through the halls and into the smoking room. The remaining stitches were removed on March 12th, and the recovery was rapid and without any interruption.

In amputation of the thigh, Doctor Branth went on to say, the mortality, which ranged from thirty to eighty per cent., increased in proportion to the nearness of its site to the trunk. Age was a factor, and amputation for injury had a higher mortality than that for disease. Years ago there was brought to the hospital a young man of twenty-two years, whose leg had been run over by a locomotive and crushed from the condyles down. There was little hemorrhage until he was laid on the bed in the ward, when the popliteal artery began to spout. The patient was smiling and talkative, though somewhat dazed. Doctor Branth cut away the débris, sawed off the femur above the condyles, and secured the vessels; but before the dressing was completed the patient suddenly expired.

Dr. William Stevens said he had had the opportunity of being present at Doctor Branth's amputation of the thigh. Hot water (at 120° F.) was used very freely, and, in his opinion, the excellent result that had been met with was principally due to this fact. There was no pus and no discomfort to the patient.

Dr. Robert T. Morris said he would like to inquire whether in the case of the young man who died suddenly the pulse could be felt. Usually in cases of this kind, although the patient might even be telling funny stories, the pulse could not be felt.

Doctor Branth again emphasized the value of hot water in amputation cases, saying that it tended to prevent sepsis and formed a sort of glue which facilitated primary union. In his case the leg maker had assured him that the stump was well shaped for the employment of an artificial limb. In many instances this was not the case, but here the conditions were satisfactory; the posterior flap, which had to bear the brunt of the pressure, being thicker than the anterior. As to the case of sudden death, this occurred over thirty-five years before, and he could not now speak positively as to the condition of the pulse. His attention was naturally devoted principally to putting a stop to the hemorrhage.

Gastric Symptoms in Biliary Disease.—This paper, by Dr. Howard Lilienthal, will be published in the Journal.

The Neurotic Element in Abdominal Surgery.—This paper was by Dr. Robert T. Morris.

Dr. Clarence A. McWilliams said that an interesting point was, What causes the pain in gastric diseases? A well known gastroenterologist, with whom he had conversed on the subject, expressed the opinion that this was due to pyloric obstruction. Thus, in a patient suffering from hyperacidity the resulting reflex spasm caused obstruction of the pylorus, and, consequently, distention of the stomach; and this gave rise to the pain present. He believed it had been demonstrated that the walls of the stomach did not have any sensory nerves. So, in chronic appendicitis, as well as in gallstone disease, we were now recognizing that many of the stomach symptoms were really due to spasm of the pylorus. As to what hyperacidity was due, Deaver contended that this was a reflex manifestation referable to some organic change in the vicinity, as in the gallbladder or the appendix, or to a gastric ulcer. Many of these cases were in fact surgical rather than medical in character. This was certainly true of many cases of gastric ulcer. He would inquire of Doctor Lilienthal how he would differentiate between biliary and gastric disease where the characteristic frank colics were absent. Not long since he had met with a case of perforating ulcer of the pylorus which had been treated by a physician of great ability as neurosis of the stomach. He then referred to a case of supposed gastric ulcer in which prolonged medical treatment, including rectal feeding, having proved ineffectual, operation became necessary; and this revealed the presence of a large gallstone. In conclusion, Doctor McWilliams expressed the opinion that patients with intractable stomach symptoms were becoming more and more surgical.

Dr. Achilles Rose said that the relation of stomach disorders and gallbladder affections was easily explained by the fact that both may have the same causal factor. The abdominal muscles had the function of preserving the physiological position of the abdominal viscera. When these muscles become relaxed (atonic) enteroptosia must necessarily follow. Enteroptosia, gastroptosia, or splanchnoptosia—by whatever name it might be called—could be the cause of dyspepsia and also of gallstone formation. It was a well established fact that there was no gallstone formation without bile stasis. Infection of the gallbladder might produce cholocystitis, but never chololithiasis if there was no simultaneous bile stasis. The abdominal muscles had a powerful influence on circulation and on innervation. Each muscle in the body was both a pressure and a suction pump, like the heart, effecting the distribution of the blood, especially in the capillaries, and also the distribution of the fluids in the tissues and organs preeminently in the abdominal organs, including the gallbladder. At best, the action of the heart performed only a part of the work of distributing the blood; the muscles, by reason of their action on the vasomotor nerves, especially of the capillaries, had a function at least as important as that of the heart. How great the control of the abdominal muscles over circulation and innervation was we saw when we treated a case of myocarditis with cough, hemoptysis, dyspnea, and frequent fainting spells. Here the equilibrium between the task and the power of the heart was disturbed, and the routine treatment by digitalis, wine, and ether and by baths and rest would prove to be only bungling; but on reducing the size and weight of the belly by means of abdominal strapping (that is, ap-

plying uniformly distributed pressure, and thus facilitating the work of the heart) we should see the cough, hemoptysis, and dyspnea promptly disappear. Furthermore, in cases of chronic diarrhea, of years' standing, depending upon atonia gastrica, in which the routine remedies had proved of no avail, strapping would be found to give prompt and permanent relief. The same was also true in cases of uterine or intestinal hemorrhage caused by atonia gastrica and of dysmenorrhea depending on this cause. Doctor Rose then went on to say that it would require more time than was at his disposal to enter into a detailed explanation of these facts and observations, but from what he had stated he thought he should be pardoned for asking that whenever a case of dyspepsia and gallbladder trouble presented itself, an examination should first be made to see if a splashing sound was present. All the facts and observations he had mentioned (of which nothing whatever was said in the textbooks) justified him, he believed, in declaring that the study of the muscles, especially the abdominal muscles, and what we learned thereby, to be as important as the discovery of Harvey.

Dr. Victor A. Robertson said he would like to inquire if any of the cases mentioned by Doctor Lilienthal were in pregnant women. Some years ago a pregnant woman came under his care who had such severe vomiting that he believed her to be suffering from the pernicious vomiting of pregnancy. She had indicanuria and other evidences of autointoxication, but the vomiting at last became so pronounced (and all treatment proving unavailing) that he was obliged to empty the uterus. In a subsequent pregnancy the same experience was repeated. At neither of these times, although cholecystitis was suspected, could any evidence of its presence be discovered by physical examination. No jaundice was present and the gallbladder was not palpable nor could tenderness over it be elicited. On emptying the uterus the symptoms again disappeared. Less than a year later the patient went to Florida and while there was seized with a typical attack of hepatic colic and hurried home. She was not pregnant at this time. Physical examination showed an easily palpable and enlarged gallbladder, and on operation three large stones were removed, one of which was blocking the cystic duct. After operation the patient rapidly got well and now, two years after operation, had gained in weight forty pounds. Was it possible that the added toxemia of pregnancy overburdened a system somewhat habituated to the toxic influence of cholecystitis, and caused an exacerbation of her symptoms, which were those of only a moderate degree of dyspepsia when she was not pregnant? This possible cause of vomiting in pregnancy was worthy of consideration in cases that are of a pernicious type. In the class of neurotic cases cited by Doctor Morris he had met with several, notably that of a woman who came to him with dyspeptic symptoms. A physical examination was negative, except for some tenderness, but not marked at McBurney's point. He made the diagnosis of chronic appendicitis and advised operation. This was an indicanuric patient, with foul stools. Being dissatisfied with the diagnosis, she consulted several specialists in gastroenterology, all of whom diagnosticated cholecystitis and advised operation. One even declared he could palpate the gallstones. Finally she came back to him and he called in two consultants, one of whom pronounced for gallbladder inflammation, the other for appendicitis.

It was then determined to operate, but on opening the abdomen no biliary trouble was found, while palpation of stomach and duodenum was also negative. The appendix was then examined, and, as it was slightly bound by adhesions, it was removed. For six months the patient did perfectly well, but recently Dr. Robertson said he was hastily summoned to see her again, her pain, vomiting, and other symptoms having reappeared. This patient was highly neurotic and the frequent examinations and questioning by physicians had undoubtedly by suggestion given her the obsession of pain in the hepatic region. In closing the history of this case he would add that flushing of the large intestine, restricted nitrogenous diet, and intestinal antiputrefactives previous to operation had been of no avail.

Doctor Morris said that the time had arrived when we could discuss the principles of such interdependence of conditions as Doctor Lilienthal had described. He agreed with Doctor Lilienthal that not only the motility, but the chemistry of the stomach was disturbed simultaneously with infections of the gallbladder. The liver was the great sewage disposal plant of the system. When toxines and bacteria were being poured into the duodenum there was toxic disturbance of hormone secretion, and deranged hormone secretion led to various features classified as gastric disturbance. We might have cholecystitis and ulcer of the stomach simultaneously, due to the same toxic cause, and this toxic impression became intensified when some such disease as appendicitis resulted in forcing the liver to pour out an excessive amount of toxines or of bacteria. Ordinary intestinal putrefaction gave a chronic condition in which not only the appendix, gallbladder, and duodenum might be involved simultaneously, but also the kidneys, as bacilluria with the presence of the colon bacillus was often an accompaniment of gallbladder and stomach disturbance from toxines. He could go further and assume that, at the same time, concretions might form in the appendix, gallbladder, kidneys, and urinary bladder, from the conjunction of colloids with insoluble salts under the influence of toxines. Such interdependence as Doctor Lilienthal had described seemed to Doctor Morris to allow of rather simple explanation, although he preferred the phrase "simultaneous involvement of organs."

Dr. Anthony Bassler said there was no class of patients more anxious for operations than the splanchnoptotic cases described by Doctor Morris, in all of whom there was a marked hysteroneurotic element. The neurosis and toxemia which were clinical features in the cases should, he thought, receive more consideration from surgeons than they did. Referring to Doctor Lilienthal's paper, he said that in a clinical way the diagnosis of gallbladder trouble in cases giving stomach symptoms was not so difficult. In the frank forms of cholelithiasis, those with biliary colic, jaundice, etc., the diagnosis was sufficiently easy, but the more frequent

cases were those in which frank symptoms were not present, and stomach symptoms of an indefinite nature were the only ones met with. The surgeons had been aware for years of the commonness of gallbladder conditions in what might be termed the stomach cases, and it was only recently that the gastroenterologists were waking up to them. The main fault now lay with the general practitioner, in treating cases of stomach distress without sufficient examination and analysis. There was no one symptom or symptom complex in the stomach which could lead one to the diagnosis of gallbladder disease. If there was an anchoring of the pyloric region or duodenum from adhesions extending from the gallbladder to these parts, accompanied possibly with their retraction upward by reason of such adhesions, a diagnosis would be suggested. But when it came to the status of secretion or motility and the observation of the peristaltic or antiperistaltic waves, there was nothing pathognomonic. To diagnosticate gallbladder conditions the abdomen should be examined from the gallbladder side, and not the stomach side. With a patient in the sitting posture, the hand of the examiner, who was sitting behind her, could be deeply sunk into the abdomen, under the costal margin, and the gallbladder palpated. When this was the seat of trouble there should be local pain on pressure over the part, and no tenderness on the left side or elsewhere in the abdomen. Doctor Bassler said he believed in the removal of gallstones when they gave continued symptoms of distress, whether biliary or gastric; which class of cases represented a large proportion of the ones the surgeons were now diagnosticating and treating properly.

Doctor Lilienthal closed the discussion. In answer to an inquiry by Doctor Lee in reference to the case in which a large stone was discovered obstructing the ileum, he said that it was evidently one of very long standing. The stone had no doubt gradually made its way to the position in which it was found by a process of ulceration. He thought Doctor McWilliams had not quite understood him in reference to the matter of diagnosis, for in the paper he had endeavored to designate as far as possible the points to be considered. The principal one was the obstinate persistence of stomach symptoms, in spite of appropriate medical treatment. Pain in the back was also significant. He then went on to say that every abdominal opening was in fact an exploratory operation. Beforehand we could not in any instance pronounce positively as to the existing condition. The right upper quadrant was to be regarded in the same light as the appendix region. In an exploratory laparotomy it was very desirable to make the incision such as would enable one to find out as much as possible. By means of the high vertical incision separating the fibres of the rectus we could examine the gallbladder, the duodenum, the pylorus, a good part of the stomach, and the hepatic flexure of the colon. If this was not sufficient to show the seat of trouble, we could then make a small additional incision in the right iliac region and, even were the result negative, no great harm would be likely to result. We should not try to make the preliminary diagnosis too exact. If the troublesome symptoms had lasted for years we ought to make the incision with an open mind. It was almost never necessary to make a very large incision, and to supplement such an incision with a transverse one might involve no little danger. The subject of gallbladder disease in pregnancy, as brought up by Doctor Robertson, was, he thought, one of extraordinary interest. The coincidence of the two was not at all uncommon, and cholecystitis after parturition was very frequent. In regard to the point made by Doctor Rose, his own experience had shown that we can have gallstones from pure infection and without ptosis or muscular relaxation, though undoubtedly atony was a frequent factor. When there was inflammation of the gallbladder, stones were liable to occur, for, unlike the urinary bladder, this viscus was an habitually badly drained organ. The abdominal belt, however, was of very great practical value. In regard to the remarks of Doctor Bassler, Doctor Lilienthal had not found the test tube and stomach tube always sufficient to establish the diagnosis of exogastric disease.

Letters to the Editor.

A SUGGESTION TO THE DEPARTMENT OF HEALTH.

New York, *January 15, 1912.*

To the Editor:

We all know the disadvantages that follow, when a correct diagnosis of syphilis is not made during the time between the primary lesion and the appearance of the secondaries, and, especially, after the disappearance of the secondary manifestations. It is not rare to find syphilitics marrying and infecting their wives and offspring, because the correct diagnosis of latent syphilis has not been made. A Wassermann or Noguchi test is of the greatest value in these cases. We are all agreed that a Wassermann test should be made in every suspected case of syphilis, and repeated many times if necessary. But, in our daily practice, we encounter a great number of poor patients, who are unable to afford the expense of these tests.

Seeing that many of our public institutions—dispensaries and hospitals—do not possess the facilities for the proper laboratory tests, I suggest the following:

The board of health, which helps the general practitioner toward a correct diagnosis for infectious and contagious diseases, should help him also in the diagnosis of syphilis, by establishing a department for doing the Wassermann and Noguchi tests, *free of charge* to poor patients.

I believe that a speedy and positive diagnosis for syphilis is just as important for the general community as a diagnosis of any infectious and contagious disease.

I hope that your Journal will appreciate the necessity of such a laboratory and will try to bring this suggestion to a realization.

Saul Steiner, M. D.

DANGER FROM GASOLENE.

NEW YORK, *January 8, 1912.*

To the Editor:

It seems to me that public warning should be given in regard to the danger from fumes where gasolene is burned. Yesterday I was called to see a man who had been but a short time in a small closed building where his automobile engine was running; he was unconscious and barely escaped death. In a recent newspaper is a report of a similar case in Louisville, Ky. Some time ago I was called to see a plumber who was rendered helpless and almost unconscious by fumes from his gasolene torch.

It appears that only a small amount of the fumes is necessary to cause helplessness and that there is little or no warning of danger in the feeling of the one affected.

Persons working alone in their small private garages are in grave danger when they let their engines run for even a short time. Chance alone saved the men in the two cases I mention.

T. D. W. PINCKNEY, M. D.

A DISCLAIMER.

NEW YORK, *January 15, 1912.*

To the Editor:

In the January issue of *Medical Times* is published under my name an article entitled The Use of Hot Irrigation in Thermal Trauma, which was not written by me. A. ROSE, M. D.

THE EASY WAY TO REMOVE A CROCHET NEEDLE.

PITTSBURGH, *January 15, 1912.*

To the Editor:

Noting Dr. F. Griffith's report of penetration of thigh by a steel crochet needle, with difficulty of removal, as described in your issue for January 13th, I wish to report a like case with a technique that makes the removal extremely simple. The modern crochet needle made of slender sharp steel is a dangerous implement to lie around with the point exposed.

The writer was called to see a lady who in resting her forearm on the table, brought the posterior part of arm directly down on the point of a crochet needle, which was held erect by a bunch of fancy work. Penetration took place for about three inches from back of the olecranon into the belly of the triceps.

Owing to the fishhook point on the needle, removal was impossible by direct pull. However, the following plan was carried out with practically no pain to the patient. The handle end was disinfected. The point was turned toward the skin and shoved through. The barb was now cut off with wire cutting forceps and the needle drawn through original point of entry. This is an old method we have used for removal of fishhooks and applies equally well to steel crochet needles or bodkins.

A. R. MATHENY, M. D.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Manual of Operative Surgery. By JOHN FAIRBAIRN BINNIE, A. M., C. M. (Aberdeen), Surgeon to the General Hospital, Kansas City, Mo., Fellow of the American Surgical Association, etc. Fifth Edition, Revised and Enlarged. With 1365 Illustrations, a Number of Which Are Printed in Colors. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. x-1153. (Price, $7.)

The present edition—the fifth—of Binnie's *Manual of Surgery* appears in one volume. The original work issued in one volume and reviewed by us in our issue of August 14, 1909, gave no account of the surgery of the vascular system, bones, and joints. These subjects were treated in volume ii which appeared in 1910 and which we reviewed in our issue for April 16, 1910. The present edition in one volume thus represents the fifth edition of volume i and the second of volume ii. The appearance in one book has made necessary certain changes, but the work as it appears is not clumsy at all, on the contrary, we think this one book issue is an improvement. The book has been brought up to date. It comprises six parts, as in the first volume of the last edition, but to this sixth part is also added the contents of the second volume of the last edition; the part, under the heading of Unclassified Topics, contains therefore such subjects as abscess, drainage, the nerves, sutures, vascular system, operations on bones and joints, amputations, flat foot, tenontorrhaphy, tenotomy, and Dupruytren's contracture. Part i takes up operation of head and neck; part ii, of the thorax; part iii, of the abdomen; part iv, of the genitourinary system; and part v, of the spine.

Textbook of Embryology. By FREDERICK RANDOLPH BAILEY, A. M., M. D., formerly Adjunct Professor of Histology and Embryology, College of Physicians and Surgeons (Medical Department of Columbia University), and ADAM MARION MILLER, A. M., Instructor in Anatomy, College of Physicians and Surgeons (Medical Department of Columbia University). Second Edition. With Five Hundred and Fifteen Illustrations. New York: William Wood & Co., 1911. Pp. xvi-672. (Price, $4.50.)

We reviewed the first edition of this valuable textbook on embryology in our issue for July 17, 1909, to which we refer our readers. The present edition does not contain any important changes.

Taschenbuch der Therapie. Mit besonderer Berücksichtigung der Therapie an den Berliner, Wiener, u.a. deutschen Kliniken. Herausgegeben von Dr. M. T. SCHNIRER. Redakteur der Klinisch-therapeutischen Wochenschrift. Achte, vermehrte u. verbesserte Ausgabe. Würzburg: Curt Kabitzsch (A. Stubers Verlag), 1912. Pp. xiv-465. (Price, 50c.)

We have had occasion to review this practical little manual for four consecutive editions. It is praiseworthy that the author publishes every year a revised form of the book. In this way it will be found always up to date, especially if these revisions are as carefully done as in this case. It thus well represents, as is stated on the title page, the therapeutics of the leading German and Austrian clinics. Beside therapeutics the book contains many valuable items, which make it a useful adjuvant for the general practitioner.

Syphilis. From the Modern Standpoint. By JAMES McINTOSH, M. D. (Aberd.), Grocers' Research Scholar, and PAUL FILDES, M. B., B. C., (Cantab.), Assistant Bacteriologist to the London Hospital. Illustrated. New York: Longmans, Green, & Co.; London: Edward Arnold, 1911. Pp. xvi-227. (Price, $3.)

This is the second volume in the series of International Medical Monographs, edited by Dr. Leonard Hill and Dr. William Bullock. The authors have collected the results

of their researches on syphilis. Professor Ehrlich's first supply of salvarsan sent to England for trial and experiments was intrusted to their hands. We thus find a review of the various remarkable advances which have been made in the domain of syphilis within the last eight years. The book is written primarily from the pathological standpoint, but conclusions are also drawn which will be of interest to the clinician, especially a report on salvarsan. As such it can be recommended to the profession.

Tuberculous Diseases of Bones and Joints. Their Pathology, Symptoms, and Treatment. By Sir W. Watson Cheyne, Bart. C. B., F. R. S., F. R. C. S., D. Sc., LL. D., etc., Professor of Clinical Surgery at King's College Hospital, Senior Surgeon to King's College Hospital, Consulting Surgeon to Paddington Green Children's Hospital, etc. Second Edition. London: Henry Frowde (Oxford University Press); and Hodder & Stoughton, 1911. Pp. xi-404. (Price, $5.50.)

This well known manual on tuberculosis of the bones and joints, admirable in its pathology and symptomatology, is written more from the standpoint of the general surgeon than of the orthopedist, and there is to be observed throughout a stronger leaning in favor of operative methods in treatment than is perhaps justified by the best opinion of to-day. The success attending dietetic and hygienic methods in the sanatorium treatment of pulmonary tuberculosis and the excellent results seen in the seaside institutions for children with surgical tuberculosis have greatly modified the views of surgeons as to indications for operation in bone and joint tuberculosis. Extensive mutilating operations such as arthrectomy, excision, and amputation are now rarely if ever necessary in the case of young children, and their field for adults is fortunately much more restricted than was the case twenty years ago when the importance of early diagnosis and persistence in conservative methods were less fully recognized. A more extended discussion of hygienic and prosthetic methods would have been desirable, and it seems to us that in Sir Watson Cheyne's volume there is insufficient recognition of the claims of tuberculin treatment. The author's large experience is especially valuable in the operative phases of joint disease which he admits are becoming relatively less important. "Certainly," he says, "one does not find it necessary to operate nearly so often for tuberculous joint disease at the present time as was the case formerly."

Retinoscopy (or Shadow Test) in the Determination of Refraction at One Metre Distance, with the Plane Mirror. By James Thorington, A. M., M. D., Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine, Ophthalmic Surgeon to the Presbyterian Hospital, etc. Sixth Edition, Revised and Enlarged. With Sixty-one Illustrations, Ten of Which Are in Colors. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xvi-71. (Price, $1.)

We have spoken of the different editions of this excellent manual in the Journal, and it would be difficult to add anything to what we have said. The present edition has been brought up to date, and new illustrations have been added. The manual well deserves its growing popularity.

NEW PUBLICATIONS.

Fühner, Hermann.—Nachweis und Bestimmung von Giften auf biologischem Wege. Eine Anleitung für Pharmakologen, Gerichtsärzte, Gerichtschemiker, und Apotheker. Mit 89 zum Teil farbigen Textabbildungen. Berlin und Wien: Urban & Schwarzenberg, 1911. (Through Rebman Company, New York.) Pp. 176. (Price, $2.25.)

Ross, H. C., Cropper, J. W., and Ross, E. H.—Further Researches into Induced Cell Production and Cancer. The McFadden Researches. With Illustrations. London: John Murray, 1911. (Through P. Blakiston's Son & Co., Philadelphia.) Pp. 53. (Price, $1.)

Grotjahn, Alfred.—Soziale Pathologie. Versuch einer Lehre von den sozialen Beziehungen der menschlichen Krankheiten als Grundlage der sozialen Medizin und der sozialen Hygiene. Berlin: August Hirschwald, 1912. Pp. xi-691.

Unna, P. G., und Golodetz, L.—Die Bedeutung des Sauerstoffs in der Färberei. Leipzig und Hamburg: Leopold Voss, 1912. Dermatologische Studien, Band 22. Pp. 128.

Von Mikulicz, J., und Kümmel, W.—Die Krankheiten des Mundes. Dritte Auflage, neu Bearbeitet von Werner Kümmel, Direktor der Universitätsklinik für Ohren-, Nasen- und Kehlhopfkranke in Heidelberg. Mit Beiträgen von Prof. A. Czerny, Direktor der Universitätskinderklinik in Strassburg i. e., und Prof. J. Schäffer in Breslau. Mit 79 zum teil farbigen Abbildungen im Text. Jena: Gustav Fischer, 1912. Pp. vii-320.

Williger, Fritz.—Zahnärztliche Chirurgie. II. vermehrte und verbesserte Auflage. Leitfäden der praktischen Medizin, Herausgegeben von Professor Dr. P. H. Bockenheimer, Berlin, Band I. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. 142.

Bittorf, A.—Der Wasser- und Kochsalz-Stoffwechsel und seine Bedeutung für Pathologie und Therapie. Halle a.S.: Carl Marhold, 1911. Pp. 56.

Coreil, Francois, et Deville, Victor.—Traité de désinfection. Historique, généralités, législation, agents et appareils, contrôle, pratique de la désinfection. Préface de M. A. Chassevant, professeur agrégé a la faculté de médecine de Paris. Paris: Jules Rousset, 1911. Pp. xi-647.

Abaytua, R.—La gastroenterostomia ante la Fistologia, el Laboratorio y la Clinica. Madrid: La Revista de Medicina y Chirurgía Práticas, 1911. Pp. 47.

Fourth Report of the Wellcome Tropical Research Laboratories at the Gordon Memorial College, Khartoum. Volume A.—Medical. Andrew Balfour, M. D., B. Sc., F. R. C. P. Edin., D. P. H. Camb., Director. Published for the Department of Education, Sudan Government, Khartoum. London: Baillière, Tindall & Cox, 1911. Pp. 404.

Aerztliche Fortbildungskurse der freien Organisation für die medizinischen Kurse an der k.k. Universität Wien. Postgraduate Work under the Patronage of the Free Organisation for Medical Courses at the I. R. University of Vienna. 3. Ausgabe. Berlin und Wien: Urban & Schwarzenberg, 1912. (Through Rebman Company, New York.) Pp. 144. The pamphlet may be obtained free of charge from Rebman Company.

Hunter, W. D., and Bishopp, F. C.—The Rocky Mountain Spotted Fever Tick. With Special Reference to the Problem of its Control in the Bitter Root Valley in Montana. United States Department of Agriculture, Bureau of Entomology, Bulletin No. 105. Washington, D. C.: Government Printing Office, 1911. Pp. 47.

Eighth Annual Report of Bellevue and Allied Hospitals of the City of New York. For the Year 1909. Pp. 88. Quarterly Reports for the Year 1910. Pp. 51.

The World Almanac and Encyclopedia for 1912. New York: The Press Publishing Company, 1912. Pp. 864. (Price, 25 cents.)

Wallau, Carlos.—Sobre uno Caso Teratologico Rarissimo. (Breve Communicacao.) Porto Alegre: Companhia Graphica Porto Alegrense, 1911. Pp. 2.

Annual Report of the Surgeon General of the United States Navy, Chief of the Bureau of Medicine and Surgery, to the Secretary of the Navy, for the Fiscal Year 1911. Washington, D. C.: Government Printing Office, 1911. Pp. 96.

Transactions of the American Ophthalmological Society. Forty-seventh Annual Meeting, Held in New London, Conn. Volume XII, Part III. Pp. 679-1021.

McMurtrie, Douglas C.—Conserving Eyesight. The Impairment of Vision and the Improvement of Conditions Affecting the Eyes, Together with a Consideration of the National Importance of the Question. New York: American Association for the Conservation of Vision, 1911. Pp. 11.

Henkel, Alice.—American Medicinal Leaves and Herbs. United States Department of Agriculture, Bureau of Plant Industry, Bulletin No. 219. Washington, D. C.: Government Printing Office, 1911. Pp. 56.

Insanity and Criminal Responsibility. Preliminary Report of Committee B of the American Institute of Criminal Law and Criminology. Reprinted from the *Journal of the American Institute of Criminal Law and Criminology.* Pp. 21.

Rubner, M., von Gruber, M., und Ficker, M.—Handbuch der Hygiene. Unter Mitwirkung von Dr. R. Abel, Berlin, D. J. Boethke, Berlin, Dr. C. Fränkel, Halle, et al. I. Band. Mit 134 Abbildungen und 1 Tafel. Leipzig: S. Hirzel, 1911. Pp. viii-788.

Miscellany.

Christian Science in the Canal Zone.—Several months ago the President of the United States issued an order providing that "any person wishing to practise medicine, surgery, dentistry, pharmacy, or midwifery in the Canal Zone, Panama, must be licensed to do so by the local board of health." Objection was made by the Christian Scientists to this order, on the ground that it would not permit the practice of their peculiar mode of "healing." Report from Washington, D. C., states that on December 26, 1911, the executive modified the original order by addition of a clause providing "that the order shall not be construed to prohibit the practice of the religious tenets of any church in the ministration to the sick and suffering by mental or spiritual means without the use of any drug or material remedy, whether gratuitously or for compensation, provided that such sanitary laws, orders, rules or regulations as are now, or hereafter may be, in force in said Canal Zone are complied with." The Christian Scientists will now, therefore, have free rein in Panama. It is interesting to consider how habitable the Canal Zone would be, remarks the *Boston Medical and Surgical Journal* for January 4, 1912, if only Christian Science had been employed in the extermination of mosquitoes therefrom, and in the treatment of malaria and yellow fever.

The Sanitary Collection of Ashes and Garbage.—Mrs. Flora Spiegelberg, of New York, who has made a careful study of this question in European cities, delivered a lecture in the Academy of Medicine on January 2d before the Woman's Health Protective Association, a reprint of which in its entirety can be obtained of the author at 67 Riverside Drive. As a summary of this excellent lecture, we give the regulations suggested in order to have a really clean city:

1. All wagons now uncovered bearing health department permits, such as those for steam ashes, manure, sand, lime and mortar from demolished buildings, street railway and sewer refuse, should be covered—in particular the private ash and garbage wagons, which now have numberless barrels and bags dangling at the rear end—such a sight would not be permitted in a Western town.

2. The men who collect offal from the butcher's should not be allowed to sit on the curb and assort it; they and the old soap fat man should be obliged to have covered receptacles within their carelessly covered wagons.

3. Another great menace to health are the uncovered street sweepers' cans filled with manure, their filthy surroundings, made so by man and beast, especially in the congested districts. They afford another feeding and breeding place for flies and mosquitoes generally near the fruit peddlers—these receptacles can not be covered, but whether full or empty, they should be kept in an oblong covered iron box placed on the curb of the sidewalk. German cities have already adopted this innovation to hide the unsightly cans from view.

4. The Tenement House Commission and the Building Department should make a thorough investigation and have a properly appointed and ventilated place provided in every flat house for the ash and garbage receptacles. It will be found that a great number of tenements, both new and old, are without this most needed sanitary precaution, and therefore the barrels are either on the sidewalk, or standing in the basement halls, or in the cellars. The Tenement House Commission should also make it obligatory that the garbage receptacles are emptied twice in twenty-four hours. This would greatly relieve the unsanitary conditions in old and dark three to five room tenement house apartments.

5. Persons caught in the act of littering the streets and public places with papers and boxes, or householders and storekeepers allowing them to accumulate on the sidewalk of their premises, should be fined.

6. The filthy disease breeding old leather car straps should be replaced by the sanitary glazed iron rings, in use now in some of the subway cars.

7. The equally dirty, disease breeding old carpeted seats in most of our surface cars, which also serve as a repository for germs of contagious and infectious diseases, should be removed and the seats covered with plain bamboo cane covering, or perforated wood.

8. Health officers should be detailed regularly to inspect the exceedingly unsanitary conditions caused by dirt and expectoration on the subway and elevated railroad platforms and stairways, but in particular the dreadful conditions at Brooklyn Bridge.

9. At least three times yearly all large water tanks on public and private buildings should be inspected and the owners compelled to cleanse them thoroughly, to avoid typhoid and many other diseases.

These sanitary regulations would teach the masses of the people a much needed object lesson in cleanliness and orderliness, and arouse their civic pride to assist the Department of Street Cleaning, the Board of Health, and the Police Department in keeping the streets, sidewalks, parks, and public buildings as clean as it is the case in all European cities.

Medical Experts' Testimony.—The criticism of medical expert testimony persists. Nothing has been done, says the *New York Times* for January 12th, to regulate the introduction of such testimony in the courts so that the scandals of bought and biased opinions might in future be obviated. But the New York Academy of Medicine still hopes that the Legislature may pass its bill, as introduced March 9, 1909, amended in 1910, and reintroduced at its recent committee meeting for introduction at the present session. The nub of the bill is the requirement that the Supreme Court Justices shall designate in each judicial district at least ten, and not over 120, physicians who shall possess the minimum qualifications, as formulated by the academy's resolutions adopted on January 3d. This requirement of fitness would largely prevent the muddling of the jurors' minds by a volume of conflicting testimony given by incompetent "experts." The bill provides further that the designation of experts may be revoked "without notice or cause shown" and any vacancy may at any time be filled by the justices. Moreover, the experts shall be subject to full examination and cross examination like other witnesses.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending January 5, 1912:

CHOLERA—INSULAR: *Philippine Islands*, Oct. 29-Dec. 4, 5 cases, 5 deaths.

CHOLERA—FOREIGN: *Bulgaria*, Nov. 6, 1 case; *Dutch East Indies*, Sept. 24-Oct. 9, 322 cases, 256 deaths; (Batavia) Nov. 12-18, 6 cases, 2 deaths; *India* (Calcutta), Nov. 5-11, 39 deaths; *Italy*, Nov. 26-Dec. 2, 51 cases, 34 deaths; *Malta*, Nov. 19-Dec. 2, 4 cases, 1 death; (Dec. 23 declared free from cholera); *Straits Settlements*, Nov. 5-18, 3 cases, 3 deaths.

YELLOW FEVER—FOREIGN: *Brazil*, Nov. 19-Dec. 2, 4 deaths; *Ecuador*, Nov. 16-30, 11 cases, 4 deaths; *Mexico*, Aug. 1-Nov. 23, 49 cases, 25 deaths; Dec. 12-23, 4 cases, 5 deaths; *Venezuela*, Nov. 16-Dec. 7, 11 cases.

Plague—Foreign: *Algeria,* Oct. 19-Nov. 11, 8 cases, 2 deaths; *Brazil,* Nov. 12-18, 2 cases; *Chile,* Nov. 12-25, 1 case, 2 deaths; *Dutch East Indies,* Nov. 12-18, 8 cases, 4 deaths; *Ecuador,* Nov. 16-20, 46 cases, 19 deaths; *Egypt,* Oct. 4-Dec. 13, 20 cases, 17 deaths; *India,* Nov. 11-Dec. 2, 17 cases, 25 deaths; *Indo-China,* Nov. 13-19, 3 cases; *Mauritius,* Nov. 3-9, 4 cases, 4 deaths; *Straits Settlements,* Nov. 5-18, 3 cases, 3 deaths.

Smallpox—United States: *Florida,* Dec. 3-23, 49 cases; *Louisiana,* Dec. 18-24, 2 cases; *Missouri,* Nov. 1-30, 11 cases, 1 death; *Montana,* Aug. 1-31 11 cases; *New York,* Nov. 1-30, 24 cases; *South Dakota,* Nov. 1-30, 47 cases.

Smallpox—Foreign: *Algeria,* Nov. 1-30, 1 death; *Canada,* Dec. 10-23, 35 cases; *Ceylon,* Nov. 12-18, 1 case; *China,* Nov. 11-25, 24 cases, 9 deaths; *France,* Nov. 1-Dec. 3, 15 cases, 1 death; *India,* Nov. 19-Dec. 2, 19 cases, 8 deaths; *Indo-China,* Nov. 13-19, 2 cases; *Italy,* Nov. 26-Dec. 15, 598 cases, 221 deaths; *Japan,* Nov. 12-18, 6 cases, 1 death; *Java,* Nov. 12-18, 1 death; *Mexico,* Nov. 1-Dec. 26, 83 cases, 42 deaths; *Russia,* Nov. 19-Dec. 25, 17 cases, 2 deaths; *Spain,* Dec. 3-9, 6 cases, 1 death; *Teneriffe,* Dec. 3-9, 5 deaths; *Turkey in Asia,* Dec. 3-9, 8 cases, 3 deaths; *Turkey in Europe,* Dec. 4-17, 12 deaths; *Zanzibar,* Oct. 28-Nov. 17, 1 case, 1 death.

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending January 12, 1912:

Cholera—Foreign: *Austria-Hungary,* Oct. 22-Dec. 9, 58 cases, 14 deaths; *Italy,* Dec. 3-9, 27 cases, 14 deaths; *Malta,* Dec. 3-10, 2 cases, 2 deaths; *Montenegro,* Nov. 4-11, 9 cases, 5 deaths; *Tunis Regency,* Nov. 25-Dec. 2, 169 cases, 210 deaths; *Turkey in Asia,* Nov. 19-Dec. 9, 30 cases, 23 deaths; *Turkey in Europe,* Oct. 24-Nov. 19, 9 cases, 4 deaths.

Yellow Fever—Foreign: *Brazil,* Dec. 9-16, 1 case, 1 death; *Ecuador,* Dec. 1-15, 22 cases, 10 deaths; *Venezuela* (Sabana Grande), Dec. 12, epidemic.

Plague—Foreign: *Brazil,* Nov. 26-Dec. 2, 1 case, 1 death; *Ecuador,* Dec. 1-15, 57 cases, 23 deaths; *Russian Empire,* Nov. 28-Dec. 20, 86 cases, 84 deaths.

Smallpox—United States: *California,* Nov. 1-30, 15 cases, 3 deaths; *Kansas,* Oct. 1-31, 48 cases, 1 death; *Massachusetts,* Dec. 1-31, 2 cases, 2 deaths; *Montana,* Sept. 1-30, 18 cases; Oct. 1-31, 6 cases; Nov. 1-30, 17 cases, 1 death; *Tennessee,* Dec. 17-30, 7 cases; *Washington,* Oct. 1-31, 50 cases.

Smallpox—Foreign: *Argentina,* Oct. 1-31, 31 deaths; *Austria-Hungary,* Dec. 3-9, 1 case; *Brazil,* Oct. 16-Dec. 2, 181 deaths; *Canada,* Oct. 17-23, 1 case; Dec. 24-30, 1 case; *Chile,* Nov. 26-Dec. 9, 50 cases, 2 deaths; *China* (Hong Kong), Nov. 19-25, 7 cases, 4 deaths; *Cuba,* Dec. 19, 1 case; *Italy,* Dec. 9-16, 379 cases, 103 deaths; *Mexico,* Oct. 1-Dec. 24, 19 deaths; *Russia,* Nov. 26-Dec. 16, 18 cases, 7 deaths; *Spain,* Dec. 9-16, 10 cases, 1 death; *Switzerland,* Dec. 3-9, 1 case; *Teneriffe,* Dec. 9-16, 4 deaths; *Turkey in Asia,* Dec. 9-24, 10 cases, 7 deaths; *Uruguay,* Sept. 1-Oct. 21, 19 cases, 3 deaths.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the United States Public Health and Marine Hospital Service for the seven days ending January 10, 1912:

Ashford, F. A., Passed Assistant Surgeon. Granted one month's leave of absence from December 27, 1911. **Cobb,** J. O., Surgeon. Detailed to represent the Service at the meeting of the Association of American Medical Colleges to be held at Chicago, February 28, 1912. **Iltis,** G. W., Pharmacist. Relieved from duty at the New Orleans quarantine station and directed to proceed to Key West, Fla., and report to the medical officer in command of the United States Marine Hospital for duty and assignment to quarters. **King,** W. W., Passed Assistant Surgeon. Granted one month's leave of absence from January 22, 1912. **McCoy,** G. W., Passed Assistant Surgeon. Detailed to attend the Pan-Pacific Congress to be held at Honolulu, Hawaii, February 19-24, 1912. **McKeon,** F. H., Passed Assistant Surgeon. Relieved from duty in the examination of arriving aliens and directed to report to the medical officer in command, United States Marine Hospital, San Francisco, Cal., for duty and assignment to quarters. **Schwartz,** Louis, Assistant Surgeon. Relieved from duty at the United States Marine Hospital in San Francisco, Cal., and directed to proceed to Manila, P. I., and report to the Chief Quarantine Officer for duty.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy during the week ending January 13, 1912:

Evans, S. G., Surgeon. Detached from the Naval Academy, Annapolis, Md., and will await orders. **Johnson,** M. K., Surgeon. Ordered to the Naval Academy, Annapolis, Md. **Sinclair,** J. A. B., Assistant Surgeon. Detached from duty in command of the Naval Hospital, Sitka, Alaska, and ordered home to await orders.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending January 13, 1912:

Ford, Clyde S., Major, Medical Corps. Upon expiration of present sick leave of absence will proceed to Army and Navy General Hospital, Hot Springs, Ark., for observation and treatment. **Huber,** Edward G., Captain, Medical Corps. Ordered to the Army and Navy General Hospital, Hot Springs, Ark., for duty. **Humphreys,** E. G., Captain, Medical Corps. Ordered to the Army and Navy General Hospital, Hot Springs, Ark., for observation and treatment. **McIntyre,** Henry B., Captain, Medical Corps. Resignation accepted by the President, January 10, 1912. **Parce,** Alexander D., Lieutenant, Medical Corps. Ordered to the Letterman General Hospital, San Francisco, Cal., for duty. **Wells,** Francis M., Lieutenant, Medical Reserve Corps. Leave of absence extended one month and eight days; relieved from active duty in the Medical Reserve Corps, to take effect upon expiration of leave of absence. **Wilson,** James A., Lieutenant, Medical Corps. Granted ten days' leave of absence.

Births, Marriages, and Deaths.

Married.

Dameron—Davis.—In Beaufort, N. C., on Monday, January 1st, Dr. Lorenzo Lee Dameron, of New Bern, and Miss Maude Douglas Davis. **Hartman—Mitchell.**—In Carlisle, Pa., on Saturday, January 6th, Dr. Paul A. Hartman and Miss Anna Ella Mitchell. **Moriarty—Minnick.**—In Philadelphia, on Tuesday, January 9th, Dr. Charles A. Moriarty, of Milford, and Miss Mary Brock Minnick. **Staves—Hollan.**—In Cedar Rapids, Iowa, on Monday, January 1st, Dr. Howard Staves and Miss Myrtle Hollan. **Vaughn—Miller.**—In Waxahachie, Texas, on Wednesday, December 27th, Dr. E. H. Vaughn, of Fort Worth, and Miss Lillie Miller.

Died.

Baldwin.—In Brooklyn, on Saturday, January 13th, Dr. Frank Baldwin, aged fifty-six years. **Bedford.**—In Dallas, Texas, on Monday, January 1st, Dr. John D. Bedford, aged fifty-four years. **Black.**—In Los Angeles, Cal., on Monday, January 1st, Dr. Silas D. Black, aged sixty years. **Bundy.**—In Boston, on Saturday, January 6th, Dr. Frank E. Bundy, aged seventy-three years. **Caldwell.**—In Troy, Tenn., on Monday, January 1st, Dr. A. W. Caldwell, aged seventy-four years. **Cardwell.**—In Colfax, Wash., on Tuesday, January 2d, Dr. William Clay Cardwell. **Cawley.**—In Allentown, Pa., on Saturday, January 6th, Dr. Morris F.Cawley. **Fischer.**—In Indianapolis, on Saturday, January 6th, Dr. Robert Fischer, aged thirty-seven years. **Hart.**—In Philadelphia, on Saturday, January 6th, Dr. Russell Thayer Hart. **Harte.**—At New Canaan, Conn., on Monday, January 8th, Dr. James F. Harte, aged thirty-four years. **Heath.**—In Chicago, on Tuesday, January 9th, Dr. F. C. Heath. **Hopkins.**—In Milton, Del., on Monday, January 8th, Dr. James A. Hopkins, aged seventy-eight years. **Jex-Blake.**—In London, England, on Monday, January 8th, Dr. Sophia Jex-Blake, aged seventy-one years. **Kistler.**—At Allentown, Pa., on Monday, January 8th, Dr. Wilson Peter Kistler, aged sixty-seven years. **Larimer.**—In Pittsburgh, Pa., on Tuesday, January 2d, Dr. William T. Larimer. **Loder.**—In Seattle, Wash., on Tuesday, January 2d, Dr. Alexander Carl Loder, retired. **Murtishaw.**—In Jacksonville, Ark., on Monday, January 1st, Dr. F. W. Murtishaw. **Reitman.**—In Milwaukee, Wis., on Saturday, January 6th, Dr. Arthur Reitman, aged thirty-three years. **Roediger.**—In New York, on Friday, January 12th, Dr. Traugott F. M. Roediger, aged seventy-eight years. **Santee.**—In Palmerton, Pa., on Thursday, January 4th, Dr. Herbert J. Santee, aged twenty-eight years. **Senderling.**—In Philadelphia, on Saturday, December 30th, Dr. William H. Senderling. **Straight.**—In Hornell, N. Y., on Tuesday, January 9th, Dr. Amos Burr Straight, aged forty-six years. **Sutton.**—In Port Alleghany, Pa., on Sunday, January 7th, Dr. Frank Sutton, of Canisteo, aged fifty-three years. **Yager.**—In Campbellsburg, Ky., on Wednesday, January 10th, Dr. F. J. Yager, aged ninety-six.

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Original Communications.

THE MODERN CONCEPTION OF MEDICINE.*

With a Retrospect.

BY RICHARD C. CABOT, M. D.,
Boston.

With an Introduction

BY ABRAHAM JACOBI, M. D., LL. D.,
New York.

Dr. Abraham Jacobi, in introducing Doctor abot, spoke as follows:

I am expected to introduce a man superior to me and tter known than I, so I believe I am in the wrong ace. He has come from Boston, all the way down to eak to us, all alone. I wish to go to Boston just a inute or two; I want you to accompany me. I have own Boston a good while; I have known Boston longer an my age has lasted, so they say. I have lived long ough to be called an old man. You know all about e history of Boston, as you are acquainted with the story of America. There have been a good many good l men in Boston from the very beginning. I remem- r old man Robinson, who prayed for the Indians. He as always of the opinion that a man should do right and ways right. He was a very religious man, so religious, deed, that when they came back, the old Puritans, and d him that they had killed several hundred Indians, he ked them whether they had converted them first.

Now, there are other men with whom you are quite as ll acquainted. There was, for instance, Roger Williams, o was always of the opinion that the principal thing r a man and woman was to do right, to follow his or r own opinions and convictions and never do anything e. He was of the opinion that witch burning was not e proper thing. He was always of the opinion that ough there should be guidance, there should be no ndfold obedience. For this he was not admired very ch by men around him. He had to flee for his life, d in his case, it was an Indian that protected him in e snow for fourteen weeks, in the neighborhood of at is now called Providence. The Indian's name was ssasoit—that is a name you are acquainted with just well as I.

There was also another Boston man, John Mayhew, o died only in 1766. He was of the opinion that very should be abolished. That was in 1766, and he ght every year of his life, that when Jehovah was very ch dissatisfied with His chosen people, Israel, then He e them a king. At that time, the Americans had a g. A few years afterward, I think it was the teaching Mayhew in part that contributed to abolish a kingdom America. Will you please never forget that when ovah was very angry with his people, then He gave m a king. Never believe in kings any more after this. Now Boston has had many other people, poets and nters, great doctors, and great abolitionists, who were the principal intellectual luminaries of Boston. There is only one that I will mention here, the name that has been mentioned a great deal the last week—Wendell Phillips. There never was a cleaner man, a purer soul, or a more unselfish creature than Wendell Phillips. I wish we had a great many now here among us in our politics; men that would be just as unselfish, just as true hearted, just as incomparable and incorruptible as Wendell Phillips was. Among those not mentioned are Bowditch, a great doctor and abolitionist, Longfellow, Whittier, Lowell, and others; all these names you know well—all of whom have contributed a great deal to civilization in Boston and to the civilization of our country. They all have been of the opinion that it was not enough to live (or as the case may be, to starve), but that living intellectually as well as physically was the order of the day; that is what you have been after; that is what you have been called here for—to listen to a man who has been in this intellectual and physical movement all the time. It is not enough to teach people, it is not enough to keep them alive bodily, but we should combine intellectual life and physical existence; the soul must be fed just as well as the body, the body just as well as the soul; they belong to one another. I cannot speak on that subject, I am not expected to speak, but have been requested only to introduce a man who knows these things very much better than I, and I have great pleasure in introducing Dr. Richard C. Cabot.]

I.

You can easily see that this subject implies, for its proper treatment, exhaustive knowledge of history and of current life. I am at least wise enough to know my own ignorance in these matters, wise enough to know that there is nothing more dangerous and more fallible than an attempt to say what are the tendencies of one's own time, or out of what we have evolved. But I suppose that the management of this course of addresses recognizes our human fallibility in this matter and does not really expect that I should give anything more than my impression of these things, an impression colored probably by my own interests and prejudices, and perhaps worth while in spite of that.

I shall speak briefly, of six tendencies in modern medical service.

I shall speak, first, of the tendency to change *from the individual point of view* (in the relation of doctor and patient) *to the social point of view;* second, of the tendency to change *from a purely physical conception of man to a psychophysical conception;* third, a tendency to *split up into specialties* and away from the conception of the general practitioner; fourth, a tendency *to democracy in medicine*, the democratic relation of the doctor to the public and to his patient; fifth, the tendency *to be positive and not speculative* in our study of the medical science: and last, the tendency *toward a preventive and hygienic* rather than a merely curative attempt in our relation to our problems.

In the first place, I will take up some of the

*An address delivered before an invited audience of physicians laymen at the Mount Morris Baptist Church December 3, 1911.

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minor points and speak briefly of the tendency in medicine to split up into specialties. That tendency I regard as a dangerous and yet a necessary one from which we cannot escape, one full of threatening dangers, having its parallel in that act of the expert microscopist, whereby he fixes his attention upon the narrow, clear, brightly illuminated field, while his other eye becomes blind, blind to everything else, blind by the absolute necessity of concentration in the expert work to which he is pledged. Thus all specialism, out of the very concentration necessary to get special knowledge, becomes a dangerous necessity—dangerous because all blindness is dangerous. The practitioner of fifty years ago would, I think, have thought it no disgrace to say that he was a "physician and surgeon," but those of you who know anything about the medical profession now, know it is a disgrace for a doctor to put after his name, "physician and surgeon," because the doctors know and the public is beginning to know, that no man can be a good physician and a good surgeon, because the two fields are too huge to be adequately covered by a single man.

I am interested to observe, as I think I do, that there is a check in the tendency toward dividing up again and again, which has given us specialties in medicine. When I was a medical student I remember in my own city no physician who treated diseases of the ear unless he made that organ a specialty; within the last ten years, in my own city, a number of physicians have let it be known that they treated the *ear and throat*. That is a tendency away from specialism, a tendency to be welcomed, wherever it moves wisely and cautiously. I believe the separation of diseases of women from all other practice was a bad one, one which is now being given up. Those diseases are being given back into the hands of surgery. We still hear something of stomach specialists and heart specialists, examples, I think, of evil. No man can be a stomach specialist or a heart specialist. He must know the whole organism in order to know either of these great organs.

In so far as specialism is good (and it has come to stay, as we all must recognize), it calls for team work among specialists, and for much closer team work than we have had yet. That comes home to the pocket of the general public, through the pocket nerve of the individual, who goes to a general practitioner, for a diagnosis. He may ask modestly only for a diagnosis, not for any treatment; yet he may be referred to half a dozen specialists, each of whom he has to consult, before the total, needful accurate information is secured. That is ruinously expensive. These specialists must get together through some such arrangement as we have in the great hospitals where the services of great specialists are obtainable by the public without the ruinous expense which specialism now entails. Specialism also, if it is not to be an evil, calls for public scrutiny and frequent tests as to efficiency. We cannot leave the specialist unsupervised and untested.

I am greatly interested in a test now going on in one of our Boston hospitals, the first general efficiency test that has ever been applied to a hospital. In the Boston Dispensary, the largest of all the dispensaries in Boston, all of the patients, for certain days of a certain week, were carefully noted as to their name and address, and followed to their homes by competent visitors. These visitors inquired, in the first place, "Did you understand what the doctor said?"—knowing what the doctor did say in the first place, it was compared with what the patient got. They were also asked: "Did you get the medicine he prescribed?" "Did you take it?" "Did you feel any better?" Also, a variety of other questions. This covered about one hundred cases, in men and women.

That sort of an efficiency test needs to be applied to all of us, whatever we do, and it needs especially to be applied to specialism, because of the necessary narrowness—rightful narrowness—of specialism.

II.

The tendency to give up speculation in medicine, to observe concrete facts and form ideas from these facts, is on the whole a great blessing to medicine, but while I haven't time to dwell upon it, I must also express my convictions that the modern doctor is weak because he doesn't know how to speculate freely and fruitfully, that is, to form hypotheses, many of them useless, none of them valuable unless brought to the test of experience, but still essential to progress. We must form many hypotheses, make guesses, if you will, think of new possibilities as explanations, of disease or as treatment; we need more speculative spirit in medicine, closely controlled by empirical findings.

III.

The tendency to preventive medicine and hygiene, as a basis of our study and of our treatment, is so well known in modern medicine, that I shall not dwell upon it here, my time being so limited, but simply mention it to show that I do not fail to recognize it.

IV.

The change in medicine from an individual to a social point of view is something that has not yet come about widely, but has, I think, begun, and is sure to spread.

I will mention one or two instances of what I mean. The Boston Dispensary is the largest dispensary in Boston, having nearly 40,000 new cases a year. It is presided over to-day, not by a doctor, as it always was up to two years ago throughout its long history, but by a social worker, Michael Davis, of New York, whom we brought to Boston to be the head of that dispensary. We have recognized there what has got to be recognized everywhere, in my opinion, that medicine is a subordinate branch of sociology, and must be so treated in its public and in its private functions. It can also be said that medicine is a branch of pure science, namely, the science of biology, or of physiology. That is quite true, but in its applications, in its public and therapeutic functions, as it seems to me, it is a branch of sociology, and should so acknowledge itself. At present, when the social worker is called in by a doctor, it is as a very humble handmaid, a very humble helper. I think the order should be the other way—the doctor should be the helper of the sociologist, and, in practising his profession, should be in frequent consultation with the sociolo-

gist. The patients ought to be admitted to a hospital, in my opinion, by a combination of the doctor and social worker, and treated throughout by a combination of the doctor and social worker.

We should recognize that every sick person is himself a symptom. We speak of headache as one of the symptoms of disease, as one indication of more behind it. So, every sick person is a symptom that something is wrong in the community; that the industrial conditions, the economic conditions, or the moral conditions surrounding that individual are *sure to produce more like him,* sure to keep up the supply unless something is done to get at the root of the matter, to study and improve the conditions out of which this individual and his sickness emerge. I do not mean to say that we have really adopted that idea, but we have begun to see that we ought to adopt it. We haven't done much yet, I think, to follow up the suggestions or the clues that would come to us, if we really faced the facts.

But with this, as with all changes that I have to speak of, we must realize that if we are to avoid the kind of "progress" which is nothing but the swinging of the pendulum back and forth, to avoid that sort of reaction which comes from fanaticism, we must recognize that this social view of medicine is not the whole view, and never will be. The private personal relation between the doctor and patient, as it used to be, as it ought to be, has something that social medicine can never give. There is something in that unique, intimate, personal relation of patient and doctor that, for the time being, we can't grow away from. There is good in what we have been leaving behind, and if we are to make real progress, we must keep the good of the past and not think that everything modern is good because it is modern.

We made an investigation recently at the Massachusetts General Hospital, where I do my work, of eighty factory girls who came to the hospital because they were run down, debilitated, anemic, dyspeptic, out of health in some general way, which, as we thought, might be caused by the industrial conditions of their work. We followed these cases a little more carefully than such cases usually have been followed. It has been customary in studies of industrial hygiene to take a hundred cases of a given disease, find out the occupation, and call that the cause of the disease. Thus, if you found 100 laundry workers, or workers in a cotton mill, you said, "because they have this occupation, they have this disease." In a great many instances ideas about industrial hygiene have been made on that basis. But in our research we sought the individual and personal factors in every case. We followed these girls to their homes, noted their personal habits, as well as their working place. We found hardly one out of a hundred where we could have said that the industrial conditions were chiefly at fault. No doubt they were contributing factors, but in almost every case, so far as we could judge, the personal habits of the girl made a great deal more difference than the industrial conditions of her work.

V.

I turn next to that change in medicine whereby it seems to me to becoming less aristocratic and more democratic. When I was a student of medicine, the professor stood up on a stage, and we humbly looked up at the great man from the benches. We didn't dare ask him any questions; it wouldn't have been right. Medical teaching is now splitting up into little groups, around a table, around a sick bed, and the function of the teacher is chiefly to answer questions, not to lay down the law, not to lecture, but, as a democratic member, to get together with his students searching for knowledge. There has been the greatest possible change, even in my own time, in this increased democracy of medical teachers and medical students. But there are many other examples of what I mean. Recently, while riding in a buggy with a country physician, I said to him: "What has become of all those big practices we used to hear of, when a man made forty calls a day? So far as I know, you don't see them now." "No," he said, "all going out." "Why, do you suppose?" "Simple enough," he replied; "the people won't stand for it. When the doctor made forty calls a day, you can imagine what kind of calls they were. He ran in, took a look at the tongue, felt the pulse, said what should be done, and ran out again. People expect more than that now; expect a more thorough examination. Still more, they expect to understand what is going on, at least partially. The old fashioned doctor wouldn't allow that; had too much dignity and authority to suffer questions from a patient. The patient was told what to do, and his authority was enough."

Now, I am thankful that it is true that our patients question us, want to know why, and thus give us the great opportunity to explain why, which we ought to welcome, which we do welcome, but which we cannot welcome and make forty calls a day. That is, I think, a sign of a more democratic relation between patient and doctor. Then, the general medical education of the whole public which is going on, the leaking out of the truth about physiology and hygiene is taking away a great deal of the superstitious and unnatural respect for the doctor, leaving the proper respect which there ought to be. We don't any longer hear so much as we did—"Yes, she was fearfully ill, but Doctor So and So saved her life, pulled her through." Most of the doctors to-day are honest enough to say that they don't save life often. I can't say that I know that I ever saved a life. We know that Nature does most of the work and that we have yet a definite use in assisting Nature and in doing certain things that Nature cannot do unassisted. But we very seldom do what our patients used to think we did, and still, to a considerable extent, credit us with doing. We are becoming very much more human, our fallibility is much more understood. I think that is a good thing all around.

Of course, this is like any other change. It has its bad side. I see people every now and then trying to be amateur physicians, doctoring themselves and their neighbors, and I see a great deal of suffering given to them and their neighbors as a result. They suppose that they can know medicine without studying it, and in rejecting the superstitious respect for knowledge they have also re-

jected the proper respect. The doctor used to be more like a *virtuoso*, a great musician. He is to-day far less of a virtuoso, and far more of a reliable, efficient workmen, of a type of which there are many, no one man being necessary for any one case. Many men are able to do about the same grade of work, are equally reliable, equally efficient. The exceptions are in surgery, where the virtuoso still holds his place, where a man may really save a life; and also, I should say in neurology, where there are still virtuosos, great personalities, whose personality counts for everything in relation to nervous patients and where another equally well trained man will not do.

VI.

Lastly, I shall speak of a change which I believe has begun (although many do not agree with me) from the treatment of disease as a physical ailment to its treatment as a psychophysical ailment. Personally, I believe Christian Science has done us a great deal of good. I believe that Christian Science, New Thought, the Emmanuel movement, and many other such things have come as a result of our failures as doctors, our failures to recognize the mental and moral and spiritual elements in the total psychophysical sufferer.

I think that this is where we are "reaping the whirlwind" for our narrowness. We have specialized too much. The psychical elements of human nature cannot be disregarded without peril. The result of some of these lay movements is harm, but I think, on the whole, far greater good than harm. I have no doubt myself that Christian Science has done a great deal more good than harm. I have no doubt it has killed people once in a while. But I think it has been well worth it, and I feel the same as to the other movements that I have referred to.

One of the results of this change has been the writing of a number of useful books, which, in my opinion, would not have been written for years if it hadn't been for these irregular cults. When Dr. Elwood Worcester's book, *Religion and Medicine*, came out, there was hardly any book by a practising physician covering the same ground in English. There were books in German and French, but almost no book in English at that time. Now there are numbers of books, written by physicians in the last three years, since Doctor Worcester's book came—many of them published because they wanted to show how wrong Doctor Worcester was, and to combat the Emmanuel movement.

The treatment of the mental element in disease is doing an immense amount of good to-day, although no one of the newer methods seems to me fundamental or thorough. I often hear men, older and wiser than myself, say that there is nothing new in all this psychical treatment; we knew it long ago; we practised it all before. There is truth in that; but I know that it is also a fact, as I have stated, that the public didn't get through literature, through magazines, and books, the word of physicians on this matter until these irregular cults came in. There is no doubt in my mind that there has been a change again in that direction, even though the doctors did recognize, always have recognized that the mind influenced the body. No physician could succeed in his profession unless he recognized that. Yet, I think the medical profession have only just begun to recognize the importance of the mental and moral and spiritual side of human beings in relation to their health. We still, the majority of us, think that we can use these great powers *from without* as a person might play on the typewriter. We speak, most of us physicians, of the mental treatment of disease as "suggestion." Now any man who is thinking of mental healing for the mental element of disease chiefly as "suggestion," is thinking of it from the outside, not from the inside. No man who is possessed by a truth, who believes intensely and sincerely in a given principle, can think or speak of himself as conveying that chiefly by suggestion. Those who have been great in using mental powers towards healing diseases have always believed intensely in what they said—almost always, perhaps we had better say—and they have seldom been effective otherwise. But most doctors believe it perfectly possible to use what is called suggestion without believing in the thing suggested. The relations between suggestion and lies are very intimate relations but not necessary relations. A patient not long ago said to me, after I had given a certain statement as to the future of her case, "Is what you are saying to me suggestion or truth?" Now I don't mean to say I think that patient was using these words properly. It is perfectly possible for a suggestion to be the truth, perfectly possible for that alternative to be false. But the alternative too often is true, because we physicians are still using these things in an external way without deeply believing them ourselves. The helpful suggestions in medicine are those which reinforce truth and are wholly subordinate to it. When a man believes with his whole heart in a given statement, when he is stating facts whose truth is encouraging, stimulating, or educating, his voice and his manner will probably convey by suggestion something more that he didn't intend, thus reinforcing truth. But such suggestions are effective just because he is not thinking about them.

The treatment of the mental element of disease means, to a considerable extent, preaching good morals, telling people what they ought to do, how they ought to behave themselves. The physicians who have done great work in this way have been men to whom morality, in the sense in which they were preaching it, was the very breath of life, men who heartily believed and acted on what they said. We recognize the force of this, most of us, and don't need to have it repeated or dwelt upon. But when it comes to religion, we don't realize this. Religion, I believe, is the greatest of all forces for health, as well as for every other human activity. The vast majority of our profession still stand outside, and often have tried either to use these forces of religion without believing in them ("religious suggestion") or have tried to secure "the same thing in easier ways," the same article for less money. We are still leaving religion on one side, and thereby leaving untouched one of the greatest of all therapeutic resources. This is as great a mistake as if we were to leave chemical therapy or physical therapy out of our practice. In relation to the great therapeutic resources of religion, the average

doctor says simply, "I am not a religious man." He ought to realize that this is something like saying, "I know nothing about chemistry"; for he cuts himself off thereby from a large portion of human helpfulness. He must be truthful, but he must also realize that his disclaimer is as humiliating as if he said, "I know no chemistry or physics," thereby acknowledging that he is not properly prepared for caring for the whole of the sick human being.

I am very glad to be living at a time when the physician can give the whole of himself to medical service. At this time of the year—it is about a year since Tolstoi's death—those of us who loved Tolstoi must be thinking of the principles he stood for, and remembering that he cared very much—that every human being should do something with his hands. I regard it as one of the greatest blessings of living in this age and practising this profession that we can do something with our hands, with our muscles, with our senses, for the service of the public. When I contrast our work with that of the lawyer, the minister, the teacher, or the professional man who is debarred, to a considerable extent, from the professional use of the hands and senses, I feel very fortunate in my profession, very fortunate in being able to exercise the great human prerogative of the muscles and senses. You don't need to be reminded that we use our brains and reasoning powers; the doctor, in most cases, is an accurate and most fearless reasoner. You don't need to be told that the doctor is handling the most intricate of moral problems all the time, that if he has any moral resources, he must be exercising them daily. The doctor has to choose many times which of two lives shall survive, and has there the greatest moral problems any man could have facing him; he has many other such. Lastly, the doctor has facing him all the time in his practice the ultimate problems of philosophy and religion, whether he wants them or not. He is confronted every day in his office practice and public practice with problems of freedom of the will, the problems of God and of immortality. He can turn them to one side, but he has to face them; and if he has any spiritual muscles at all, weak as they may be, he is forced to use them. It seems to me, then, a great good fortune for all of us medical men to be living at a time when, as I said, we can put the whole of ourselves, our muscles, our minds, our moral and spiritual nature, at the service of the public.

190 Marlborough Street.

GASTRIC SYMPTOMS IN BILIARY DISEASE.*

By Howard Lilienthal, M. D.,
New York,
Visiting Surgeon, Mount Sinai and Bellevue Hospitals.

During the past nine years in the treatment of several hundred cases of gallbladder disease, in hospital and private practice, I have been struck with the great uniformity of the histories given by the patients. I received the impression that about eighty per cent. of them had been treated for gastric disturbance of some kind or another and that the gallbladder had not been suspected until a sudden obstruction or an acute infection made the case so clear that it could hardly be overlooked. On a rather hasty survey of the operative cases in private practice, I found that the proportion of those giving a history of "stomach trouble" was about 54.5 per cent. in eighty-two cases. This number represents only part of those in my private records. I regret that I have not had time to investigate the considerable number in which I have operated in the hospital during the same period. We average about 100 cases a year at Mt. Sinai Hospital, fifty in each service, but I feel quite certain that the percentage of those treated for supposed gastric disturbance is very much larger than that taken from the private records. While it is possible that this may be accounted for by the more routine character of the treatment given to the roving dispensary patient, it is a fact that among those in private practice there were not a few who had been treated for years by some of our masters in gastroenterology under the mistaken impression that gastric disease accounted for all the gastric symptoms.

To go into the question of reflexes, physiological and pathological, which might connect diseases of the stomach with those of the biliary system would not only force me to exceed the time limit of a paper of this character, but might well occupy many years of study and experiment. That there is an interdependence of symptoms between the two organs cannot be doubted, and that in biliary disease the stomach is affected both as to its motility and chemistry is observed often enough. An interesting question to solve would be whether as a rule the gastric disease antedates and is partly responsible for the biliary disturbance as, I believe, Kaufman has suggested, or whether digestion is more often disturbed by the presence of infection or calculi in the bile passages. From my own observations I am pretty well convinced that the latter is the more common condition, and, indeed, I am inclined to agree with Dickinson, who suggests that the constant pouring of infection into the portal system from a chronically diseased appendix will account for much gallbladder disease, throwing back the blame once more upon the overworked appendix. We are thus confronted with the perennial query: What is the cause of appendicitis?—but "that is another story."

Roughly speaking, the cases of gallbladder disease which come to operation may be divided into two classes, the chronic and the acute. The chronic cases are those which have been, as it were, unwittingly treated for months or even years, the efforts of the physician having been directed toward relieving the gastric disorder and the gall passages being benefited incidentally. Even though an acute cholecystitis occurs, it is very frequently not diagnosticated as such, or, if recognized, is thought to be a new development; and not until the suffering dyspeptic is permanently relieved following an operation upon the gallbladder is the truth suspected. To illustrate:

Case I. Mrs. F., thirty-five years old, had been treated for many years for dyspepsia. There was oppression after eating, belching, constipation, gain of weight, and no

*Read before the Medical Association of the Greater City of New York, December 18, 1911.

fever. There had never been jaundice and the patient had never been confined to bed because of her indigestion. I was called to see her by two physicians, one of whom had treated the case for a number of years, the occasion of the consultation being an acute attack with the sudden appearance of a tender mass in the right hypochondrium, extending below the level of the umbilicus. There was a temperature of 103° F.; there had been vomiting, but no jaundice; no general abdominal tenderness. The history of the case, together with the absolutely characteristic feel and shape of the tumor, made it seem as typical a case of cholecystitis as one could possibly see.

I assumed that both gentlemen were aware of the probable diagnosis, and stated that in my opinion immediate operation would be advisable. To my astonishment this seemed to come to them as a surprise, but the mere suggestion was sufficient to convince them, the reason for the failure to diagnosticate the case having been that they were so sure of the antecedent stomach trouble that the idea of biliary disease had not even entered their minds.

I have not the slightest doubt that had this patient come to either of these two gentlemen as a new case a prompt and correct diagnosis would have been made. The patient was operated upon the same day and relieved of a large, tense, suppurating gallbladder.

Case II. Mrs. H., about sixty years of age, had been treated by an eminent specialist for indigestion due to a perversion of gastric secretion. After some weeks she began to be more acutely ill, vomiting several times a day. Finally, the vomitus having become brownish, and having a foul odor, and the patient's abdomen having become rather distended, another physician was called in who recognized a surgical disease and was kind enough to summon me. Intestinal obstruction, due to some lesion in the right iliac region where the sensitiveness was a little more marked, necessitated an immediate operation (December 23, 1900), when to my surprise an enormous gallstone completely obstructing the ileum was encountered and removed. I closed the intestinal wound with suture and the patient made a prompt recovery.

Perhaps it is not fair for me to criticise the mistaken diagnosis of the physician who treated the patient, but to insist for three days upon a diagnosis of gastric disease and on the purely gastric character of the vomiting in the face of progressive aggravation of all the symptoms, seems a bit obstinate. This patient was seen by him only the day before the operation and I feel a certain delicacy in acquainting him with the sequel.

Indigestion with repeated attacks of pain and belching, or even no pain, but severe discomfort, particularly after eating meat, should, in the absence of emaciation and jaundice, arouse a suspicion of gallbladder stones of large size. Small stones are apt to pass into the common duct, thus causing more or less icterus. The chronic cases of indigestion with frequent biliary colic need not here be discussed. The increase in weight in biliary disease, more particularly when gallstones are present, has been an interesting observation. The question of the relation of obesity to the precipitation of cholesterin in the gall passages, I do not remember to have seen discussed, but it appears to me that fully two thirds of the female patients, especially those with calculi in the gallbladder alone, are overburdened with adipose tissue. Long continued jaundice, however, tends to cause emaciation. The typical gallbladder patient is a woman in the early forties who has rapidly taken on flesh, who eats ravenously and bolts her food, and who is careless in regulating her bowels; add to this a "nervous" disposition with frequent emotional crises and the picture is pretty complete.

Speaking of the relations between gallbladder and appendix, I have become so convinced of the frequent coincidence of these disorders that I invariably question the patient with a view to bringing out the history of a possible old appendicitis. If there is a working suspicion of this diagnosis I usually remove the appendix through a second small incision at the time of the operation on the gallbladder; and even if the history is negative, I try to draw the cecum into the upper wound in order to examine the appendix before completing the gallbladder operation. In most cases in which the appendix is not bound down by adhesions this procedure is not difficult, especially if the patient is placed in a sitting position. The following case illustrates the usual type of pure gallbladder calculi without infection and with no calculus in other parts of the biliary system.

Case III. Mrs. H. K., age thirty-one years, patient of Doctor Manges, had for a number of years epigastric distress, attributed by her to indigestion. There was some discomfort and depression without jaundice, the attacks gradually becoming more colicky in character; even between these times there was some tenderness in the gallbladder region but never any tumor to be felt. She was sent to me for operation with a diagnosis of cholelithiasis, and I went so far as to further suggest the probability of one or more large stones and no small ones because there had never been the slightest jaundice.

In October, 1902, I removed a rather thin walled gallbladder containing a single large ovoid calculus. I remember at that time, over nine years ago, we felt rather proud of the diagnosis because the symptoms pointed almost as much to the stomach as to the gallbladder. Some years later I operated upon this same patient for calculus in the renal pelvis, and would here mention that I have encountered perhaps half a dozen times the coxistence of biliary and urinary calculi. Mrs. K. made a good recovery and has not since been troubled with biliary disorder.

Case IV illustrates infection of gallbladder and appendix. Mrs. M. J. A., forty-two years old, had been sick for many years with attacks of epigastric pain which she called "cramps in the stomach." There had never been fever. Her right kidney was movable. Her physician, Dr. S. J. Meltzer, called me to see her January 13, 1903, when she had been suffering for six weeks with intermittent pain of a colicky nature, some diarrhea, and very slight icterus as shown in the skin and urine, but not in the conjunctivæ. Meltzer's sign of appendicitis was present, i. e., pain in the appendicular region on forcible active flexion of the hip against resistance.

At operation we found a chronic appendicitis, the organ being high up under the gallbladder, the walls of which were also very tense and thick. Both appendix and gallbladder were removed. There were no gallstones, and the tension in the gallbladder was doubtless due to numerous old adhesions about the cystic duct, probably from old pericholecystitis. Recovery was complete and there was no more dyspepsia.

Case V. Another case which well illustrates this association of lesions is that of Miss McC., forty years of age, patient of Dr. A. R. Stern. Here there had been numerous attacks of characteristic biliary colic extending over many years, but never any jaundice. About three years before there had been severe appendicitis. She came for operation in the so called interval.

A large calculus with a thick walled gallbladder full of mucopus was found on incision and removed. The appendix, which was very large and subacutely inflamed, was extracted through the cholecystectomy incision. In this case there was also one thick adhesion between the gallbladder and duodenum, which alone appeared to me capable of invaliding the patient.

Case VI is perhaps the most interesting one of my entire collection, because it typifies the cholecystitis with gastric symptoms, is that of Miss U., a patient of Dr.

mily Barringer. She was unmarried, about forty years d, and had always had "stomach trouble" with one at- ck diagnosticated as appendicitis during childhood. wenty years before I saw her she had her first severe ell with fainting. Since then she had had numerous tacks of unconsciousness, followed by profound shock. t such times her hands invariably went to the epigastric gion, a little to the right side. She was in the habit of miting, and about a week before she came under ob- rvation the vomitus contained some blood. Physical camination was negative, but I advised exploration of the ght upper quadrant, which was done in January, 1909.

A rather thick walled gallbladder with extreme stricture f the cystic duct was found and removed. Recovery was neventful and the stomach trouble which had made her n invalid disappeared permanently together with the at- cks of unconsciousness. I have never seen a patient ore grateful for surgical relief.

I do not wish to convey the impression that all astric symptoms mean gallbladder disease. I en- unter a goodly number of operative cases in which ie diagnosis of gastric ulcer or gastric carcinoma confirmed, and it occasionally happens that when have expected to find gallstones I have come cross a gastric ulcer. Only a few days ago I met ith such a case.

Case VII. The patient, Mrs. J. H., aged twenty-nine ears, consulted me first on October 8, 1911, complaining f epigastric pain about three hours after eating, vomiting fter any slight indiscretion of diet, and constipation. On camination I found a large symmetrical tumor of the elvis which was evidently a uterine fibroid and which ap- eared to me to be low enough in the pelvis to account or the disturbance of digestion on the ground of mild ntestinal obstruction. She had made an application to nter Mt. Sinai Hospital as a private patient when one ght she was seized with a very severe attack of epigastric ain, with fever and tenderness in the upper right quad- ant. She was seen by Dr. H. D. Mandelbaum, who re- orted a case of gallbladder disease with colic. This pa- ent, it will be noted, had lost some weight instead of aining. She postponed her entrance into the hospital nd when I saw her a few weeks later the upper right uadrant was negative on physical examination. Still she ad indigestion and I decided to postpone the hysterectomy nd to perform what appeared to me the more serious peration first, namely, the investigation of the gallbladder nd pylorus.

On December 8, 1911, through the usual high incision etween the fibres of the rectus, I came upon the gall- adder bound down near its fundus to the duodenal end f the pylorus, where there was a hard mass about the size f a small English walnut. There had evidently been some erforation of what is probably a chronic ulcer, the crater- ke feel of which could be well made out by palpation rough the unopened duodenum. The adhesion was freed, horoughly liberating the gallbladder and a gastroenteros- omy performed. In a few days, or about two weeks after ie original operation, I intend to make a median epigastric ection and examine this tumor. If it is still present, for have seen a much larger one disappear in two weeks' me, I shall consider the possibility of malignancy and erform pylorectomy.

This little paper, as its title implies, is intended o call attention once more to the importance of onsidering the probability of biliary surgical dis- ase in all cases of chronic indigestion, the kind nat persists for years in spite of skillful medical reatment. I have not gone into a discussion of ie dangers of this form of what may be termed *ccult* biliary disease, the exacerbations, the ulcera- ons, the perforations, the carcinomatous degenera- on, and I have totally omitted all reference to op- rative technique.

If we are to restore to health these unhappy "dys- eptics" we should not feel that it is a confession f weakness to advise an operation. Pure explora- tion with negative findings and no improvement does sometimes occur, but it is rare. Ulcer or cancer of stomach or duodenum, appendicitis, or adhesions, are commonly enough found; but by far the greater number of the cases operated in for gastric symptoms are in reality examples of biliary disease.

My object will have been attained if I have emphasized this matter so that surgery will be called in as a legitimate measure for relief a little earlier than is the custom with the great mass of the profession and not merely as a last resort to record the failure of pure medicine.

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CRIMINALITY AND MORPHINISM.

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It is almost impossible to estimate the number of drug takers in this country and Canada. There is every reason to believe that the actual numbers run into and probably exceed 1,000,000. Of this number, undoubtedly fully one half are addicted to the use of morphine.

Opium smokers comprise a very small class. The use of opium in other forms is very common, particularly when associated with other drugs. It is not clear why morphine should be used in preference to any of the other alkaloids of opium. Its narcotic effects are very pronounced, as well as its irritant effects, and probably the availability by the means of a needle and its rapid absorption give it a certain fascination.

Codeine and other alkaloids seem not to be so popular, and while somewhat employed either alone or in combination with other drugs, have not come into general use. The manufacture and sale of morphine has been steadily increasing, until at the present time not more than one third of the morphine on the market is traceable to a legitimate use in medicines and to fill prescriptions.

There are many reasons for believing that the effects of morphine are different from those of opium or any other drug known, both psychically and physically. Its connection with criminal acts, as a contributing cause, or as an agent provoking criminal acts and conduct, is very distinct in most cases. The use of morphine is not limited to any one class, but extends to all, and is seen in every circle of society, and of all drugs its use is most secret and concealed. In some cases this may exist through a lifetime. In others it may be confined to a few years, then become apparent.

There are a great variety of complex conditions which precede and provoke the use of morphine at first. In all probability, nerve exhaustion and irritation, accompanied with pain or injury to the nerves, are the most active causes. The narcotic effect of morphine covers up these conditions and hence is most eagerly sought for.

States of insomnia from a great variety of causes precede its first use. Evidently there are physiological conditions of hyperesthesia which morphine

relieves most quickly or covers up, and the effects are so pleasing that its use is continued. A form of fascination is created which is remembered very vividly while the pain and discomfort are forgotten.

Is the morphinist more likely to be a criminal, than any other drug addict? There is a great variety of evidence centred about this question, not yet made clear. Practically morphinists are seldom seen in courts for brutal crimes, like the alcoholic. Kleptomania is one of the most common charges. As aiders or abettors of crime they are often seen, but not as leading actors in criminal conduct. The dominant thought in the morphinist is relief from discomfort and pain and an ideal condition of quietness and serenity. The secondary effect of morphine is anesthesia of the senses. They cannot analyze the impressions from objective and subjective influences.

Facts and conditions are distorted and exaggerated, and their power to discriminate them is diminished. They are unable to describe with accuracy events and their relations to them. Often the mind may act logically from a given premise, but these may be inaccurate. Impressions that are false are accepted as a reality, particularly suspicions of intrigue and injury, indicating that the mind is dominated by a sense of fear and delusional conceptions of their relations to life.

Often there is egoism which makes them dangerous as witnesses, because of their positive dependence on impressions that may be fleeting and uncertain. In addition to this, the morphinist has a constantly increasing diminished ethical sense. His consciousness of right and wrong and relation of truth, grows weaker. This failure is noted in matters concerning himself; then extends to affairs outside. The childish prevarications and misrepresentations relating to the use of the drug, are evidences of the enfeebled reasoning and judgment.

When morphine is given by the needle, the damage to the ethical sense seems to be more pronounced. A study by Doctor Guimball, a police surgeon of Paris, of the criminal morphinists coming under his observation, brought out the following conclusions:

First, morphine causes defects of attention, particularly of sense observations. Second, the ethical sense to distinguish between right and wrong is blurred. The victim is unable to discriminate any moral basis that should dominate. He acts from impulse. Third, his will is lost and power of control over the impulses lessened. Both physical and mental impulses dominate him from the slightest exciting causes. Fourth, the morphinist is literally a lunatic, only more subtle and concealed; like the dipsomaniac he is liable to be dominated any moment by impulses that are unforeseen. Fifth, the responsibility, like the judgment, is impaired and enfeebled. He is constantly doing acts and saying things, the import of which he does not understand.

Masked delusions are frequently associated with this sense and brain disturbance. There are no border lines between responsibility and irresponsibility in the morphinist. Evidently there are in many cases some inherited predispositions and defective brain control which add to the confusional effects following the use of the drug.

Morphine, particularly, clouds the capacity and diminishes the fine discrimination necessary to judge of his own condition, and his relation to others. The tendency would naturally be toward criminal acts and unreasonable conduct.

The crimes usually committed by morphinists are against property and character, and based upon impulse and selfishness. Kleptomania, forgery, swindling, and misdemeanors of a minor class, with or without purpose, are common. The impulse to procure morphine when suffering from its withdrawal, is so dominant as to overcome all considerations of right and wrong, and the victim may become criminal in the efforts to secure the drug.

Curious delusions develop in many morphinists, outside of the impulse to procure the drug. In one case the impulse to forge notes, checks, and names, with and without a purpose, was dominant when the good feeling from morphine pervaded. In another, a man became a horse thief after using morphine and showed unusual skill and judgment to avoid exposure. When not using morphine there was no impulse or desire to steal. Another man who is serving a long term for assault was noted for his excessive sensitiveness and irritability when under the influence of morphine. His fear of insult was so intense that he was continually resenting the false impressions which came to him.

It is noted that morphinists suffer from autointoxications. The waste products of the system are increased and the power of elimination is retarded, and favorable soils are formed for the growth of toxines. Hence they suffer from disturbed nutrition and states of anemia; egoism and pessimism follow each other with great distinctness; with these selfishness, avarice, and disturbed conception of the motives and conduct of others. The morphinists are usually slanderous, untruthful, and take advantage of every opportunity, and these very conditions point to toxemias of the brain. On the other hand, a certain number of persons show excessive timidity and intrigue to cover up their conditions, and avoid conflict or criticism of others, particularly in the early stages.

Capital crimes are rarely committed by these persons, although they may be accessory to them.

The confusional acts and statements show the irresponsibility and absence of any fixed motives.

There is a stage of morphinism in which serenity, exhilaration, and general comfort prevail. This is followed by a period of comparative rest or unusual anxiety to accomplish some purpose or secure some object. In the exhilarated stage, there are often egotistic impulses that may develop into delusions and crimes.

Later, when this stage passes, the delusions are forgotten. Thus morphine was given a man and he was told to go shoot a supposed enemy. He started out with this impulse, but before he reached the place it passed off and he returned with a very hazy idea of what he was trying to do.

Persons who have used morphine for a long time are found to be very susceptible to suggestion, particularly that of friends whom they respect. Often criminal acts are suggested and they enter freely into them, but unless the conditions are very favorable, the suggestion dies out. An instance is that of a man trying to kindle a fire to burn the

house of a neighbor. The neighbor rushed out and beat him severely. A trial for assault followed. His own statement of the fire was confused. It appeared later that he was acting under a suggestion from another who had a motive.

Criminal impulses suggested from without or growing up from within, without any special motive, are usually transient and sometimes forgotten. There are cringing, childish deceptions and very clear imbecile acts and talk. Other morphine criminals are bold, audacious, and cunning to the last degree, when fully under the influence of the drug. They are very dangerous, but a short confinement reveals the real condition.

A man with homicidal impulses of this character, seemed a most dangerous criminal. After being locked up a few hours, he relaxed and showed the exact character of this impulse, due to morphine. It was found that when free from morphine he was normal mentally, but under the influence of the drug, he had delusions of injury which made him very dangerous. A great wealth of illustrations along these lines is more or less common in the police courts.

One of the most marked phases of morphinism, which probably appears in most cases, is the pleasure victims take in concealing their motives and conduct. They have a mania for leading a double life and enjoy the deception and mask which they draw about themselves. Oftentimes this excessive cunning and desire for concealment is so pronounced that it reveals the very purpose which they seek to conceal. In the police courts, where obscure crime and conduct are unexplainable, the cases are put over for several days, when the real condition of mania and delirium comes to be known.

A general fact is that persons under the influence of morphine have less power of resistance to physical and mental impressions, and easily succumb to temptations and suggestions from without. Hence the rule that where morphine is used, the responsibility must be less and the power of reasoning lowered. Theories and motives of conduct are utterly unreliable, associated with the use of morphine, and unless supported by facts and natural conditions of the surroundings, are not to be regarded.

Morphinists as witnesses are dangerous. However earnest they may be, their conceptions of the actual current of events may be distorted. The memory sense and reasonings are often inharmonious and impressions of events are always open to doubt.

Such persons are practically incapacitated to determine the shadows, uncertainties, and doubts which follow the ordinary current of events, which require careful observation and discrimination.

Questions of duty, obligation, and law are vague, uncertain, and doubtful, and are never absolute and positive. The drug taker's personal condition and egoism cast shadows over every consideration and makes his most positive convictions defective in many ways. This is called paralysis of the ethical brain and the centres of volition, associated with weakness and debility. Evidently the coordinating brain centres become more and more enfeebled from the continued use of morphine, and life and conduct become automatic. There is progressive degeneration, while the coarser organic operations of the body may be little disturbed.

The legal responsibility of such persons is seldom realized in court. The assumption that conduct that approximates rationality is evidence of brain integrity is contradicted from actual study. Anesthesia, slowing up, perverting and paralyzing the centres of the brain, sometimes locally, but later generally, over the whole body, exists in all these cases.

An eminent judge recently charged the jury, that where the prisoner was proved to be a morphinist, incompetency, irresponsibility, and impaired judgment should be recognized. He urged that such persons should not be punished as responsible. This very emphatic ruling was so far in advance as to draw attention to the judge. Later he was found to be a morphinist. Then it was evident why he realized the incompetency of others.

An expert physician, who proved afterward to be a secret user of morphine, testified positively to the insanity of a criminal, basing it on the fact that he took morphine, and sustained a very minute cross examination. Here it was evident that his own personal experience furnished the facts for his decided convictions.

A large class of morphinists use alcohol in some form, and the latter drug is recognized while the former is concealed. They are among the most dangerous and irresponsible. The general fact should be considered that the daily use of morphine for any length of time must be recognized as a mental defect which diminishes the responsibility and sanity of the victim.

This question has been repeatedly discussed in the probates of wills, and while there is great divergence of opinion, the general consensus is, that irregular and extraordinary dispositions of property by persons who are known to have used morphine is sufficient evidence to break the will.

Crime in morphinism always should be studied from the physical side and from the facts which are undisputed, and not from the theories and rulings of law. It is said that the lower criminal class are more addicted to morphine and opium taking than any other.

It is also the opinion that morphine serves as a stimulant to give persons mental courage to commit crime. There is considerable evidence to confirm both of these impressions. The present status of morphine taking, and how far it leads to crime, is very largely an unknown country.

Many very startling facts are recorded in the daily press from time to time, but so far they have not been grouped or studied in any particular way. Only a few general principles are evident, particularly in chronic cases. Recently a layman discussed very freely, and with great positiveness, the danger and sin of using morphine. He had mixed up a great many facts with theories, that left the subject more obscure than ever.

Every physician should make a careful note of the conduct and character of morphine takers, regardless of any theories, and seek from that to determine the great underlying facts.

WHERE SHALL THE LINE BE DRAWN BETWEEN MEDICINE AND SURGERY IN BORDERLINE CASES?*

By James E. Moore, M. D.,
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A very few years ago, when surgery was constantly poaching upon what had always been considered medical preserves, there was a constant controversy between medical men and surgeons, but since surgery has repeatedly demonstrated the possibility of curing diseases considered to be incurable by medicine, the controversies have grown less frequent and far less heated. Internists and surgeons have learned to appreciate the services of each other to suffering humanity, and it is only through the continuation and increase of this mutual understanding and confidence that we can hope for the best results. I have enjoyed this atmosphere of mutual helpfulness in both private and hospital practice.

Many diseases may at one time be better treated medically and at another time surgically, and there are others in which physicians and surgeons have not yet found themselves, and it is those we wish to discuss to-day.

All diseases of the thyroid except malignancy and tumors are medical in the early stages, because at that time a majority of them can be cured without operation. Many of them become surgical when neglected, or when nonsurgical treatment fails. A case of goitre becomes surgical as soon as it gives serious symptoms which fail to yield to proper medical treatment. The danger is that it may be kept on the medical side of the borderline until the best time for operation has passed. While a careful study of the results of both physicians and surgeons in the treatment of this disease indicates that surgery should be the last resort, it demonstrates very clearly that it should not be a late resort. This is especially true in exophthalmic goitre, because a late operation is dangerous and delay allows changes to take place in the heart and other organs that cannot be cured, while an earlier operation is comparatively safe and very often curative. Since surgeons have demonstrated that the average goitre can be easily and safely operated upon, many unnecessary operations have been performed. No patient should be operated upon simply because he has a goitre, but only for positive indications. On the other hand, physicians should learn to recognize promptly those cases that do not yield to medical treatment and give the patient the benefit of what surgery has to offer.

Diseases of the breasts are always surgical. In face of the fact that eighty per cent. of tumors of the breast are malignant, and that the mortality of cancer without surgical treatment is 100 per cent., it is difficult to understand how any man can have the temerity to treat a nodule in the breast by any but surgical means. Every man who examines a nodule in a breast assumes a grave responsibility, and he owes it to himself as well as to his patient to give a positive opinion, or to admit that he is unable to do so. It is a crime to paint a nodule in the breast with iodine and await developments, for the chances are that in four out of five cases it is malignant, and when it is malignant the patient's only hope is in an early operation. These remarks are applicable to tumors in all parts of the body, save that the percentage of malignancy is not so large in most other parts. Medicine has no place in the treatment of malignancy or tumors.

In diseases of the chest there is undoubtedly a great future for surgery, but at the present time the range is comparatively limited. Accumulations of pus, whether in the lung, the pericardium, or the pleura, are always surgical, but beyond this is open territory occupied at present by medicine, in which she meets with many failures, and in which, let us hope, surgery may become helpful in the future.

Most diseases of the stomach are still on the borderline. Malignant disease, here as elsewhere, is always surgical, and when medical men, laboratory men, and surgeons, by their combined efforts, shall have arrived at a means of early diagnosis, as large a percentage of cures should follow surgery here as elsewhere, because this organ is very tolerant of surgery. Even with our present unsatisfactory methods of diagnosis, Mayo has recently reported twenty-five per cent. of cures following operation, as against 100 per cent. mortality without operation. An early diagnosis of cancer of the stomach is not possible with our present knowledge. The clinical evidences come late, and laboratory methods have been disappointing. This is surely a very important field for research. The gastroscope suggests great possibilities. Even exploration through an abdominal wound is often unsatisfactory when palpation is depended upon, because it may be impossible to differentiate between a malignant and an inflammatory condition. Explorations can be made efficient, however, by removing a specimen and making a frozen section, and in any case giving symptoms enough to justify an exploration the securing of a section is surely justified. With our present methods of diagnosis the danger is that these patients be treated medically until they are no longer favorable surgical cases.

All gastric ulcers are primarily medical, because when promptly recognized the vast majority of them will recover under intelligent medical treatment. They become surgical when they cause perforation, persistent or recurrent hemorrhage, or stenosis, and when for lack of, or in spite of intelligent medical treatment they become chronic with thick walls and hardened bases. The present surgical treatment of gastric ulcer by gastroenterostomy is far from satisfactory. It is unphysiological, unsurgical, and at best a surgical makeshift too often leading to disappointment. When we have so completed our technique, as we are bound to do in the near future, that the accepted operation for gastric ulcer is the removal of the ulcer, we shall be doing surgery on surgical principles, and we shall not be plunging in the dark and upsetting Nature's physiological arrangements. Gastroenterostomy, however, should not be spoken of as it was by one Eastern physician, who called it the great Western fake, because with all its shortcomings and disappointments, it has done a vast amount of good.

*Read before the Southern Surgical and Gynecological Association, December 12-14, 1911.

t will always hold a place in the treatment of yloric stenosis and possibly in duodenal ulcer, and t is undoubtedly a stepping stone to better things.

Dilatation of the stomach without stenosis is lways medical. Surgeons have tried various nethods for the relief of this condition, but have ailed to secure satisfactory results.

Diseases of the gallbladder are practically all urgical. Medicine can do nothing for gallstones r for an infected gallbladder. The old idea that allstones often exist for years without causing ymptoms is scarcely tenable at the present time. he symptoms have always been present, but have een attributed to other causes. When gallstones re known to exist, the patient should be operated pon, as medicine can do no good and the operation s less dangerous than the gallstones.

Most diseases of the liver are medical, for up to he present time surgery has demonstrated therein very limited field of usefulness. In our northern limate we rarely meet with an abscess of the liver, ut when it does occur, the treatment is surgical. Ve occasionally see a case of hydatid cysts which s quite successfully treated by drainage. Malig- ant disease of the liver is practically always econdary and cannot be successfully treated either nedically or surgically. Talma's operation for cir- hosis has not been extensively practised, but de- erves a place in surgery because it has often pro- onged life and relieved suffering in an otherwise opeless condition. I have performed the operation few times, and in no single instance have I had ccasion to regret it, for it has always afforded ome relief and in some instances the relief was ufficient to enable the patient to resume his busi- ess.

The kidney furnishes many borderline cases. In he presence of stone or pyogenic infection all agree hat the treatment should be surgical. The treat- ent of Bright's disease by decapsulation has been dvocated and practised by a few, but has not fforded sufficient encouragement to give it a defi- ite place in surgery. Tuberculosis of the kidney, hen confined to one organ, as it practically always s in the early stages, should be treated surgically, or under medical care it almost certainly becomes ilateral and causes the death of the patient. Con- idering the important function of this organ and he magnitude of the operation the treatment by urgery is remarkably successful. I have patients pon whom I performed nephrectomy for tubercu- osis twelve and fifteen years ago, who are alive nd well to-day.

Visceroptoses have swayed back and forth across he boundary line, but at the present time experi- nced surgeons quite generally agree that surgery s a failure in these conditions. Patients suffering rom visceroptosis should not be denied the benefit f surgery for other pathological conditions, but perations for the ptosis will do good in only very xceptional cases. That there are exceptional cases s illustrated by one patient upon whom I per- ormed a hepatopexy. She had been confined to ed for some time on account of the extreme ptosis f the liver. When she lay upon her left side the nterior border of the liver could be felt under- eath and parallel with the right rectus muscle. After repeated requests from the patient and her physician I consented to operate. The liver was fastened to the inner side of the ribs and the dia- phragm, where it has remained for over two years and the patient has been restored to health and use- fulness.

Many physicians are disposed to be hypercritical about the numerous scars they see on these patients, because the operations have failed to cure. Are they not rather the milestones of progress, for through them surgeons have demonstrated that operation is not the proper treatment for these patients, and they are gladly referring them to physicians who have learned to be very helpful to these suffering and formerly neglected patients? Glénard told the whole profession about these con- ditions many years ago, and they were neglected until surgeons mistaking them for purely mechan- ical conditions very naturally reasoned that they could be relieved by mechanical means. Surgeons have demonstrated that there are serious conditions back of these ptoses, and that mechanically restor- ing the prolapsed organs to approximately their normal positions so commonly fails to cure that the operations are justifiable in only a few exceptional cases. The replaced organs rarely remain where they are, and the operations do not remove the underlying conditions conducive to ptosis.

There is no disease in which there has been more controversy between physicians and surgeons than appendicitis, but now it is quite generally conceded that all cases of appendicitis are surgical, first, last, and all the time. It is undoubtedly true that many patients have been operated upon who would have recovered without operation, but the man has not yet been born who can select these cases, and is it not infinitely better that many should be operated upon who might have recovered without operation than that one should die for want of an operation? The operation in proper hands is not dangerous, and the possibility of future attacks is removed by it. The deaths attributed to the operation by the laity and hypercritical medical men have usually been due to neglect of an early operation.

Many cases of obstruction of the bowels are on the borderline, because it is often impossible to decide at first whether the patient is suffering from obstipation, intestinal stasis, or obstruction. In every case of this kind there should be a consulta- tion between the physician and surgeon, and as soon as a diagnosis of obstruction is made the surgeon should take charge. In such a fatal condi- tion as this it is safer to make an exploration in doubtful cases than to wait, for a large percentage of the mortality is due to waiting.

Tuberculous peritonitis is still on the borderline, for it is an open question in the minds of both physicians and surgeons as to how these cases can be most successfully treated. The surgical treat- ment is purely empirical, but is followed by some astonishing cures, and, on the other hand, many recover without operation. Surgery is most satis- factory in cases with free peritoneal fluid either without local lesions, or with local lesions in some removable organ such as the appendix or Fallo- pian tube. In cases where the fluid is walled off in separate cavities and where there are many local

foci in the intestines, the outlook is very grave, no matter what the treatment, and surgery has certainly very little to offer.

Tuberculosis in all parts of the body furnishes many borderline cases, and whether treated medically or surgically there is certainly great opportunity for improvement over our present methods. I operated for tuberculosis of the glands of the neck for twenty years or more, and have now abandoned it because the results were disappointing. Relapses were common and deaths from general tuberculosis were frequent enough to convince me that the patient's chances are better when he does not depend upon surgery, but puts himself under careful hygienic and medical treatment from the first. Tuberculin and the x ray yield at least as good results as operation, and save the patient the trials and dangers of an operation as well as the unsightly scars.

FURTHER ADVANCES IN THE THERAPEUTIC USE OF THE BILE TRACTS.*

By Lewis L. McArthur, M. D.,
Chicago.

Three years have elapsed since I had the honor of submitting to the Surgical Section of the American Medical Association the results of personal experiences in utilizing therapeutically, biliary tracts opened for coincident disease. If I again venture to submit a communication on the same subject to this society it is because with the lapse of time and further experience, my conviction has been strengthened that a more general knowledge of and more frequent utilization by my surgical colleagues is desirable.

Two very instructive papers by Rudolph Matas have recently appeared, in which he cites his personal experiences with this method of access to the duodenum and upper bowel; submits the histories of four cases which certainly appear to have been saved thereby; and, better still, adds a very decided improvement to the technique first proposed by the writer.

For those of you who may have had no opportunity to hear or read any of these papers I may be pardoned if I briefly recapitulate what I then proposed.

In practically every operation for bile tract disease, the operator establishes a temporary biliary fistula, either in the gallbladder or common duct, for the purpose of relieving the cholemia, the cholangitis, or cholecystitis, by continuous drainage (in much the same way as a urinary cystitis is relieved). While flushing such fistulæ for the purpose of lavage of the gallbladder it was noted that the irrigating fluid frequently failed to return. This suggested the idea of utilizing these fistulæ for the purposes of rapid hydration, of systemic medication, of feeding, and stimulation. The results were so startling and so gratifying that I felt justified in asking others to try it. With the refinements in technique proposed by Doctor Matas, which I describe below, the procedure recommended was as follows: If to a tube draining the gallbladder in an ordinary case of cholecystostomy we connect the tube of an irrigator, containing, for example, sterile warm normal salt solution, the rate of flow being graduated so as not to exceed five or six drops a second, and the pressure to be no more than twenty inches elevation, a continuous flow into the duodenum can be established and maintained without discomfort to the patient. At that time I had refrained from using the irrigation through the tubes introduced for drainage of the common duct until the second or third day, i. e., till well walled off from the general abdominal cavity (for fear of leakage). Here is where Matas has shown us an improved technique, as well as how safe and efficient is the introduction at the time of operation of a small rubber catheter (*à demeure*) into the duodenum by way of the common duct, letting it project there from one third to one half its length. Through this, with absolute confidence of its arriving safely within the duodenum, he could introduce any desired amount of any given fluid, food, or medicament indicated. In fact he has in this manner, for a period of three weeks, given diuretin, panopepton, strychnine, castor oil, Carlsbad and Hunyadi water in purgative doses to the great satisfaction of the patient, and with no untoward results because of its method of introduction.

The case histories submitted by him are most convincing of the efficacy of this route in saving life in some of those conditions for which it was first proposed, and to which I now desire briefly to refer.

In chronic obstructive jaundice we frequently meet an associated nephritis, probably incident to the toxic effects of the cholemia. In *just such cases,* especially after an ether anesthesia (which, by the way, should here be discarded for nitrous oxide gas and oxygen), there is imminent danger of a complete anuria. Under these conditions I have found it possible to start up promptly an active renal secretion, fill the bloodvessels, slow the pulse, quench the thirst, induce active perspiration, and wash out tissues surcharged with the bile pigments. Matas, who calls attention to the recent clinical and experimental contribution of Clairmont and von Haberer on *Anurie nach Gallenstein Operation,* has had the same experience.

But it is not my aim at this time simply to repeat the experience then recorded, but to invite your attention to some further developments which have grown from its wider use. Through the use of normal salt solution it has been observed by Dr. William Mayo, myself, and others that the vomiting often following gallstone operations can be ameliorated and even checked; the regurgitation into the stomach soon becoming salty to the taste, free of bile, and finally retained.

Doctor Matas calls attention to the rapid restoration of normal intestinal peristalsis, the expulsion of gas, and early bowel movement. During the necessary loss of bile incident to the drainage of the bile tracts much of the normal alkaline bodies of the intestinal tract is lost. There early appears in the reports of the patient an excessive acidity of the stomach. I have come, therefore, to add, when-

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nstilling the fluids into the duodenum, a few grains of sodium bicarbonate, in order to make them more nearly approach the reaction of the bile. It is true this could be given by the mouth, but interference with stomach acidity interferes with stomach digestion, while increase of duodenal alkalinity improves intestinal digestion and restores the biliary secretion more nearly to that form for which the operative interference has been made. This corresponds to the gratifying use by Matas of natural Vichy water instead of the normal salt solution first recommended. Let me here emphasize the fact that *do not* resort to bile tract medication in cases following a normal convalescence.

During the past winter I presented to our medical society two young men who had been for years sufferers with extensive tuberculosis of the large intestine, sigmoid, and rectum which had resisted all the recognized methods of treatment at the hands of our best internists, as well as such benefits usually ensuing through change of environment to Colorado, to Texas, and to the Swiss Alps. These cases have been cured, symptomatically, at least, by the parallel procedure, appendicostomy, using appropriate lavage with such nontoxic intestinal antiseptics as copper sulphate and quinine bisulphate. Both patients have been restored to apparent good health from bedridden and dependent conditions, both are at work, earning their living, both increasing in weight. One, at beginning, was a pitiable object of twenty-four years, weighing only eighty-nine pounds, with extensive tuberculosis of the pelvic fascia, coccyx, anal region, and all the large bowel, from anus to midpoint of transverse colon, as revealed by a laparotomy made for the purpose of diverting the fecal stream from the painful rectal tuberculosis. The colon was so generally involved that it was impossible to find any portion of it fitted for an *anus præternaturalis;* hence an appendicostomy was done, with immediate, prompt, and steady improvement until now he is again at work and weighs 132 pounds. (Operation was done at the first clinical congress.) The second patient, with a case not so extensive, but of several years' duration, rose from 154 to 180 pounds and has resumed his occupation, the painful and frequent stools having been reduced to one or two per diem.

These cases are here referred to because of the conviction that similar results in small intestine tuberculosis could at least occasionally be obtained where the bile tracts utilized as the route of access for treatment. I am fully aware that this will appear at first as a severe surgical procedure to propose, but, as a matter of fact, I believe most of you will agree with me that the fastening of a drain in the gallbladder is but little more difficult or dangerous than the anchoring and catheterizing of the appendix. Again, considering the hopelessness of all former methods, justification for such a surgical interference should be found, especially in the light of the cases just cited. The writer does not fail to appreciate the added difficulties and different factors entering into the problem of small intestine tuberculosis. Here both the digestive processes and absorption areas are involved, requiring something more than the mere lavage and medication found so efficient in the large gut. Nevertheless, by a proper selection of time in relation to intestinal digestion, and medicament to suit the alkaline secretion in this location, I believe similar results could be obtained to those described.

Since it has now been shown by Matas that a feasible and safe route for the introduction of fluids of any kind into the duodenum has been demonstrated, I desire also to offer the suggestion that we have here a safer substitute for the jejunostomy now being utilized for affections of the stomach not amenable to other surgical or medical procedures. For example, stomach ulcers that resist treatment yet are not to be benefited by gastroenterostomy (for we have learned by sad experience that drainage of the stomach often fails to cure ulcers in a stomach of normal motility), might be more safely put at rest by the procedure proposed than by a jejunostomy, which is always attended by the dangers associated with fistulæ in the upper bowel where the digestive juices are so active. I have made such use for temporary feeding in a stomach carcinomatosis when operation was impossible. Finally, whenever such a biliary fistula is no longer needed the simple removal of the tube insures a prompt closure.

In conclusion, I desire to urge upon the Fellows of the Western Surgical Society to investigate for themselves, when the opportunity offers, some of the assertions that have here been made, and not to dismiss the subject with the false impression that the writer of the paper has been carried by his enthusiasm beyond the bounds of sane surgery in a procedure which he fully recognizes has very narrow limitations.

150 Michigan Avenue.

THE NAUHEIM TREATMENT OF HEART DISEASE; ESSENTIALS, INDICATIONS, AND CONTRAINDICATIONS.

By Hubert Schoonmaker, M. D.,
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The essentials of the Nauheim treatment of heart disease, as given in our home sanatoria and hospitals to-day, are, first, a course of tub baths in which the temperature, duration, and strength are definitely graded; second, passive or active exercises; third, massage; fourth, rest; fifth, diet.

Let us first consider the most important of these factors, *rest.* The heart that should be most benefited by the Nauheim treatment is the heart that needs rest. Continued rest in bed often saves from ten to fifteen heart systoles a minute, six hundred to nine hundred an hour; an expenditure of force which can ill be afforded by a decompensated heart. Whether rest should be absolute or partial depends largely upon the degree of decompensation and the amount of peripheral resistance that is organic. By organic peripheral resistance, I mean any fixed condition that obstructs the blood current in its normal flow, the most common being contracted kidneys and stiff arteries. The restoration to compensation of a heart dilated from overstrain in one with

normal kidneys and resilient arteries is quite a different problem than it is in one with a fixed resistance in the kidneys, or arteries, or both. In any case in which the heart needs rest, we shall all agree that continued rest in bed is indicated, but it is surprising how often we fail just here. This is especially true of chronic kidney patients with secondary cardiac dilatation. They come to us with stasis in the lower limbs and a history of shortness of breath, especially at night, and loss of sleep. Rest in bed is surely indicated, but it is useless to tell a patient to stay in bed when he is suffering from air hunger and knows by experience that he is most comfortable in the sitting position. We should first seek to remove some of the resistance in the tract of the blood current and thus relieve to some appreciable degree the embarrassment in the chest. Digitalis or its derivatives in full doses, if the patient is not already taking them, may do this by stimulating the heart and kidneys to greater action, but it is like making a tired horse draw a load up a hill by using the whip. The better way is to put the patient on a starvation diet for two or three days; for example, allow six ounces of skimmed milk every three hours, clear out the bowels freely, and give enough of sedatives in small and repeated doses to produce drowsiness. As soon as the edema begins to subside and respiration becomes easier, digitalis in full doses should be given, ten to fifteen minims of a reliable tincture every four hours. When stasis is relieved, the drug should be discontinued or the dose reduced to about one half. I comment upon the use of digitalis in this connection to emphasize the fact that in acute conditions it is seldom given in large enough doses.

There is another way of resting the heart besides relaxation of the body. It might be called the augmentation of a vicarious force. I refer to the induction of increased activity on the part of the vascular system. I am afraid we often forget the very large part that the blood vessels play, independently of the heart, in maintaining the circulation. It is upon this principle that the Nauheim treatment is based. The bath acts in particular upon the cutaneous circulation, and massage and exercise improve the deeper or muscle circulation. An improved cutaneous and muscle circulation means lessened peripheral resistance. Lessened peripheral resistance makes easier the restoration of myocardial tone. If these forces are made active while the heart is at the same time resting, because of bodily relaxation, surely ideal results should be obtained.

The essential of the *bath* in the Nauheim treatment is a graduated series of tub baths covering a period of four to six weeks, in which the temperature beginning at 96° or 94° F. is reduced two degrees each series (every third or fourth bath); the time beginning at six or eight minutes, is increased two minutes each series and the saline and gas ingredients are gradually increased in strength. The gas, carbon dioxide, together with the salts, sodium chloride and calcium chloride, sufficiently stimulate the cutaneous nerves and the skin itself to cause a pronounced redness of the skin, and this in a bath lukewarm to cool. This improvement to the cutaneous circulation, without unpleasant or harmful reaction, is what is sought. We know of no other method as effective.

Passive or resistance exercises improve the tone of the vessels within the voluntary muscles, without increasing, to any damaging degree, the heart's frequency. Active exercise is equally effective in cases in which myocardial reserve warrants its employment, but this should seldom be prescribed until compensation is restored. It is the essential part of the "after treatment." *Massage* not only improves muscle and skin circulation, but retards muscle waste while the patient is inactive.

The remaining essential in the Nauheim treatment, *diet*, deserves more consideration than we are wont to give it. A weak heart, especially one responsible for venous stasis, presupposes a weak stomach. Indigestion with accompanying flatulence, distention of stomach and bowels, causes pressure upon the diaphragm, thus embarrassing heart and respiration. In prescribing a diet, the likes and dislikes of the individual should be considered. Diet lists, except for the basic principles which they suggest, are a delusion and a snare. Food that requires mastication is to be preferred to soft or liquid foods, because it is less liable to produce flatulence. The diet should be fairly well balanced as to proteids, carbohydrates and fats. The stomach should never be filled. Light meals, sometimes very light, for instance, a cup of milk and a piece of zwieback, from five to seven times in twenty-four hours, according to amount given, serve the best purpose. There are times, especially when there is pronounced edema, when it is well to limit the amount of food for two or three days to a pint of milk in twenty-four hours. It is not safe, however, to continue the starvation diet many days. Theoretically, a weak heart needs more nourishment than a strong one. Thus, to give enough nourishment and at the same time avoid all digestive disturbance, requires the combined judgment of a physician whose common sense has not been submerged by dietetic hobbies and of an intelligent housewife.

I said at the outset that the heart most benefited by the Nauheim treatment is the heart that needs rest. As a working principle, this is true; but it does not apply to all cases. In considering indications and contraindications, we shall have in mind the bath only, because the other essentials, passive or active exercise, massage, rest, and diet, are indicated in all cases.

The Nauheim bath to be effective must cause capillary dilatation without constitutional reaction that tends to physical depression. Slight depression can be safely ignored so long as the myocardial tone is maintained. Effective capillary dilatation can be had only in one with arteries and capillaries that possess sufficient resiliency to permit of their being flooded. Therefore, the bath is contraindicated in advanced general arteriosclerosis. These patients do much better under a more active treatment if the myocardial reserve will warrant it. For example, incandescent sweating baths, autocondensation, massage, and exercise.

Capillary dilatation cannot be effectively secured

if the *vis a tergo*—the heart force—is badly crippled. Therefore, the bath is contraindicated in cases of acute dilatation or of lost compensation until compensation is partly restored.

We believe that there is only one valvular lesion *per se*, in which the bath is contraindicated, and that chiefly in cases of congenital origin, or in those in which the lesion becomes a factor in the heart's development; I refer to mitral stenosis. Obstruction at the mitral orifice prevents a free flow of blood from the left auricle into the ventricle; the left ventricle, receiving less blood than the normal, fails in its full development, on the principle that a muscle grows only as work is required of it, or having been normal before the accident of stenosis, the ventricle becomes smaller and the muscle weaker for the same reason. These are the cases in children or in those who have survived childhood, concerning whom Osler says after having spoken of "a large group of cases in adults in which the lesion is well borne for an indefinite number of years, in children it is different, particularly in the cases which follow rheumatic fever. There is very often failure of development. They remain feeble, the breath is short, they are anemic, and there is liability to fresh attacks of endocarditis. Many patients present for years a slight cyanosis, more particularly of the cheeks and the ears, and are liable to recurring attacks of bronchitis in the winter."

The small and weak left ventricle of mitral stenosis bears much the same relation to the systemic circulation dynamically as does the hypertrophied left heart with dilatation. But they behave very differently under treatment. If the capillaries in a case of hypertrophied heart with dilatation be flooded by means of the treatment under consideration, assuming a sufficient degree of tonicity, the myocardium should contract sufficiently permanently to lessen the size of the ventricle. On the other hand, in mitral stenosis with small left ventricle, there can be but little capillary response to the bath, because the heart, by virtue of a small left ventricle, cannot supply the necessary blood; and even if a fair degree of capillary dilatation should be induced, there is danger of shock through inability on the part of the auricle, because of the obstruction, immediately to supply the ventricle with sufficient blood to compensate for that required by the distended arteries and capillaries. Thus, with increased vascular calibre in front, and obstruction to the main current behind, the left ventricle is momentarily embarrassed, and shock more or less serious ensues.

We have prescribed the Nauheim bath in several cases of mitral stenosis of the type described, and in no case were the results good. On the other hand, cases were benefited in which the left ventricle was sufficient to maintain a fair cutaneous circulation. We are convinced, therefore, that special consideration should be given to this class of cases before prescribing the Nauheim bath.

In what has gone before we have anticipated the indications for this treatment in heart diseases. To summarize, it is indicated in any valvular disease except mitral stenosis, providing the functions of tonicity and contractility of both myocardium and arteries are tangible. That is, in cases in which myocardial compensation is not wholly lost, and arteries and capillaries are not stiffened or degenerated beyond the power to respond to external stimulation. It is indicated in mitral stenosis if the heart at its best, under the embarrassment of the stenosis, is able to maintain a fair cutaneous and pulmonary circulation. It is indicated in myocarditis without valvular lesion, under the same conditions as in valvular disease. The functions of tonicity and contractility must be tangible forces. It is indicated in angina pectoris if the essentials already stated are present. In a word, it is indicated in any case in which the cutaneous vessels are amenable to at least a fair degree of dilatation and at the same time the heart possesses sufficient reserve to adjust itself to such change in the blood current.

TRAUMATIC DISLOCATION OF BOTH HIPS.

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The literature of the past hundred years reveals reports of thirty-nine cases of double hip dislocation, caused by violence in apparently healthy human subjects. Of these, however, five are so imperfectly reported, or merely mentioned obscurely, that they are not included in the following remarks, although given in the appended table. This leaves thirty-four cases, which with my own make a total of thirty-five.

The predisposing causes are such as would naturally be expected. Men, from the nature of their work, are far more liable; the only case among women, given in Six's table, was not found in the literature. The age varies from eight to sixty-five years, with the great majority between the ages of eighteen and forty. Occupation is an essential factor; railroad employees, men who work at a distance from the ground, and in general those who work among heavy moving objects, are more prone. Nationality appears to have no effect.

The exciting cause is usually a heavy blow upon the lower lumbar or sacral vertebræ. The injury may also be caused by a fall from a height with the legs spread far apart. In this instance a double obturator hernia usually results, of which there are five cases reported. A blow upon the back is so seldom exactly in the centre that a twisting motion results, one hip dislocating backward into the ischiatic or iliac positions, and the other forward or downward into the pubic or obturator varieties. There are, however, seven cases of double iliac dislocations reported, in which the blow must have been nearly over the median line. My own case, the first of double ischiatic dislocation, was certainly so caused.

The symptoms vary with the variety or varieties involved, and are merely those of two hip dislocations in the same individual. The picture presented

in the backward dislocations is almost unmistakable. The knees are crossed and more or less rigidly held so. The deformity is a double flexion, inward rotation, and adduction of the thighs. An obturator or pubic dislocation gives of course a very different picture, abduction taking the place of adduction.

For differential diagnosis, former injuries or disease of the hip, fractures of both femurs, of the pelvis, and paralysis of both legs due to fracture of the spine with compression of the cord, should be considered.

Treatment in cases uncomplicated by other injuries, is of course reduction as soon as possible, with immobilization for two weeks. After three weeks, the patient is allowed up out of bed, and in six weeks should usually be able to work.

Of the methods of reduction, that published by Bigelow has been most used for the backward dislocations. If, however, the principle involved is well understood, it seems to me that little difficulty should be experienced in any of the usual varieties. The deformity is slightly increased, traction applied, and the head of the femur brought into the rent in the joint capsule. A reduction is then frequently accomplished before the surgeon has time for more manipulations. The three dislocations of the hip which I have reduced in the past month have been most easily done on the first trial. Failures appear to be due to attemps without an anesthetic, and with too little traction. The hip affected can be safely lifted from the bed by traction at the knee, but the further manipulations should be cautious. If the surgeon places one knee on the bed, and supports the popliteal space of the affected leg in the bend of his own elbow, an easy manipulation is assured.

Prognosis, in uncomplicated cases, is good both as regards life and function. Of the thirty-five cases here recorded, twenty-six, or seventy-four per cent., were reduced on both sides with good function resulting. In two cases the result is not stated, in three cases reduction failed, and in one case one side only was reduced. The three remaining cases terminated fatally, one from an unstated cause; one from shock after both hips had been reduced; the third after a resection of an old previously unreduced double dislocation. It must be remembered that other injuries frequently complicate so severe an injury as the one we are discussing, and the complicating conditions may in large measure account for the mortality of eight per cent. In the unreduced cases, the patient may be, and has been, able to walk and work sufficiently to earn a living, but this result is not always to be expected, nor does nonreduction constitute a legitimate treatment.

Case. My own case of double dislocation occurred in an Italian laborer, twenty-nine years old, married, with a negative family history, and so far as injury or disease of the hips are concerned, a negative personal history. He was working as usual in excellent health when the accident took place. He was bending over, his hands almost touching the ground, when a weight estimated at about 1,000 pounds fell from a height of thirty feet striking him squarely upon the back on a line with the crests of the iliac bones. Besides minor injuries, he presented a typical double hip dislocation. Both thighs were flexed, adducted, and rotated inward, and any attempt to reduce this deformity met with resistance (even under ether). The heads of the femurs were not felt upon the dorsum ilii, but were buried deeply in the region of the ischiatic notches. Dr. Ellsworth Eliot, Jr., of New York city, saw the case with me and concurred in the diagnosis. The man passed bloody urine, but no crepitus or abnormal condition of the pelvic bones could be made out by combined rectal and external examination. The bleeding probably came from the kidney, due to contusion of the renal substance. Shock was not alarming at any time. The dislocations were reduced easily, and the convalescence was uneventful. About three days after discharge, the man noticed a swelling in the right groin, which proved to be an inguinal hernia. In every other respect, the man was as well five weeks after the injury as before.

The following tables give all the cases I have been able to find up to the present date, and the journals in which the cases were reported

No.	Year.	Author.	Sex.	Age.	Right.	Left.	Treatment.
1	1830	Sinogowitz	M.	..	Obt.	Obt.	Reduced
2	1845	Audreini	M.	30	Iliac	Inf. Pub.	Reduced
3	1846	Jung	M.	30	Isch.	Iliac	?
4	1851	Bruns, Kneer	M.	50	Iliac	Iliac	Failed
5	....	Kirn	F.	..	Obt.	Iliac	Operation, successful
6	1852	Wood	M.	46	Iliac	Iliac	Not reduced
7	1854	Barker	M.	19	Obt.	Obt.	Reduced
8	1854	Prichard	M.	19	Iliac	Iliac	Reduced
9	1855	Hodgen	M.	Boy	Isch.	Obt.	Reduced
10	1857	Warren	M.	..	Obt.	Iliac	Reduced
11	1857	Bourienne	M.	35	Isch.	Iliac	Reduced
12	1860	?	M.	27	Iliac	Iliac	Died (?)
13	1867	Boisnot	M.	40	Pubic	Iliac	Reduced
14	1868	Fischer	M.	37	Iliac	Isch.	Failed
15	1869	Steiner	M.	29	Obt.	Obt.	Reduced
16	1872	Pollard	M.	53	Obt.	Iliac	Reduced
17	1874	Kunschert	M.	?	?	?	Reduced
18	1876	Crawford	M.	30	Iliac	Isch.	Reduced
19	1878	Packard	M.	40	Obt.	Iliac	Reduced
20	1879	Allis	M.	42	Iliac	Obt.	One side reduced
21	1879	Schinzinger	M.	40	Obt.	Pubic	Reduced
22	1880	Roberts	M.	65	Iliac	Obt.	Reduced
23	1881	Niehans	M.	25	Iliac	Iliac	Resection, died
24	1883	James	M.	44	Obt.	Iliac	Reduced
25	1883	Liebl	M.	?	Iliac	Iliac	Reduced
26	1883	Ebner	M.	18	Obt.	Obt.	Reduced
27	....	Kronlein	?	?	Pelvic	Pelvic	?
28	....	Gibson	?	?	?	?	?
29	....	Cooper	?	?	?	?	?
30	1887	Pfeiffer	M.	8	Isch.	Iliac	Reduced
31	1891	Six	M.	27	Isch.	Iliac	Reduced, died, shock
32	1896	Krifend	?	?	Iliac	Obt.	Not reduced
33	1898	Mauclaire	?	?	Iliac	Iliac	? (With fractures)
34	1899	Hartwig	?	?	Iliac	Iliac	Reduced
35	1904	Lewis	M.	18	Iliac	Iliac	Reduced
36	1904	Wohlberg	M.	?	Perineal	Perineal	Reduced
37	1905	Tschmarke	M.	40	Iliac	Obt.	Reduced
38	1908	Scurati	M.	25	Obt.	Obt.	Reduced
39	1908	Hoffman	M.	?	Isch.	Iliac	Reduced
40	1911	Chace	M.	29	Isch.	Isch.	Reduced

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ARNETH'S NUCLEOANALYTICAL METHOD AS APPLIED TO THE EOSINOPHILES.*

By J. F. Hultgen, M. D.,
Chicago.

The adult eosinophilic leucocyte is usually a little larger than its congener the neutrophile. Its cell wall is invisible or absent; the nucleus less large than that of the neutrophile and less centrally located. The granules are large, very distinct, roundish, quite oxyphilic, and very characteristic. They were first described by Wharton Jones. They undoubtedly contain hemoglobin, for in anemic conditions they share in the general pallor of the hematocytes. Upon the systemic invasion of the body by substances foreign to the tissues, especially proteins or albumoses, the eosinophiles react by rapid or instantaneous disintegration of their granules, which are extremely sensitive to chemotactic substances antigens, etc. Their behavior in infections and intoxications is such that their great importance in clinical medicine must appear as self evident.

The sum total of leucocytic reaction toward any noxum whatever constitutes the biological basis of immunity. As trustworthy evidence of hematopoietic reactions the leucocyte picture of a given case demonstrates better the replenishing of the white blood cells than their utilization or destruction, hence its value as an index of bone marrow activity. The practical use of hematological findings in the diagnosis and prognosis of morbid conditions was first recommended by J. Arneth in 1904, 1905. With all its imperfections, his work marks the beginning of a new era in medicine. To combine hematological findings with clinical data in the interpretation of infections and intoxications must henceforth be considered as essential in the practice as well as in the science of medicine. It is, therefore, not Arneth's idea that I wish to subject to scrutiny, but only the application of his views.

About a year ago, the author of the nucleoanalytic method published a report in which he asserted that the eosinophilic leucocytes follow the same cycle of development as the neutrophiles, in other words, that they progressively change from nuclear monomorphism to polymorphism. He took it for granted that a single nucleus was a sign of youth, and a multilobed nucleus was a proof of adult or more advanced age. In an article covering only fifty blood counts he undertook to establish what he called the normal eosinophile blood picture: herein, as a previous publications, he paid undue attention to the morphology of the eosinophiles, and left the small and large uninuclear cells and the transitionals out of consideration. Instead of adhering to his original idea, J. Arneth devoted himself to technicalities. His nucleoanalysis brought us, side by side, in formation and confusion. Let us see how we may avoid the latter.

The question of leucocytic resistance resolves itself into the question of determination of the age of the neutrophiles, respectively, eosinophiles. It is this relation between the morphology of the nucleus

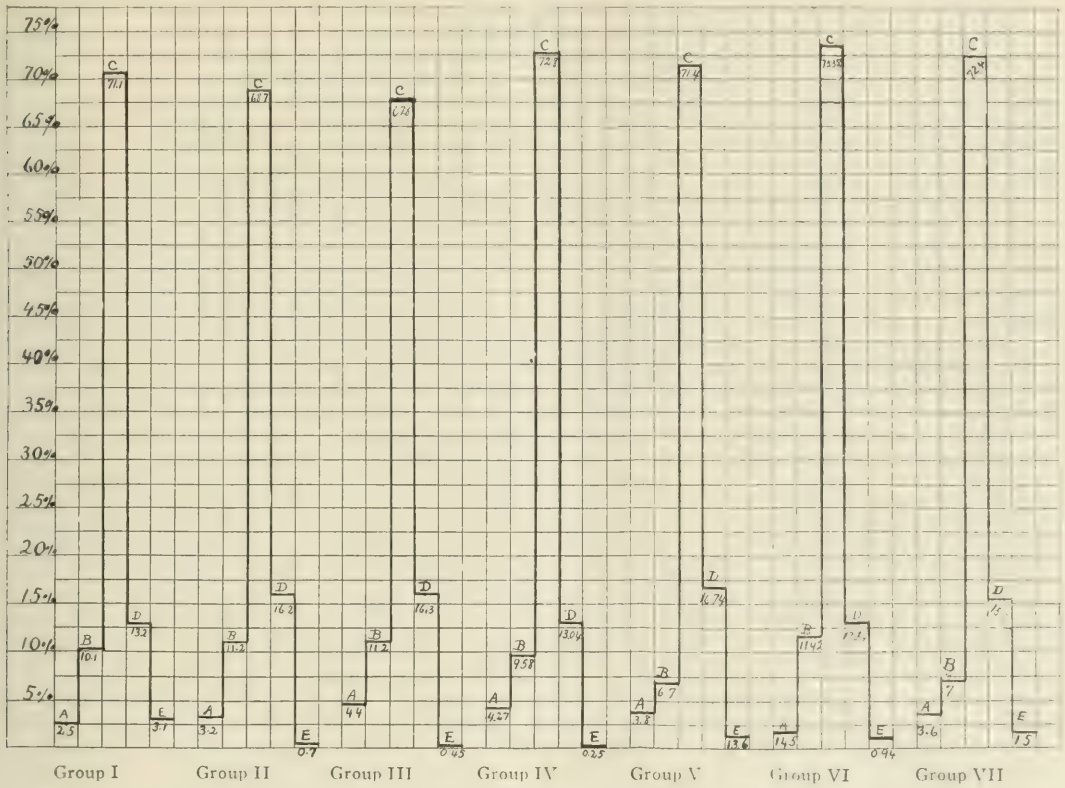


CHART 1.—Analysis of 570 complete leucocyte counts arranged into seven groups. Note the uniformity of these various columns, a proof of the constancy of eosinophiles percentages under various conditions.

*Read before the Chicago Pathological Society, October 9, 1911.

and the age of the cell that I am primarily concerned with in this paper. If young eosinophiles are not found, and if progressive lobulation is not observable, then the nucleoanalysis of these cells is not only confusing, but positively wrong. For the last six years I had become impressed with the great frequency of a distinct, symmetrical, bilobed form of the eosinophile cell nucleus. In fact, Weidenreich states explicitly that the double, pearshaped nucleus is the predominant form among the eosinophiles. Upon entering these investigations, I arranged these cells into five classes, just as Arneth did for the neutrophiles. (To establish twenty to twenty-five subdivisions around these five primary classes seemed to me a useless refinement.) Thus: order to avoid confusion, it was decided to drop the first fifty-six analyses from this tabulation, as well as fourteen leuchemic blood counts. The initial line of inquiry consists in subdividing these 570 counts into seven classes: those showing up to, and, including 0.5 per cent. of eosinophiles; those showing up to, and including one per cent.; those showing up to and including two per cent.; those up to, and including three per cent., four per cent., and five per cent., and over five per cent. of oxyphilic cells. I expected that, if youth and monomorphism of eosinophiles go hand in hand, as Arneth avers, those blood counts taken from patients during convalescence from some infection or intoxication (see, especially, classes one and two)

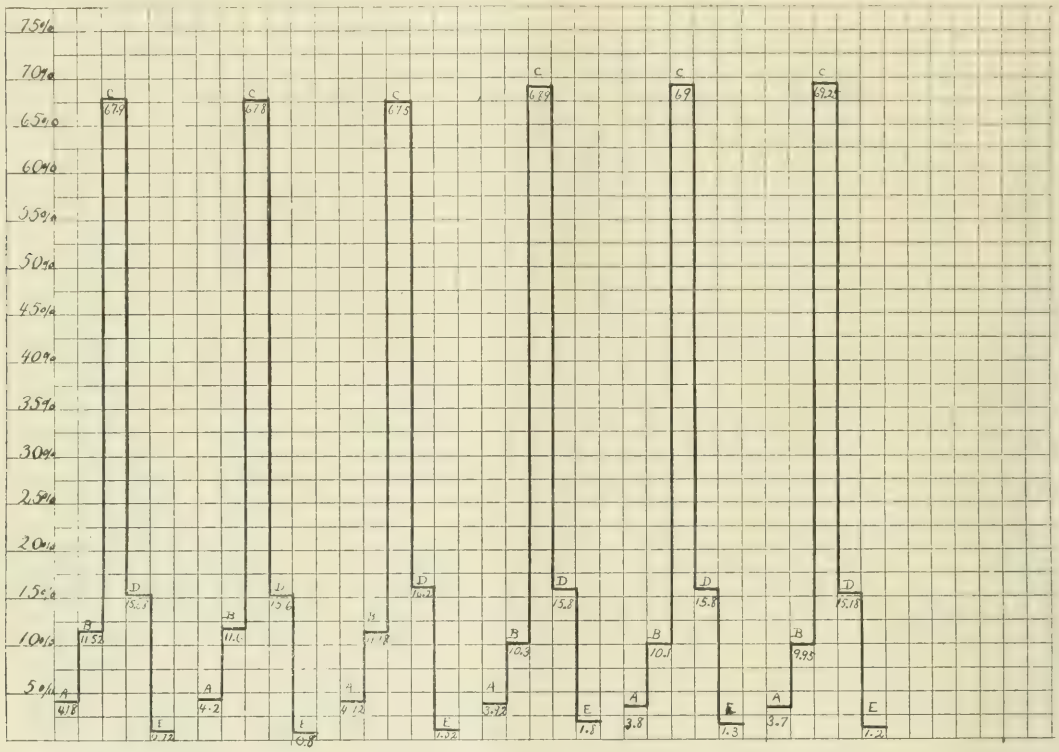


CHART 2.—Eosinophiles analyzed in 570 double leucocyte counts according to Arneth's method, just as in Chart 1 and corresponding tabulation. Successive estimations also show a remarkable similarity between the percentages of oxyphilic cells on both charts.

Class A comprises all eosinophiles, with a single, round, or roundish nucleus.

Class B includes all eosinophiles, with an oblong, elongated, or reniform, single nucleus.

Class C is made up of eosinophiles, showing a distinctly bilobed, saddlebag shaped, or dimorphous nucleus.

Class D is composed of cells, with a trilobed or trisegmented, polymorphous nucleus.

Class E represents all eosinophiles, possessing a nucleus with four lobes or more. The latter rarely occur.

From January 15, 1911, to October 9, 1911, 776 complete leucocyte analyses were made by myself, assisted by Dr. P. Z. McDonald and Miss F. E. Thompson. The clinical material was drawn mainly from my practice. In 150 out of 776 blood counts no eosinophiles were present; in sixteen they were not subdivided, leaving 600 to be studied. In should show a great preponderance of young eosinophiles. For the same reason I expected that in normal, quasinormal, or irrelevant conditions the blood should show at least a larger number of mature or adult, or polymorphous eosinophiles. This latter was particularly looked for in classes four and five. Failure to show any material difference, or any differences at all between counts, with hypoeosinophilia and hypereosinophilia, would mean, first, that there is no relation between nuclear monomorphism and the age of an eosinophile cell, and that Arneth's nucleoanalytical blood picture was not applicable to the eosinophiles. It would mean, in the second place, that criteria of the youth or age of a cell different from those commonly accepted must be sought for. Third, it would mean that a shifting to right or left in the eosinophile blood picture could not reasonably be expected to occur. Fourth, it would show that the quantitative

variations of these cells are sufficiently accurate in clinical hematology.

	A.	B.	C.	D.	E.	Number of counts.	Number of eosinophile cells counted.
1. Up to and including 0.5 per cent....	2.5[1]	10.1	71.1	13.2	3.1	122	2,4[illegible]
	6	23	159	30	7		
2. Up to and including 1 per cent.....	3.2	11.2	68.7	16.2	0.7	143	733
	27	86	493	121	5		
3. Up to and including 2 per cent.....	4.4	11.2	67.8	16.3	0.45	142	1,295
	62	146	493	201	16		
4. Up to and including 3 per cent.....	4.27	9.58	72.8	13.04	0.25	67	1,233
	53	118	898	161	3		
5. Up to and including 4 per cent.....	3.8	6.7	71.4	16.74	1.30	23	518
	20	33	370	88	7		
6. Up to and including 5 per cent.....	1.45	11.42	73.35	12.84	0.94	17	513
	7	59	376	66	5		
7. Including over 5 per cent.	3.6	7	72.4	15.5	1.5	26	1,813
	65	127	1,314	281	26		
Total	3.8	9.53	70.75	14.8	1.12	540	6,328
	240	592	4,486	947	69		

[1]The first figure gives the percentage, the second the numbers.

A study of the foregoing tabulation and a glance at the graphic chart No. 1 (p. 173) shows the most common form of eosinophile leucocyte to be that containing a distinctly bilobed, double pearshaped, or saddlebag nucleus; represented by class C. This class predominated so uniformly and so constantly under all manners of morbid, normal, or nearly normal conditions that we are justified in designating this form as the morphologically normal nucleus of the eosinophiles. From the foregoing studies it is evident that not only there is no relation at all between the monomorphism of the eosinophile and its age, but that the monomorphic nucleus is a sign of degeneration, not of development, as Arneth assumes. Furthermore, my observations throw some doubts upon Ehrlich's dualistic theory of leucocytogenesis, presupposing the existence of a prototypic eosinophilic myelocytic, the product of the bone marrow. Personally, and working mainly with hemotoxylon and eosin, I have never seen an eosinophilic myelocyte, except in leuchemia. To reason by analogy, one would expect the eosinophiles to develop with more or less orderly sequence from the single nucleus to the polymorphonuclear form, like their comrades the neutrophiles. That this does not occur is demonstrated by the following tabulation:

(To guard against personal errors in these compilations, it was thought best to estimate from time to time the percentage of the classes A-E.) (See Chart 2, p. 174.)

Percentages of eosinophiles varieties as shown by successive estimations.

Date.	A.	B.	C.	D.	E.	Total No. of counts made.	Total No. of eosinophiles counted.
June 25, 1911....	1.18[1]	11.52	67.9	15.68	0.72	300	3,400
	142	142	2,309	507	24		
August 20, 1911..	4.2	11.6	67.8	15.6	0.8	381	3,558
	149	413	3,019	553	30		
August 30, 1911..	4.12	11.18	67.5	16.2	1.02	457	4,47[illegible]
	180	500	3,019	728	45		
September 14, 1911	3.92	10.30	68.9	15.8	1.8	512	5,962
	216	588	3,901	896	61		
September 30, 1911	3.8	10.1	69	15.8	1.3	578	6,158
	235	625	4,250	977	81		
October 9, 1911..	3.7	9.95	69.25	15.18	1.2	616	6,903
	259	688	4,783	1,085	88		

[1]Percentages of eosinophiles varieties as elaborated and compiled by J. Arneth.

Class.	A.	B.	C.	D.	E.	Number of counts.	Number of eosinophile cells counted.
Per cent.	5.5	34.5	[illegible]	10.	2.5		864
In numbers	35	204	4.	99	5		

The last estimations, made without any reference to hypoeosinophilia or hypereosinophilia, again prove the constant uniformity and regularity with which the various classes of eosinophiles occur. The first tabulation differs very little indeed from the last one. Class C is again shown to be the most prevalent form of eosinophiles, no matter whether there is hypercytosis or hypocytosis, isocytosis, or anisocytosis. A young eosinophile has as a rule a bilobed, or saddlebag shaped nucleus, sometimes a trilobed one, but never is a uninuclear, nor an excessively polymorphous cell. If there is any relation normally between the morphology of eosinophiles and their youth, it is to be found in class C. Yet this would in no way justify me to assume a developmental change to either polymorphism or monomorphism. Arneth's nucleoanalytic method carries with it its own refutation. The fixity with which the percentage of these five classes is maintained throughout my tabulations imposes upon me the conclusions that the morphology of eosinophiles cannot be utilized for the purposes claimed by Arneth, that there is no progressive change, in the eosinophile nucleus, from monomorphy to polymorphy, and that, ordinarily, monomorphous eosinophiles exist only as degenerative forms.

Comparing my tabulations obtained from the qualitative subdivisions of eosinophiles and those obtained from the total or quantitative estimations, it will be found that they resemble each other very closely indeed. (See graphic charts 1 and 2.) When they are again compared with Arneth's individual, and compiled figures, the similarity is still more evident. His classes A, D, and E in general agree with my classes A, D, and E. His classes B and C show plainly that he arranged about one third of class C under class B. The former contain his 2S (or two bands), and the latter his 2K (two nuclei) variety. They correspond exactly with my own double pearshaped, saddlebag shaped, or bilobed form.

	A.	B.	C.	D.	E.
Total qualitative subdivisions (Hultgen.)	3.8	9.53	70.75	14.8	1.12
Total quantitative subdivisions. (Hultgen.)	4.03	10.04	68.65	15.0	1.02
Average of both estimations..	3.92	9.96	69.7	15.35	1.07
Arneth's individual percentages	5	35	41	17	1.5
Arneth's compiled percentages.	5.5	34.5	1[illegible]	10.5	2

It will be seen that my method of investigation is essentially the same as Arneth's, and that the figures—corresponding fairly closely with his—also prove the correctness of his *statistical* conclusions. Arneth's blood picture, when applied to the eosinophiles, is then a fact, interesting scientifically, but of no use in practical hematology. His is the merit to have found this picture, although he misconstrued its significance.

The nucleoanalysis as applied to the *neutrophiles* may be of great value in the diagnosis and prognosis of morbid conditions, but it cannot be a means of information in the way Arneth uses it. Very likely he included in his classes 1 and 2 all the transitional leucocytes, thus partaking of both uni-

nuclears and multinuclears, and approaching the consideration of the totality of white blood cells, such as I have been advocating for the last five years. The nucleoanalysis of Arneth lacks the basis which he alleged for it. The neutrophile blood picture, moreover, does not express enough of the entire blood life as, for instance, in isohypercytosis. However, it has been useful, especially in directing attention to a neglected field of biological and morphological hematology.

As a further test of accuracy in my statistics, I have determined how many times the various classes of eosinophiles were found to be absent in all counts containing any of these leucocytes. This, for reasoning *per contra:*

	A.	B.	C.	D.	E.
Absent in 572 counts, numerically	382 times	251 times	19 times	237 times	406 times
Absent in 572 counts, by per cent.....	28.15	18.45	1.	17.80	33.9
Percentage averages, from all estimations	3.02	4.00	69.7	15.35	1.07

This table shows that eosinophiles comprised in class E are absent oftenest, and that when they occur they are present only in scant numbers. The same holds true approximately of class A. Classes B and D resemble class C, especially D. In the symmetrical bilobed dimorphous class C eosinophile was absent only nineteen times in 572 blood counts. This last fact I consider as of great importance, scientifically and practically.

The morphology of the eosinophilic leucocytosis, as shown conclusively by the foregoing tables, pivots upon class C, often touches B and D, and sometimes A and B.

CONCLUSIONS.

1. The eosinophiles show no progressive development from monomorphism to polymorphism, except in leuchæmic conditions.

2. The five classes of eosinophile nuclei occur constantly with remarkable uniformity under the most varied circumstances.

3. We may accept class C, containing a distinctly bilobed, or bipartite, nucleus as the normal eosinophile, as the one occurring constantly and with regular predominance in all persons, well or unwell.

4. Arneth's neutrophile picture is applicable to the eosinophiles, but it merely indicates a constant percentage composition of the eosinophile contingent of the leucocytes.

5. Arneth's eosinophile blood picture exists, but it is only a statistical fact and not of any practical biological significance.

6. Ehrlich's theory that the adult eosinophile is derived from a prototypic eosinophilic myelocyte is not supported by my investigations. Commonly accepted criteria as to the youth of any given leucocyte must be amended.

7. The morphological varieties of eosinophiles depend upon primordial, genetic causes. They are not a product of development.

8. Since the morphology of the nucleus bears little or no relation to the origin, size, age, or function of these eosinophilic leucocytes, the nucleoanalytical method of Arneth lacks a biological foundation, and is, therefore, not applicable to these cells.

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THREE CASES OF HARE LIP AND CLEFT PALATE IN ONE FAMILY.

By Alfred T. Hawes, M. D.,
Lynn, Mass.

In the study of the development of the embryo and fetus, it soon becomes apparent that there is a very small amount of actual knowledge concerning the pathology of development. Speculation as to the cause of the following deformities may prove interesting.

Case. On May 14, 1911, a man called to engage me for the confinement of his wife. He said that the calculated date of delivery was near at hand and that she had been having intermittent pains that afternoon.

The family history, taken in the light of subsequent events was as follows: The father was one of four brothers, all of whom were healthy, except that one brother had a hare lip. The father had always been well and showed no evidence or history of syphilis. The mother was one of five children who were all healthy. She was examined carefully for signs of syphilis but none were present. She had never had any vaginal discharge or any uterine disorder.

The couple had been married for twelve years. One year after marriage, a boy was born who was normal in every way and is still living. Six years later a girl was born, having a hare lip and cleft palate. The condition prevented nursing and when the baby was two weeks old, an operation was performed. As the operation was not successful, another was performed, but the baby died soon after. Two years later a baby girl arrived which was healthy and normal in every way and a year after that, a normal male baby was born.

About midnight I was sent for, the husband saying that for the past hour or two the pains had been regular and had become stronger. Upon arriving at the house, a baby was found between the mother's thighs. Examination showed that it had a hare lip and cleft palate. Pulsation in the cord had ceased and it was tied and the baby removed.

Palpation of the abdomen gave evidence of another baby and vaginal examination showed a breech well engaged In about twenty minutes the second baby was delivered which cried lustily at once. This child also, had a hare lip and cleft palate.

After a wait of fifteen minutes, pressure was made on the fundus uteri to express the placenta. In a short time a placenta appeared at the vulva and was delivered. Examination showed another placenta in the vagina and this one was expressed. Each placenta and membranes was complete and no pathological condition of the placental tissue could be discovered.

The mother's convalescence was normal and the breasts secreted a normal quantity of milk. The babies were both female and weighed six and five pounds respectively There were no signs of disease in either one. The mother's milk was pumped out and fed to the babies and they did fairly well. An artificial palate was put in and an attempt made to have them nurse from the breast, but this was not successful. Operation at this time was not thought advisable. The babies were comfortable, slept well, and were beginning to gain when, about the fourteenth day, they both died suddenly, within two hours of each other

The causes of certain forms of fetal deformity, such as supernumerary fingers, intrauterine amputations, etc., can be more easily understood. But the causes of nondevelopment of the fetus are more difficult to explain. At about the eighth week of fetal life, the two halves of the hard palate unite. At about the twelfth week, the organs have become differentiated and the structures formed, so that during the remainder of intrauterine life the fetus simply increases in size.

The causes which may be at work during the first twelve weeks, the embryonal period, to produce nondevelopment may be classified in a gen-

eral ways as follows: 1. *Nutritional causes*, such as the general weak condition of the mother; 2, *infectious causes*, such as syphilis, tuberculosis, etc., and, 3, *traumatic causes*, such as blows, injuries, hard work, etc.

But here is a cause which seems to work intermittently. This mother had a child born with hare lip and cleft palate. Subsequently she gives birth to two normal children, and then gives birth to twins, both having the deformity.

There is the history of the deformity in a paternal uncle. Is this merely a coincidence?

These babies were attached to two separate placentæ. The cause could hardly be one that affected the placenta unless it happened to affect both.

The theory of maternal impressions can hardly be held, because after the birth of the first baby with hare lip, the mother worried continually lest the second baby should have the same deformity. A normal baby came forth. After the second healthy baby she dismissed the subject from her mind and during this pregnancy had not worried or given the subject of deformity any thought.

REPORT OF A CASE OF BELLADONNA POISONING IN A CHILD, SEVEN YEARS OF AGE.*

By Robert E. Coughlin, M. D.,
New York.

Because of the rare occurrence of this form of poisoning, as the writer believes, the following case is reported. None of our textbooks go into the particular instances of poisoning by belladonna. Indeed the action of belladonna from a physiological dose standpoint receives very little space, but the action of atropine, which it is said to resemble, is generally put down as being the cause of a long line of symptoms, notably, dryness of throat, dryness of mouth, some disorder of vision, redness of face, dilated pupils, possibly diplopia, rapid heart action, rash of neck and face which may spread all over the body, lightness of head, giddiness and confusion of thought, staggering gait and restlessness. Drowsiness is a characteristic symptom. Sometimes the delirium is wild, but as a rule active talkative wakeful delirium is present, where the patient appears to be living in a world of his own, engrossed by the spectres and visions which throng him, completely oblivious to surrounding realities.

It goes without saying that when we have a drug with such potency we should be very careful in its administration, especially in children, therefore belladonna and other poisonous drugs should not be administered by the drop method for the reason that the dose is too inaccurate and variable in consequence.

The case to be reported will also show the uselessness of belladonna as a rule in nocturnal incontinence as a curative agent, though while the poisoning of the drug is present there seems to be decided improvement.

*Read at a regular meeting of the General Medicine Section, Medical Society of the County of Kings, December 29, 1911.

Case. F. S., aged seven years. Family history. Father died of tuberculosis at the age of twenty-five years. Mother alive and well, though there was a tuberculous taint in her family. Her mother died at the age of fifty-four years from acute pneumonia, which complicated a chronic tuberculous condition. Her father died of tuberculosis at the age of forty-two years.

The child, F. S., is a healthy, robust appearing boy, but has always had the wetting of the bed habit. For this condition the tincture of belladonna was prescribed by a physician, who was a friend of the family, in ten drop doses three times a day. This treatment was continued for about one week's time when patient's mother noticed that he was becoming drowsy. She continued with the medicine, however, till the next morning when the boy arose from his bed much earlier than usual, complaining of a sick stomach. There was no vomiting, however. He said he arose early because some one had called him, although this was not so. Immediately upon entering the kitchen he proceeded to remove all bottles from the shelf. Next he said, "O look at the mice." After this he said he saw rabbits, goats, and baskets of candy eggs. Among all these things was a fountain pen which he repeatedly tried to pick up from the floor. On looking out of the window he saw the fences all decorated with red, white, and blue for the parade which he was positive was to occur on that day, although in reality no parade was to occur. Apparently no one could make him believe otherwise. Next he saw six soldiers climbing up a tree without holding on to the branches. At all this he laughed with the greatest glee. Next he saw stars on the parlor carpet. When his relative came into the room he immediately proceeded to pick up one of the stars for her. He ate his breakfast as usual, but persisted in asserting that the table was filled with crullers, which of course was not so as there were no crullers in the house anywhere on this particular occasion. He also thought he saw a watch surrounded by pieces of fancy paper all over the floor. Next he saw a pool of water over which he jumped and said: "There, I'm over." Later he compelled his mother whom he believed to be his teacher, to take him out to see the parade, which he to all intents and purposes enjoyed for fully an hour's time. His mother becoming tired of standing on the street so long, had to almost drag him away from the curbstone. He demurred, however, to such an extent that she had to go back with him again till he believed the parade was over, after which he willingly returned with her. On the way she was compelled by his entreaties to buy a flag for him. This he carried and waved all the way home, though his flag was the only one to be seen on the streets that day. When they arrived home he immediately began to entertain his friends who were present with an imaginary cigar, which he thought he was able to make appear and disappear at will. During all this time he leaned forward in walking and seemed to be walking on his toes in a stealthy sort of a manner. His pupils were very much dilated and he was apparently looking into space. His face was very red, while in his normal condition he is what might be called a pale child.

The treatment was a good dose of castor oil. Full recovery occurred in twelve hours' time, when he was put to bed, and awoke the next morning perfectly well again, attending school on the following day, as usual.

For two nights previous to the poisoning there was no enuresis, nor did he wet the bed on the following night, but on the second night succeeding the poisoning the incontinence was resumed, and has been continued ever since to a far greater extent than at any time before, presumably making up for lost time.

128 Forty-seventh Street, Brooklyn.

Hemolytic Effect of Anesthesia.—Both ether and chloroform anesthesia have a hemolytic effect, which is followed by a compensatory polycythemia. It is followed also by thirty per cent. increase in the leucocytes, which begins during anesthesia and lasts for about twenty-four hours. Leucocytosis is also induced by saline infusions and purgation (*American Journal of Surgery*).

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXVIII.—What is your course of procedure, when without an assistant, as regards the mother after the completion of labor? (Closed January 15, 1912.)

CXIX.—What drugs, if any, in your experience have you found it advisable to withhold during the menstrual period, and why? (Answers due not later than February 15, 1912.)

CXX.—What are your views on the various substitutes, commercial and other, for mother's milk? (Answers due not later than March 15, 1912.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short, if practicable no one answer to contain more than six hundred words; and our friends are urged to write on one side of the paper only.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to Question CXVII has been awarded to Dr. S. Stalberg, of Philadelphia, whose article appears below.

PRIZE QUESTION CXVII.

BACKACHE IN WOMEN.

By S. STALBERG, M. D.,
Philadelphia.

Backache is not a disease, but a symptom of one or more of a large number of disturbed conditions of the body. Therefore, when a woman complains of backache it is necessary to examine her with thoroughness sufficient to discover the exact cause or causes of this symptom, which may be loosely classified as follows:

1. *Systemic.* This includes syphilis, rheumatism, gout, anemia, neurasthenia, hysteria, and the various infectious diseases, such as typhoid, typhus, smallpox, dengue, relapsing fever, diphtheria, tonsillitis, and influenza.

2. *Organic or visceral,* including the majority of the pelvic and abdominal organs, and some of the thoracic organs, to be mentioned in greater detail later.

3. *Orthopedic or static,* meaning those conditions due to malposition or to a change of relation in anatomical parts; and back pain incurred by an undue effort to maintain body balance; and including subluxation or strain of the sacroiliac joints, flatfoot, etc.

The causes may also be divided into *local* and *general or reflected.* Under local causes would come the diseased conditions of the various structures of the back itself, such as rheumatic or other forms of inflammation of the back muscles and fascia; disease of the vertebral column and its ligaments, such as spondylitis, Pott's disease, coccygodynia, etc.; disease of the spinal cord, spinal roots, or cord membranes. Under *general* or *reflex* causes would fall the backache, caused by pressure upon the lumbar and sacral nerves of a retroverted uterus or an ovarian tumor, and the reflex pain of neurasthenia.

I realize that the foregoing classification may appear too elaborate for a condition so apparently simple as backache, and that in many cases the backache can be easily traced to lumbago, a displaced uterus, or constipation; or, as the laity usually interprets the symptom, to kidney trouble. On the other hand, it would be a mistake to jump to conclusions and ascribe every backache to the conditions just mentioned. In the first place, uterine displacement and other pelvic and abdominal trouble may exist without giving rise to backache at all. Second, the backache may be of a complex nature, being caused by two or more conditions of diversified character. Lastly, each of the causes given in the classification is known to have caused backache; some with less, others with greater frequency; and, in order to treat *every* case intelligently, it behooves us to have a clear perspective of the comprehensive etiology of the condition.

Nature and treatment. When a woman presents herself with backache, inquire carefully as to its nature, whether sharp and lancinating, or dull and boring, or merely a dragging sensation in the back. Is it spontaneous or evoked? Is it affected by exercise? What is its site, sacral, lumbar, or dorsal? What is the point of maximum intensity? The information thus gained will suggest the further objective examination. The back is to be exposed from the neck to the end of the spine, or the buttocks. It will probably be most convenient to take up the subject in the order of the etiological classification. The backache of the acute infectious fevers requires but a word. With the hyperpyrexia, acuteness, and the other distinctive signs of the respective diseases, the backache is recognized as one of their prodromal symptoms, and the treatment is that of the disease. In influenza, for instance, the backache may require salol, Dover's powder, liniment embrocations, and probably a hypodermic injection of one sixth grain of morphine sulphate. As a prodrome in the secondary stage of syphilis, backache is a part of the muscular pains, caused by intoxication produced by the luetic virus, and is recognized by the history and the exclusion of other causes.

Rheumatism. This manifests itself in a myositis or myalgia of the back, called lumbago, easily recognized by the history of previous rheumatic attacks, by the history of exposure, by the acuteness of the attack, the pain being situated across the loins, aggravated by muscular exertion. Treatment is by rest in bed, hot bath, liniments, ironing of the lumbar muscles, deep massage, aspirin or salol, and fixation of the affected part by strapping with adhesive plaster. Muscular rheumatism of the back sometimes takes in a chronic abscess, and is again recognized by the history and exclusion, and the treatment is much the same as given above.

Neurasthenia. In neurasthenia, pain in the back is one of the forms of spinal irritation present in that disease. The backache in this condition is usually worse in the morning and not aggravated by exertion. Of course, neurasthenia may be the sole cause of the backache, and when that is the case, the treatment for the main condition, rest, tonics,

"rest cure," etc., is the treatment for the backache. But so many cases of neurasthenia in women are either complicated, or in part caused by the various pelvic disorders, that the matter of the causation of the attendant backache becomes more complicated. At times the neurasthenic element predominates; at others the pelvic; and the question of treatment must here be considered from a broad standpoint. Neurasthenia is nerve exhaustion, and lumbar pains are common in these run down neurasthenic conditions. Pelvic tumors, adhesions, and uterine retrodisplacement, as well as chronic constipation, pressing on the sacral nerves and causing reflex pains and lowering general vitality, can therefore very easily aggravate or in part cause this nerve exhaustion, which in turn causes the backache. Pains in the back, on the other hand, directly caused by these pelvic masses abnormally pressing on the sacral nerves, can easily be aggravated by an already existing or a superimposed neurasthenia.

In a sense, hysterical bachache is similar to the neurasthenic as far as causation goes. Its character, however, is different, and is recognized by the other signs of the disease, and by its irregular seat, as well as by the fact that it disappears when the patient's attention is withdrawn.

The pelvic conditions that may cause backache are as follows—I say *may*, because, while they cause this symptom in many cases, they may be present without causing pain in the back: Prolapse, retroflexion, retroversion, and the various tumors of the uterus, dysmenorrhea, and endometritis; the various ovarian tumors. The pain of the uterine displacements and tumors is situated in the lumbar or upper sacral region of the back, and is worse on standing and relieved by lying down. There are frequently adhesions, and the pain is ascribed to traction on the uterosacral ligaments. In acute inflammation of the uterine appendages the pain is sharp and lancinating; in the obstructive forms, such as dysmenorrhea, it is paroxysmal. It is not necessary here to enter upon the subject of the differential diagnosis of these pelvic disorders. As to treatment, in some of these conditions operation is the only treatment. In others, such as some cases of retrodisplacement of the uterus, the question of mechanical and medical measures may come up for consideration, either with a view to cure or as palliative and operative preparatory measures. Then the system must be built up, general and sexual hygiene observed, massage and electricity employed. It is also in these cases that the various artificial supports, such as corsets, belts, and pads, are employed.

Floating kidney and renal calculus cause lumbar pains which may be classed as back pains; an inflamed appendix, with its tip pointing posteriorly, and an inflamed gallbladder or the seat of stones; aortic aneurysm, and constipation, all may cause pains in the back. Their differential diagnosis and treatment need not be discussed. A gastric ulcer and carcinoma may also cause back pains.

An occasional cause of backache is a looseness or subluxation of the sacroiliac joints, present in some cases of pregnancy, fatigue, and run down condition of the body. The pain is aggravated by lying upon the back. The treatment is proper support to the pelvis, procured by lying at night on a firm bed with a firm hair pillow under the hollow of the back. In the severe cases, the application of a plaster jacket. In cases of "static" backache, where it is the result of a loss of balance producing strain on the tissues in the lumbosacral region, the wearing of proper corsets often corrects the disorder, and relieves the backache. The main features of these corsets are that they are short behind and long in front. They fit the patient tightly around the pelvis, and are incurved at the waist line at the back and sides, whereby they correct vicious balance by carrying the centre of gravity backward, thus relieving muscular strain and by splinting the lower back. The researches of Reynolds and Lorett (*Journal of the American Medical Association*, March 21, 1910), have illuminated this phase of the subject.

Finally, remember that every case is a law unto itself and that the patient and not the backache is to be treated.

Dr. L. Neuwelt, of New York, observes:

In determining upon a course of procedure when backache is the complaint in a woman, a thorough and painstaking history is absolutely necessary in order to determine the true origin of the pain, and upon this depends the proper treatment to be instituted. Much information may be gained by carefully noting the attitude and gait of the patient. The exact location of the pain and its radiation should be determined, and the patient should be asked to point with the finger (and not with the whole hand) to the point of maximum pain. According to the locality, pain may be designated as 1, lumbothoracic; 2, lumbar; and, 3, sacral or coccygeal.

When the backache is referred to the lumbothoracic area, a subphrenic abscess should be kept in mind, which may follow a pneumonia or empyema, gastric or duodenal ulcer with perforation, a ruptured empyema of the gallbladder, a typhoid perforation or perforated or gangrenous appendix, or an abdominal aneurysm, in which case the bruit and thrill and expansile pulsation will be felt.

In the lumbar area one must take into consideration the muscles and fascia of the back, the erector spinæ, lumbar fascia and quadratus lumborum and psoas muscles, and the various causes of myalgia, e. g., lumbago (German, *Hexenschuss*), which comes on after exposure to dampness or cold and occurs most unexpectedly, lasting from two or three days to two or three weeks; rheumatic myalgia, which gives a history of pain increased by movement and pressure and relieved by warmth and rest, and associated are symptoms of lithemia and red sand in the urine. The therapeutic test of salicylates is of great value. Fatigue (chronic muscle tire) or occupation often is a cause in young women, with increased pain after exertion, mental, physical, or emotional. The muscles are found to be flabby and the vertebral column is not supported. Associated may be found neuroses, neurasthenia, anemia, or local exhaustive disease (uterine, gastrointestinal). A lazy, lounging attitude is assumed or the back is supported. Spinal curvatures may be

present. Weakness and fatigue cause the weight of the body to rest upon the vertebral ligaments instead of the spinal muscles, and there will result round shoulders, the head will be thrust forward, the abdomen protrude, and the gait will be shiftless, waddling, or ambling. Flat foot, pronated foot, and contracted foot and disease or atony of the muscles, and faulty position in standing, walking, or lying (sagging of the bed) may cause backache. A frequently overlooked cause is the too straight dorsal position for several hours on the operating table. Myalgia from sprain gives a history of injury, usually accompanied by traumatic neurosis, and the affected side will be swollen, very tender, and the pain increased by movement.

Another prolific cause of backache, especially if referred to the renal area, is the kidney, as the various types of nephritis, where a urinary examination, chemical and microscopical, will be of great aid. With a history of colic, renal calculi, or uric acid, gravel should be looked for. The existence or possibility of a perinephritic abscess should be investigated. Before leaving this area, both kidneys should be palpated for movability, whether prolapsed or simply movable. The pain in this condition is constant. A pyelitis of hematogenous origin is prone to occur in pregnancy.

Sacral or lumbosacral backache, especially in the mind of the laity, is associated with pelvic disorders. This is not absolutely true, although pelvic disorders may also be present. Here a thorough examination and proper diagnosis is necessary, as well as the knowledge of the history of the case. The physician not infrequently will find pelvic tumors or inflammations, which cause pain by pressing on the sacral nerves; also retrodisplacement of the uterus with chronic constipation. The backache is usually low down, just above or over the sacrum. The colon, sigmoid, and rectum should be examined for fecal impaction and the uterus for fibroids and cancer, malposition (particularly retroflexion) and also diseases of the cervix.

Sacral pain occurs also in disease of the sacroiliac joint as gonorrheal arthritis, showing a characteristic attitude and gait. Here we must distinguish between muscular rheumatism of the sacral region and the lower back and diseases of the sacroiliac joint. The cause may even be affections of nerves, showing tender points and vasomotor phenomena. Diseases of the spine may cause backache, e. g., arthritis deformans, carcinoma, Pott's disease, lumbar abscess, and osteoarthritis and congenital deformities, as well as strains and sprains of the dorsal ligaments, and certain diseases of the spinal cord and meninges as chronic meningitis, tumors, which cause pain, getting worse at night.

Backache may occur in infective fevers and intestinal intoxication, e. g., typhoid, at onset of smallpox, and gonorrheal arthritis.

Certain rectal and anal conditions, as rectal disease, fissura ani, and hemorrhoids, may cause backache.

The latter half of pregnancy may bring on a very severe backache, owing to the pressure of the large and heavy uterus, and finally during active labor pains the rhythmically contracting uterus will give excruciating backache, to be relieved only by the delivery of the fetus.

Dr. William Brady, of Elmira, N. Y., writes:

Women suffer from backache so commonly that, in order to determine and treat the causative factor, one should adopt a systematic course of procedure and follow it consistently in routine practice.

When backache constitutes a prominent feature of the patient's complaint, the writer endeavors to classify the symptom under one of four chief heads: 1. Autotoxic; 2, toxic; 3, static, and, 4, reflex backache.

Autotoxic backache: The factors of this backache are constipation, flatulence and intestinal indigestion, anemia, neurasthenia—conditions demanding appropriate diet, hygiene, and medication unnecessary to detail here.

Toxic backache: This form of backache depends on febrile reactions such as typhoid, grippe, smallpox; or upon certain drugs like salol, turpentine, copaiba, santal oil, phenol, cantharides; or, finally, it may be due to urinary irritants—oxaluria or phosphaturia. The treatment is obvious.

Static backache: This is the most frequent and most amenable kind of backache. The factors are all related to the centre of gravity of the body. There may be a perineal laceration, a uterine displacement, or a visceroptosis—all demanding support, either conservative or operative. There may be a postural abnormity—spinal curvature, ill fitting or incorrectly constructed corsets, high heels, pronated or flat feet—calling for hygienic clothing, with special exercises, or mechanical support in some cases. A marked defect of vision is quite capable of causing backache by throwing the head and entire body out of poise through compensatory efforts—and here the services of an ophthalmologist will be required.

Sacroiliac relaxation is surprisingly frequent in women of thirty to thirty-five years of age, and the most gratifying results follow pelvic strapping, plaster of Paris girdle, or, in bad cases, reduction under anesthesia (see Goldthwait's epochal article, Strain of the Pelvic Joints, *Journal of the American Medical Association,* August 31, 1907). The condition may be of sudden or gradual onset, and is too frequently mistaken for "lumbago," "sciatica," etc.

Reflex backache: Tubal disease, particularly pus tubes, ovarian cysts, fibroids, metritis, carcinoma cervicis, all cause backache. Pyelitis, pyonephrosis, nephrolithiasis, perinephritic abscess, and cystitis must be borne in mind. Hemorrhoids, fissure, and old coccygeal injuries account for many reflex backaches.

In general, the traditional use of "porous plasters" and liniments by the laity gives us a hint in treatment, namely, that two of the most effective means of relieving backache are support and massage. The comfort of a scientific rubbing by a strong attendant is well known to every one who has been so unfortunate as to be bedridden for a considerable period and so fortunate as to have an attendant unafraid of muscular exertion. Many nurses "rub backs" with a listless, impotent touch, positively fatiguing to the patient. A brisk, firm, businesslike pressure of the palm, with a circular motion from the spine outward over the small of the back, using alcohol, camphor liniment, or other rubefacient emollient, gives the suffering woman grateful repose.

A small firm pillow under the lumbar spine of a bed patient is a detail worthy of suggesting. Adhesive plaster strapping across the sacrum and around both iliac crests, or a wide, stout buckle belt worn snugly, low over the hips, relieves numerous backaches due to sacral strain.

Adhesive strapping of the lumbar muscles, vertically and diagonally, will be rewarded by the relief expressed, even though there be no evidence of a myositis. In frank lumbago, the introduction of two or three aspirating needles, two or three inches deep, and left *in situ* several minutes, will often give results fully as happy as Osler has credited to acupuncture.

A suitable corset for a static backache, 1, hugs the spine closely; 2, is high in the back; 3, low and loose over the epigastrium; 4, long at pubis; 5, short at sacrum; 6, smugly fitting about the pelvis—insuring normal support and correct carriage, and perfectly in harmony with style.

For autotoxic backaches an excellent exercise to prescribe is the setting up drill of the United States army regulations. Faradaic and static treatment, and mechanical vibration, have their legitimate value in the treatment of anemic and neurasthenic cases.

The four groups of factors above cited should be borne in mind as a definite cause of procedure in approaching the question of backache and its relief. The plan enables one to attain success in many cases otherwise allowed to go by default, inasmuch as it offers a working formula for diagnosis by exclusion.

Dr. Louis L. Hoff, of Springfield, Mass., recalls that:

Backache is one of the commonest disorders to which women are prone. It is an affection which belongs to middle life. It is a symptom of a number of conditions and diseases, and in order that we may be able to attack the condition or disease to which it belongs, we must have in memory a classification of these conditions of which backache is a prominent symptom. We must also consider the symptoms which occur simultaneously with the backache, so that the history given by the patient voluntarily, plus the history obtained by the physician at the time of the examination, will in all probability give us an insight into the cause of the symptom backache. In considering the different conditions, we must also have in mind the urine examination.

We must consider the local position of the backache, whether situated in the lumbar region, lumbothoracic, sacral or coccygeal regions, and we must further distinguish according as the pain is fixed in one spot or radiates. In some cases it is central; others right or left or on both sides. If we find upon examination some deformity of the spine or of the spine and the os innominatum, and some degree of deformity of the pelvis, and we also find enlargements due to tumors or inflammatory masses, we bear these in mind. Most backaches or pains in the regions, as stated previously, are due to nerve exhaustion or run down conditions.

In a general way, the following classification will help to decide in most cases the cause of the backache:

1. Backaches due to trauma, that is external injuries, blows, etc., laceration of the floor of the pelvis, perineum, cervix, from faulty instrumental delivery.

2. Backaches due to exposure after sweating, and allowing wet clothes to dry on the back, followed by any of the acute affections, such as typhoid, smallpox, or acute infections such as gonorrheal arthritis. Certainly we have the most excruciating backache in smallpox.

3. Backaches due to spinal deformities, whether acquired or congenital.

4. Backache due to pressure, as postoperative backache following anesthesia relaxation, patient being in the straight dorsal position for a long time; in women (obese) there is dragging of a large abdomen, causing a lordosis, with resulting pelvic strain by producing too great pressure on the crests of the ilium; tumors and inflammatory masses pressing upon the sacral nerves, also retrodisplacements of the uterus, causing pressure for same reason, or to pregnancy or during labor.

5. Backache due to muscular rheumatism is of a common occurence.

6. Backaches due to inflammations of the womb, cervix, or anuria, or disturbances at the menstrual periods, or between the periods due to inflammations of the endometrium, of the body, or of the cervical, mucous membrane, dysmenorrhea, menorrhagia, metrorrhagia, or to the general run down condition of the patient. After the menopause, backache is a prominent symptom of cancer.

7. Backache due to nerve exhaustion neurasthenia, as stated above, and traumatic neurosis following nervous shock.

8. Backache due to inflammations of the rectum and its various complaints.

9. Backache due to acute nephritis, perinephritic abscess, or suppurative nephritis.

10. Backache in syphilis simultaneously with pains in other parts of the body, also in tabes dorsalis.

(To be concluded.)

Correspondence.

LETTER FROM LONDON.

The National Insurance Bill. New Year Honors.

LONDON, *January 18, 1912.*

The National Insurance Act is still the principal topic of interest. Letters from medical men appear daily in the *Times* and other newspapers, most of them condemning the bill. The *Practitioner* referendum does not, however, appear to have met with success. A pledge was circulated to the members of the medical profession which they were asked to sign to the effect that they would refuse to act under the bill. This pledge was to take effect provided 23,000 medical men signed it. Up to the present the number of signatures is only about 12,000 and it does not appear that the required number of signatures will be obtained. The outlook for the medical profession is not at all a happy one.

A mass meeting of the practitioners resident in the St. Pancras and Islington districts was held on December 20th. Among those present were Sir Victor Horsley, Doctor Goodall, Dr. Lauriston Shaw, Dr. J. H. Keay, and Dr. Walter Smith. Dr. Basil G. Morison presided. The chairman announced that the following resolutions would be moved: 1. That unless the six cardinal points are conceded in spirit and letter and until the four points now asked to be incorporated in the act are so incorporated without qualification by amendment or otherwise to the satisfaction of the profession the medical profession in St. Pancras and Islington declines to form a panel or appoint a local medical committee and will refuse to accept any office for giving medical attendance or treatment to persons insured under the act; 2, that in the opinion of the meeting the Central Council of the Association has committed an error of judgment in recommending the acceptance by the medical secretary of the deputy chairmanship of the insurance commission and has thereby gravely threatened unity.

The chairman first read the six cardinal points and said it was understood that four of them were to be incorporated in the act, namely, those dealing with income limit, free choice of doctor, administration apart from friendly societies, and adequate medical representation. These had indeed been incorporated, but in such a form that members were thoroughly dissatisfied. The other two points by general consent were postponed for consideration after the bill was in actual working.

Dr. Lauriston Shaw remarked that the bill had made the profession begin to recognize that it had a most wonderful piece of machinery in the British Medical Association, the most perfect representative organization any profession ever had. So far it had done its work with a great many men hardly recognizing its existence. Personally he believed the profession should go on with the insurance act. He had the greatest possible belief in the power and unity of the profession and felt that what they failed to gain by legislation they might still gain by regulation if they only stood together. An earlier speaker had suggested that the medical benefits should be withdrawn. In Ireland they stood out so long that the medical benefit was withdrawn. What did the profession do then? They said "For Heaven's sake let's get it back!" Were they to throw five or six million pounds away? (Cries of "Yes.") At the Queen's Hall a suggestion from Manchester was made which seemed to him the maddest thing in the world: That the five millions should be given to the poor people and they be allowed to pay their own doctors (applause). Did they really think that a good plan? Did they really like this interminable chaos of indiscriminate charity outpatient departments, clubs, and the like? He appealed most strongly for a sense of lawfulness in the profession.

Sir Victor Horsley asserted that the British Medical Association was a trades union of the first rank and he was glad this was so, because it was on his motion that the new constitution was started. The resolution before the meeting if carried would amount to a new instruction to their representative. Did they wish the British Medical Association to retire from its former position of approval of the principles of the bill? He thought it would be a mistake if it did so. The association was a going concern; he did not believe in these tales of withdrawals. A machine which had a turnover of £60,000 could not easily be broken up. He was quite happy also about the so called blacklegs. They did not exist in the numbers Mr. Lloyd George would require to work the act. It would be a mistake to carry the resolution then before the meeting, because it would give the public an idea that they were people who did not know their own minds and that would destroy the prestige of the profession in future negotiations with the Government. The game was entirely in our own hands. It was perfectly ridiculous to say that we were so divided among ourselves that we should go down like chaff before the insurance commissioners and the friendly society men on the committees. If we did not approve of the terms they offered us, all we had to do was to decline them and refuse to work the act.

Doctor Beaton, replying to the discussion, said he had no intention of attacking the Council. He would like to know where Dr. Shaw got his five million pounds. There was four and a half million for the doctor, chemist, instruments, and everything. The doctors would not get anything like that amount. Moreover, they got some of the five millions already from patients who paid fees. He was glad they were unanimous in their determination to stick to the British Medical Association. It was their only hope. Sir Victor Horsley said they would have to go back on their word if they changed their line now, but if they had made a mistake the sooner they rectified it the better. The question was When were they to fight? He said "Now" (applause). Let them say "We have done all we could; we have the trump card and we are going to play it now (applause) and we refuse to go on your panel, on your committees, or to serve you in any way until you come to our terms" (loud applause). The resolution was carried with only one dissentient.

Doctor MacHattie then proposed the second resolution with regard to the action of the council in the matter of the appointment of Mr. Smith Whitaker. His object was to remove the odium that had fallen on the association by placing it on the council.

Sir Victor Horsley briefly reviewed the events which preceded the acceptance by Mr. Whitaker of a position on the Insurance Commission. He explained that in the first instance a confidential conversation took place between the chancellor of the exchequer and Doctor Maclean, in which Mr. Lloyd George said "I see Mr. Whitaker is an extremely able man and I wish to appoint him an insurance commissioner. I have proposed this to Mr. Whitaker and he declines to answer this communication except through and by leave of the council." If the council had not let Mr. Whitaker go it was very well understood that one of two or three men already in the Government's service would be appointed. Therefore the council, taking on itself the whole responsibility, allowed Mr. Whitaker to go, and they did it as a matter of plain

ordinary business judgment. He left it to the meeting to say whether they acted wisely or not. The resolution was finally withdrawn by consent of the meeting.

Among the New Year honors appear the names of several medical men. Dr. J. Hawtrey Benson, president of the Royal College of Physicians of Ireland and medical adviser to the colonial office; Dr. R. J. Collie, medical examiner to the London County Council; Dr. J. Mackenzie Davidson, an x ray specialist; Dr. G. H. Savage, consulting physician for mental diseases to Guy's Hospital; and Dr. Bertram C. Windle, president of University College, Cork, received knighthoods. Dr. Arthur Newsholme, medical officer of the Local Government Board, was made a companion of the Bath (C. B.). It is interesting to note also that Mr. Joseph Beecham, the well known pill manufacturer, was made a knight.

Therapeutical Notes.

Intestinal Amebiasis.—W. E. Musgrave (*Journal of the American Medical Association* for January 6, 1912) advises bowel irrigation; the patient being in the knee chest position by preference. A long rectal tube formerly recommended has been abandoned for the ordinary large male rubber catheter, which may be attached to an ordinary two or three litre irrigator, preferably made of glass. In order to secure the best results, the bowel must be distended by the solution used. The irrigation is preceded by a preliminary washing of the bowel, the use of sedatives, as opium in some form, or, what is simpler and frequently sufficient where there are no special contraindications, the administration of twenty-five to thirty c.c. of brandy by the mouth, ten or fifteen minutes before giving the enema. Alcohol is much less objectionable for this purpose than opium, because of the repetition which may be necessary. Enemata should not be given during digestion, because the reversed peristalsis usually set up by this treatment interferes with digestion and may aggravate stomach symptoms already present. Just before retiring at night, and the first thing after waking in the morning, are good times to take the treatment. One enema each twenty-four hours is usually sufficient, but often two will give quicker and more satisfactory results. More than two treatments in the twenty-four hours are never indicated. Thymol is the most efficient amebacidal agent. The following formula has been worked out, is convenient and satisfactory:

℞ Thymol, ... 25 grammes;
Alcohol,
Glycerin, of each, ... 250 grammes.
M. et Sig.: Add 10 c.c. to each litre of water used in enema.

The Use of Sodium Salicylate in Large Doses.—For this purpose Crouzet recommends, in the *Gazette des hôpitaux*, through *The Practitioner*, January, 1912, a concentrated solution in milk and mucilage given as an enema, when the drug cannot be tolerated by the stomach. He uses the following:

℞ Sodium salicylate, ... 5iv.
Pulverized gum arabic, ... 5j.
Milk, ... ℥iv.
Misce. Fiat mistura.

Each tablespoonful of this mixture therefore contains 30 grains of the drug, and can be given *ad libitum* and as the case demands, by means of a glass syringe or the ordinary rubber bulb. The mucous membrane of the rectum tolerates increasingly well this solution sweetened by the gum and the milk. It keeps well for several days at all temperatures, thanks to the antiseptic properties of the salicylate itself.

Nasal Pomade.—To protect against infection and catching cold, a small quantity of the following nasal pomade (*Chemist and Druggist*, December 30, 1911) should be inserted in each nostril night and morning:

℞ Peru balsam, ... 5vj.
Wool fat, ... ℥v;
Petrolatum, ... ℥ss.
M.

Unguentum Adhæsivum.—Doctor Dreuw, of Berlin, some time ago, gave a very good prescription for psoriasis:

℞ Salicylic acid, ... 10 grammes;
Chrysarobin, } āā 20 grammes;
Oil of birch (Swiss Pharmacopœia), }
Green soap, }
Anhydrous wool fat, } ..... āā 25 grammes.
M.

From this salve Doctor Dreuw has produced a "sticky salve" (*Klebesalbe*), which he describes in the *Deutsche medizinische Wochenschrift* for January 4, 1912, as follows:

℞ Salicylic acid, ... 10 grammes;
Pyrogallol, } ..... āā 20 grammes.
Coal tar saponine, }
Zinc oxide, ... 20 grammes.
Green soap, }
Anhydrous wool fat, } ..... āā 25 grammes.
M.

This salve has a grayish color, but the upper layer of it will soon become black, which shows that it absorbs oxygen intensively. The author asserts that it has an adhesive consistence which is not to be found in any other salve and will therefore well adhere to the skin upon application. The gray salve will soon color the skin black, which color can again be removed by the use of benzin. The salve will not irritate the skin.

This salve should be used in all chronic infiltrations of the skin, and the author asserts that its healing effects are very good.

Fungous Tracheobronchitis.—Hoxie and Lamar (*Journal of the American Medical Association* for January 13, 1912) recommend outdoor sleeping, the strengthening of the patient's diet by the addition of meats, and the administration of iodides in the form of syrup, of hydriodic acid (potassium iodide is not always tolerated by the patient's stomach), and of inhalations given in the form of iodine inhalant.

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NEW YORK, SATURDAY, JANUARY 27, 1912

THE OPERATION OF DECOMPRESSION FOR THE PRESERVATION OF VISION.

In the past fifteen or twenty years it has been shown that relief of endocranial pressure frequently arrests and cures "papilledema" or "choked disc." Much importance naturally attaches to the work of the elder von Hippel, who has brought together the histories of 221 cases (Graefe's *Archiv für Ophthalmologie*, XLIX, 2), leading to the conclusion that after trephining a diminution of the swelling occurs, which either lasts a long time or is permanent. Quite recently he has gone further and urges that general physicians be educated to believe that in the absence of direct evidence of syphilis, symptoms of increased endocranial pressure accompanied with choked disc justify surgical intervention (*Klinische Monatsblätter für Augenheilkunde*, January, 1911). This is the standpoint also of the younger von Hippel, who analyses fourteen cases of his own (*ibidem*, July, 1911). At a recent meeting of the *Société de chirurgie de Paris*, Auvray, after referring to the mortality of thirty-eight per cent. shown by von Bergmann, twenty per cent. by von Hippel, and twelve per cent. by Cushing, averred that he felt in no wise deterred by these figures in ardently recommending decompression in certain cases. Tuffier, Delbet, Segond, and Guinard all joined in this opinion and united in condemning lumbar puncture, because of the lethal issue that often quickly followed this procedure in brain tumor (*Clinique ophtalmologique*, September 10, 1911).

The radical standpoint is represented by Sir Victor Horsley, who continues to insist on decompression as the only means of saving sight, even in people who are suffering from inevitably fatal disease. To his way of thinking the use of mercurials or iodides represents lost time, and most precious time at that, and he goes far enough to hold that the physician or surgeon in charge of such cases must be held responsible for consequent blindness if the choked disc has not been treated surgically as soon as detected. A much more judicial note has lately been sounded in our own country by De Schweinitz (*Annals of Ophthalmology*, April, 1911), who contends that in the presence of a positive Wassermann reaction a course of mercurials and iodides for four or six weeks is imperative, at the end of which time, if there is no amelioration, or if the papilledema has increased under treatment, decompression must be resorted to. He speaks out of a large experience, embracing seventy-five of his own cases and 212 case histories in American surgical literature brought together by himself and Holloway. Too much importance cannot be attached to De Schweinitz's latest dictum that the indications for operation do not rest on the ophthalmoscopic picture alone, but also on examination of the visual field, of the size of the blind spot, of the light sense and periods of temporary obscuration of vision, and, finally, that vision is not properly recorded until there has been thorough refraction of the eye and visual tests have been made of such glasses as may be found necessary. In the light of present day researches every one will agree that in nonsyphilitic cases time devoted to the administration of iodides and mercurials is time wasted.

WENDELL REBER.

ONE CAUSE OF PAINFUL FEET.

Civilized man suffers from a great many diseases and deformities in payment for the comforts which he enjoys, which did not beset his primitive forbears. The number of occupational diseases incident to the march of civilization and luxury is constantly on the increase, and the number of diseases and deformities acquired through blindly following the dictates of fashion is keeping pace with them.

In the sixties, gynecologists were inveighing against the corsets of that day and pointing out

their relationship to the diseases and displacements of the pelvic viscera, which formed so large a part of the gynecological practice of the time. The orthopedic surgeon of the present day lifts up his voice against the absurdities of the modern shoemaker, but up to the present time his tones seem to have fallen upon very deaf ears if we may judge by the number of badly shaped shoes in the shop windows, and the number of people who seek relief at the hands of the surgeon on account of painful feet. A study of the shoes on exhibition in the window of almost any shoe shop will show the observer that there is hardly a shoe constructed at the present time which is not made on a pronated last fashioned after the model of the distorted foot. Almost all the shoes, both for men and women, which are now manufactured, and almost all the stock lasts which can be secured at the shoe finders, are constructed with this same defect. Instead of a line through the centre of the heel running straight forward to the ball of the big toe, it suddenly deviates at the junction of the middle and the forward third of the foot, and twists outward. The upper and outward side of the last is scraped off and the front part on the big toe side twists well over toward the little toe, forming an angle with a straight line through the ankle of perhaps a hundred and sixty degrees.

The consequence is that in spite of many of these shoes being supplied with highly arched insteps, there is a constant tendency to pronate the foot or twist it into a valgus position, and it is only by the exertion of strong mental and physical effort while wearing one of these shoes that the proper position of the foot can be maintained. The number of arch props of various kinds sold in the shops bears eloquent testimony to the fact that a great many people suffer from painful feet and from broken down arches, and as long as the present style of foot gear continues to be used, just so long will they continue to have painful feet, and many of them broken down arches, in spite of all manner of arch props devised by shoemakers in their effort to remedy a trouble which has been caused, in the majority of instances, by the faulty shape of the shoes which they themselves sold. It is to be hoped that those orthopedists who understand the fundamental reasons why the average shoe gives trouble, will be sufficiently impressed with the importance of the subject to place the matter before a number of the prominent wholesale shoemakers in such a way as to make them realize that it is for their interest to produce shoes constructed on anatomically correct lines, and to point out to them that such shoes need be no worse looking than those constructed on incorrect principles. REGINALD H. SAYRE.

MEDICAL EDUCATION.

As early as the year 1832 the State of New York printed the requisitions for graduation in the various medical colleges and the requirements exacted of those applying for license to practise physic and surgery in the several States of the Union. This work of preparing comparative statistics has been carried on by the State more or less regularly ever since, and the latest contribution to the subject, which takes the form of a report on higher education in the State of New York for the school year ending July 31, 1910, is a valuable addition to the series, being much more than a mere compilation of figures.

Not only is the condition of higher education in general considered, but each particular branch receives specific study which embraces a survey of the conditions prevailing throughout the United States during the year under review. The author of the report, Augustus S. Downing, first assistant commissioner of education, intimates that the pretensions set up by some State authorities regarding the high standard of qualifications imposed upon applicants for admission to medical schools and to examinations for license to practise medicine, are not justified, and rightly urges the honest enforcement of existing requirements as being the first and most important step in the elevation of the standards for medical education.

The statistical summary of the work being done in the State of New York, including that of the graduate schools in medicine, shows that during the year under review there were 2,036 undergraduate students, 896 graduate students, and 222 unclassified, making a total of 3,154 medical students pursuing their studies in the State, exclusive of summer students. To teach these there were 1,528 instructors, an increase of seventy over the preceding year, while there were 238 more students in 1910 than in 1909. The degree of Doctor of Medicine was conferred on 430 students in 1909, and on only 427 in 1910, which, in view of the increased number of students in the latter year, 238, indicates increased stringency in the requirements for graduation.

The results of the examinations for license to practise medicine bring out several interesting points; 341 papers of graduates of New York schools were examined for license, of which ninety-four were rejected. Of the papers presented by 113 graduates from schools in other States 122 were rejected, while 187 papers submitted by fifty-three of the candidates having degrees from foreign schools failed to attain the required standing.

An interesting sidelight is thrown on the changing complexion of New York's cosmopolitan popu-

lation by a perusal of the list of foreign schools, the graduates of which present themselves as applicants for license. These statistics show the large influx of Italians, as indicated by the appearance in the list of graduates from the schools of Naples, Palermo, Turin, Messina, Genoa, Catania, and Bologna. The influx of German university graduates seems to have been checked, as we find only five German universities represented in the lists of applicants for license, and of these five all save one have only a single representative.

The New York State educational department is to be congratulated upon the service rendered the cause of higher education in general and of medical education in particular by the excellent series of reports they have issued on this subject, of which the current volume is not the least valuable.

INJECTIONS OF QUININE FOLLOWED BY TETANUS.

Those of our readers who have encountered malarial fever in the tropics know how frequently the infection manifests itself in a highly virulent form. They also appreciate that the rapid administration of massive doses of quinine is practically their one reliance to combat the infection. In urgent cases hypodermic and intramuscular injections have been employed with success, but these have often been followed by abscesses. In the tropics, moreover, where such injections of quinine are frequently practised, tetanus has been a not uncommon sequel. It is difficult to say just how frequent this complication is. The medical men dealing with these cases have not been over anxious to publish the details, for the reason, probably, that tetanus following any operation is looked upon as a misfortune which ought not to occur.

The subject has recently been studied by Semple, of the Indian Medical Service, and the results of his very interesting investigations are embodied in a report issued by the Indian Government.[1] Semple calls attention to the fact that other hypodermic injections, e. g., of morphine, are much more frequent than are injections of quinine, and that tetanus does not follow the former. This shows that there is some direct relation between the quinine injection as such and the tetanus. When quinine is injected hypodermically, or into the muscles of guineapigs, the tissues at the site of injection are severely damaged. This is perhaps partly due to the acidity of the solution, but mainly to the quinine itself, as it occurs even with neutral preparations. It is also well established that pure washed tetanus spores given hypodermically to guineapigs do not produce tetanus. Mixed with such substances as sterile sand, sterile powdered charcoal, or bacteria, which injure the tissues and handicap phagocytosis, the spores grow out and tetanus is the result. The same result is obtained when washed tetanus spores are injected into tissues which have been crushed or bruised or otherwise injured. Semple found that when washed tetanus spores mixed with quinine or weak lactic acid were injected hypodermically into guineapigs, tetanus was invariably produced, but when injected mixed with morphine, the animals remained well. Moreover, and this is particularly interesting, when quinine is injected hypodermically into a different part of the body, either the day before, the same day, or the day after the spores are given, a large percentage of the animals contract tetanus. Under these circumstances, too, tetanus bacilli are found not only at the site of the spore injection, but also at the site of the quinine injection.

Semple is convinced that the tetanus infections occurring after clinical hypodermic or intramuscular injections of quinine are almost always due to the presence of tetanus spores lying latent within the organism and not to any infection on the needle or in the solution injected. He advocates the administration of an immunizing dose of tetanus antitoxine when giving quinine hypodermically.

[1] *Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India.* (New Series) No. 43. The Relation of Tetanus to the Hypodermic or Intramuscular Injection of Quinine. By Lt.-Col. Sir D. Semple, Kt., M.D., Director, Central Research Institute, Kasauli. Calcutta, Superintendent Government Printing, India, 1911.

ORIENTAL SORE IN PANAMA.

The *Proceedings of the Canal Zone Medical Association,* October, 1910, to March, 1911, contains among other interesting papers two essays on oriental sore in Panama, one written by Dr. S. T. Darling and the other by Dr. A. B. Herrick. Our foreign possessions, especially the Philippine Islands, the Canal Zone, Hawaii, and to a less extent, Porto Rico, have made us more intimately acquainted with tropical diseases, not only in these possessions themselves, but also in the United States. Among these is the much dreaded oriental sore, the protozoan nature of which was established by Wright, of Boston, in 1903. The protozoon, *Leishmania tropica,* is carried to man by flies, fleas, lice, mosquitos, etc. Cultivation experiments with the protozoon have developed the fact that the microorganism living in the bodies of endothelial cells in man in a gregarine phase becomes in cultures a monadine flagellate, having the morphology of trypanosomes, and is probably found in this phase in the blood stream of vertebrates. The disease was formerly confined to certain endemic regions as

Delhi, Bagdad, Lahore, etc., but is now found in the Philippine Islands and Central America. The case reported by the two Isthmian physicians is the second one identified in the Canal Zone.

MEDICINAL TREATMENT OF CERVICAL ADENITIS.

McArthur, in his communication in this issue on the borderline between surgery and medicine, writes how he has abandoned, after twenty years' experience, the surgical extirpation of enlarged glands in the neck. Many an old time practitioner can point to patients saved from the unsightly scars of this operation by the persistent administration of the iodides, particularly the iodide of iron. It was largely from their effect in these adenopathies that the iodides and vegetable drugs of similar though milder action received their name of alteratives. The tuberculosis which manifests itself as an adenitis apparently does not tend to involve the lungs or other vital organs.

BEE STINGS DISCREDITED.

The treatment of chronic articular rheumatism by means of bee stings, recently highly praised, would appear to have suffered a reverse. The therapeutical pendulum is swinging back nihilistically. T. Duncan Newbigging, a Scotch physician, reports in the *Practitioner* for January, 1912, that he believes the bee sting method to be nothing short of mere humbug. He has tried it repeatedly—on himself. He owns to the fact of being an extensive bee keeper, and is frequently stung, "sometimes to a degree that is alarming." Fifty stings a day would not inconvenience him, yet he suffers severely from articular rheumatism. This is not because he counteracts the effect of the stings by his mode of life, which is of the simplest. As a consolation for the failure of the bee method he contents himself with frequent sponging of the whole body, except the face, with dilute acetic acid, a less heroic procedure and one, judging by the relief obtained, far more efficacious.

IN MEMORIAM.

The members of the New York Dermatological Society hereby unite in placing a wreath of laurel upon the grave of Dr. Frank Pierce Foster. His scholarly attainments and his genial personality long since won the admiration and the affection of every one of his colleagues.

Doctor Foster was born in Concord, N. H., in 1841, and began the study of medicine when fifteen years of age. He entered the Harvard Medical School in 1859, and graduated at the College of Physicians and Surgeons, in New York, in 1862. His attention was first devoted to dermatology, and he was one of the founders of this society and an active member for many years. Later he became more interested in obstetrics and gynecology. In 1870 he introduced bovine vaccination in this country and wrote ably on various dermatological subjects. In recent years he became more widely known as an editor, a lexicographer, and a contributor to a broader field of medical literature. From 1880 to his death he was the editor of the NEW YORK MEDICAL JOURNAL, and exerted a powerful influence by virtue of this position. His death on August 13, 1911, resulted from cancer of the throat, from which he had suffered for two or three years.

For a quarter of a century this society was singularly free from any loss of membership by death. Then, in a short space of time, the names of Charles W. Allen, Robert W. Taylor, Henry G. Piffard, and Sigmund Lustgarten were stricken from our muster roll. To these names must now be added that of our late honorary member, Frank P. Foster, in further proof of the truth of the old adage that "Death loves a shining mark."

GEORGE HENRY FOX,
GEORGE T. JACKSON,
E. B. BRONSON.

News Items.

McKinley Hospital Seals.—The William McKinley Memorial Hospital League, which is planning to erect a $7,000,000 hospital in New York in memory of President McKinley, announces that the McKinley Memorial Hospital seals will be put on sale on January 29th. These seals will cost one cent each, and will be put on letters, packages, etc., after the fashion of the Red Cross Christmas seals.

Medical Club of Philadelphia.—Dr. S. Lewis Ziegler was elected president of the Medical Club of Philadelphia, at the annual meeting held on January 19th. It is said that he received one of the largest votes in the history of the organization. Other officers elected were: First vice-president, Dr. B. Alexander Randall; second vice-president, Dr. William Krusen; secretary, Dr. William S Wray; treasurer, Dr. Lewis H. Adler, Jr.

The Question of Anesthesia.—The New York Society of Anesthetists will meet in the New York Academy of Medicine on Wednesday evening February 7th. The programme includes the following papers: The Anesthetic Situation in New York, by Dr. Alfred N. Hellman, of the German Hospital; Nitrous Oxide: Properties and Physiological Action, by Dr. James T. Gwathmey, of the Skin and Cancer Hospital; Nitrous Oxide: Administration and Exhibition of Apparatus, by Dr. George F. Samis, of St. John's Hospital. A general discussion will follow, and there will be an exhibition of apparatus.

New Officers of the Philadelphia County Medical Society.—At the annual meeting of this society, held on the evening of January 17th, the following officers were elected: Dr. Levi J. Hammond, president; Dr. J. Torrence Rugh, vice-president; Dr. William S. Wray, secretary; Dr. Howard C. Carpenter, assistant secretary; Dr. Collier L. Bower, treasurer; Dr. Charles A. E. Codman, censor; and Dr. William S. Newcomet, Dr. J. Torrence Rugh, and Dr. William Duffield Robinson, directors. Associate vice-presidents of the branch societies were elected as follows: North Branch, Dr. William Krusen; South Branch, Dr Stuart C. Runkle; Kensington Branch, Dr. George N. Nofer; Southeast Branch, Dr. H. Lowenburg; Northeast Branch, Dr. I. P. Willits.

Milwaukee Physicians' Association.—The following officers were elected at the annual meeting of this association: President, Dr. A. R. F. Grob; vice-president, Dr. R. H. Rice; treasurer, Dr. W. V. Nelson; secretary, Dr. A. A. Cooper; censor, Dr. P. Langland; directors, Dr. H. S. Roby and Dr. B. O. Nobles.

Michigan Health Officers' Convention.—A meeting of health officers of the State of Michigan will be held in Ann Arbor on January 30th and 31st, at which Dr. Victor C. Vaughan will preside. An interesting programme has been arranged, which includes ten papers on topics relating to public health, all of which are subject to general discussion.

Vital Statistics of Philadelphia.—During the week ending January 7, 1912, the total deaths reported to the Department of Health numbered 520, as compared with 536 for the previous week, and 541 for the corresponding week in 1911. The leading cause of death was pneumonia, there being 112 deaths from this disease. The annual death rate in a thousand of population was 17.35.

The County Medical Society Milk Commission.—The milk commission of the Medical Society of the County of New York is composed of the following members: Dr. E. K. Dunham, chairman; Dr. Rowland G. Freeman, secretary; Dr. Eli Long, Dr. Henry Dwight Chapin, Dr. Henry Koplik, Dr. Abraham Jacobi, Dr. W. P. Northrup, Dr. Walter Lester Carr, Dr. W. H. Park, Dr. J. E. Winters, Dr. G. M. Swift, and Dr. Thomas S. Southworth.

The Health of Chicago.—During the week ending January 13, 1912, there were reported to the Department of Health of the City of Chicago 769 deaths from all causes, exclusive of stillbirths, which corresponds to an annual death rate of 17.5 in a thousand of population. Of the total number of deaths 171 were from pneumonia, 73 from tuberculosis, and 7 from influenza. Seven hundred and thirty-six cases of contagious diseases were reported during the week.

Infectious Diseases in New York.—During the week ending January 20, 1912, the following cases of and deaths from communicable diseases were reported to the Department of Health of the City of New York: Pulmonary tuberculosis, 457 cases, 171 deaths; diphtheria and croup, 247 cases and 31 deaths; measles, 616 cases, 6 deaths; scarlet fever, 252 cases, 5 deaths; smallpox, 1 case, 0 death; chickenpox, 253 cases, 0 death; typhoid fever, 57 cases, 9 deaths; whooping cough, 29 deaths; cerebrospinal meningitis, 2 cases, 4 deaths.

A Dinner to Doctor Wiley.—A dinner was given on Tuesday evening, January 23d, at the University Club, Brooklyn, in honor of Dr. H. W. Wiley, of Washington, D. C. Edwin L. Garvin, Esq., president of the club, acted as toastmaster, and about one hundred and fifty guests were present. Among the speakers, in addition to Doctor Wiley, were Dr. William M. Polk and Justice Frederick E. Crane, of the Supreme Court. Among the guests were Dr. Eugene H. Porter, Dr. Edward E. Hicks, Dr. E. H. Bartley, and Dr. Zachary T. Emery.

New York Physicians' Mutual Aid Association.—At the forty-second annual meeting of this association, held on January 16th, the following officers were elected: President, Dr. William F. Mittendorf; vice-presidents, Dr. Wendell C. Phillips, and Dr. James W. Ingalls; recording secretary, Dr. A. Edward Davis; assistant secretary, Dr. Edward S. Peck; corresponding secretary, Dr. W. B. Jennings; treasurer, Dr. Daniel Lewis; directors, Dr. H. J. Boldt, Dr. W. H. Katzenbach, and Dr. W. B. Hoag. The president's report shows that the association is in a flourishing condition. There is a membership of over 2,100 physicians, and a capital fund of $78,000.

A Medal for Doctor Doty.—At the annual meeting of the American Museum of Safety, held on the evening of January 18th, three gold medals were presented for the "greatest achievements during the past year in the safeguarding of life and limb in American industry and promoting safety and sanitation in daily and industrial life." To Dr. Alvah H. Doty was awarded the medal presented by Dr. Louis Livingston Seaman for "progress and achievement in the promotion of hygiene and sanitation and the mitigation of occupational diseases." Doctor Doty was unable to be present at the meeting, and Dr. John Winters Brannan, president of Bellevue and Allied Hospitals, received the medal for him and made a suitable reply.

Medical Society of the Missouri Valley.—Arrangements are being made for the spring meeting of the Medical Society of the Missouri Valley, which will be held in Colfax, Iowa, on March 21st and 22d, under the presidency of Dr. J. M. Bell, of St. Joseph, Mo. In addition to a scientific programme of great interest, plans are in progress for a series of clinics to be held at Des Moines on Saturday, March 23d. An elaborate programme of entertainments is also being arranged for the visiting members and their friends. Dr. Granville N. Ryan, of Des Moines, Iowa, is chairman of the committee of arrangements.

Meningitis in Texas.—With the view of allaying the excitement that exists over the cerebrospinal meningitis situation, the State Board of Health of Texas has issued a statement to the effect that the disease has prevailed in different parts of the State for the past twelve months, and that for the eleven months ending November 30, 1911, there were 261 deaths reported. Since December 1st it is estimated that there have been about six hundred cases of cerebrospinal meningitis in the State, and the average death rate has been about 35 per cent. Dallas has been the centre of the epidemic, but the disease has spread to many smaller towns where the strictest quarantine is maintained.

Meetings of Local Medical Societies to be Held During the Coming Week:

THURSDAY, *February 1st.*—New York Academy of Medicine; Brooklyn Surgical Society; Practitioners' Club, Buffalo; Geneva Medical Society; Dansville Medical Association.

FRIDAY, *February 2d.*—New York Academy of Medicine (Section in Surgery); New York Microscopical Society; Gynecological Society, Brooklyn; Manhattan Dermatological Society; Practitioners' Society of New York; Corning Medical Association; Saratoga Springs Medical Society.

Urologists to Meet in St. Louis.—A meeting of the North Central Branch of the American Urological Association will be held in St. Louis on Monday, Tuesday, and Wednesday, February 5th, 6th, and 7th, under the presidency of Dr. H. J. Scherck. It is announced that Monday and Wednesday will be devoted to clinics, and Tuesday to the presentation of a scientific programme. The St. Louis members of the association are planning to make this meeting a great success, and they are desirous that an invitation to attend shall reach all who are interested in genitourinary diseases, whether specializing or not, with the assurance of a cordial welcome. The headquarters of the association will be at the Jefferson Hotel, where the scientific session will be held. Hotel reservations may be made through Dr. Bransford Lewis, 1050 Century Building, St. Louis. Dr. C. E. Burford, 650 Century Building, St Louis, is secretary of the association, and will be glad to furnish further information regarding the meeting.

Personal.—Dr. Charles A. Bundsen, of Denver, has been knighted in the Order of Vasa by King Gustaf of Sweden, in recognition of his work in connection with the establishment of the Swedish National Sanatorium for Consumptives, in Denver.

Dr. Walter G. Ryon, assistant superintendent of the Willard State Hospital, has been appointed a medical inspector in the office of the State Commission in Lunacy, to succeed Dr. E. M. Somers, who has been appointed superintendent of the Long Island State Hospital at Flatbush.

Dr. Eugene F. McCampbell, of Columbus, Ohio, professor of bacteriology at the Ohio State University, has been appointed secretary of the State Board of Health, to succeed Dr. C. O. Probst, who resigned last September.

Dr. William H. Park, director of the Research Laboratories of the Health Department of the City of New York, was elected president of the Society of American Bacteriologists, at its recent annual meeting in Washington.

Friends of Dr. J. M. T. Finney, of Baltimore, associate in surgery at the Johns Hopkins University, are planning a dinner, to be held in his home on the evening of February 17th.

Dr. George F. Cott has been elected president of the Buffalo Medical Union, to succeed Dr. William G. Bissell. Dr. Nelson G. Russell was elected vice-president, and Dr. J. W. Bayliss, secretary and treasurer.

Dr. William D. Porter has been unanimously elected president of the Cincinnati Academy of Medicine.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

January 11, 1912.

1. H. W. Marshall: Operative Measures for Tuberculous Knee Affections.
2. Channing C. Simmons: Endocranial Cerebral Hemorrhage in the Newborn.
3. Samuel Delano: Infant Feeding *au naturel*.
4. William N. Bullard: Mild Anterior Poliomyelitis.
5. Tom A. Williams: Poliomyelitis Mistaken for Neuritis.

1. Operative Measures for Tuberculous Knee Affections.—Marshall says that a sufficient number of results have been collected to show in a general way that resections in adults, when the operations are performed by competent surgeons, are very beneficial in a large percentage of cases. Final results depend on a series of factors, any one of which may be responsible for an unsatisfactory outcome. The patient's powers of resistance must be sufficient to enable him to withstand the strain, both generally and locally. The virulence of the bacteria must not be so great as to overcome either the local or the general resistance of the patient. The operation must be skilfully performed and the postoperative treatment must be adequate to allow the wounds to heal perfectly, to permit the patient to regain normal health, as well as to overcome the depleted condition that often exists. Bad late results often are traceable to defects in postoperative care, or to difficulties in estimating the resisting powers of the patients, rather than to lack of operative skill.

2. Endocranial Hemorrhage in the Newborn.—Simmons reports two cases in which the blood was washed out through an incision made in the sutures, by means of which the bones could be sprung apart, instead of by forming an osteoplastic flap in the usual manner.

January 18, 1912.

1. Henry F. Hewes: Gas Bacillus as an Agent of Intestinal Fermentation and Diarrhea.
2. John B. Hawes 2d: Treatment of Tuberculous Adenitis with Report of Fifty-six Cases from the Tuberculin Department of the Massachusetts General Hospital and from Private Practice.
3. Walter M. Boothby: Nitrous Oxide Oxygen Anesthesia, with a Description of a New Apparatus.
4. C. L. Lowman: Relation of Thigh and Leg Muscles to Malpostures of the Feet.
5. Albert C. Getchell: Hemorrhage from the Throat.
6. Frederic S. Crossfield: Case I: Status Lymphaticus. Case II: Syphilitic Infection Involving the Floor of the Fourth Ventricle.
7. P. C. Procter: New Growth Involving the Eustachian Tube.
8. E. E. Foster: Unusual Tumor of the Fauces.

1. The Gas Bacillus as an Agent of Intestinal Fermentation.—Hewes reports two cases in detail which seem to show that in the conditions of colitis described the gas bacillus found a very favorable field for activity, causing marked fermentation of carbohydrate food, when this was present, with considerable augmentation of the diarrhea. He thinks it probable that since the gas bacillus can play a secondary part in the maintenance of diarrhea in colitis, it may not be an uncommon cause of diarrhea in many cases not associated with such severe pathological conditions of the intestinal mucosa as a colitis or dysentery, as in the numerous transitory conditions of diarrhea, which last from a few days to a few weeks, where the discovery of the organism and the application of proper treatment may result in a prompt and complete relief.

2. Tuberculous Adenitis.—Hawes believes that to get good results in the treatment of tuberculous adenitis it is more important to treat the patient than to devote attention solely to the tuberculous process in the glands. Dependence should be placed not on surgery alone, hygiene alone, or tuberculin alone, but each and all of these measures should be employed as needed by the individual patient. He believes it to be essential to success that patients should be treated in a special department, entirely distinct from the other departments of the hospital, and yet working in the closest cooperation with them, and he considers that every dispensary should have a special clinic for the treatment of this class of tuberculous patients.

4. Relation of Thigh and Leg Muscles to Malpostures of the Feet.—Lowman takes the ground that the malpositions of the feet vary in nature and degree, according to faulty weight bearing, unopposed muscle action or imbalance, due to weakness, mechanical position, or paralysis. He deals mainly with the condition of valgus, spoken of as "pronation," "knock ankle," and "in ankle," and has found in nearly all of these cases that by twisting the thigh outward he could bring the knee forward, or into the weight line, a perpendicular, dropped from the anterior superior spine of the ilium through the centre of the patella to the outside of the head of the first metatarsal in the male, and not quite so far out in the female, and that when this was done the valgus at the ankle nearly or quite disappeared. His observations have been made on about 300 individuals of all ages, about fifty per cent. under eighteen years, and from them he concludes that positions of the knee and thigh in relation to the weight line have a marked effect on the malposture of the foot, known as pronation or valgus.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

January 20, 1912.

1. Hugh T. Patrick: Deep Injections of Alcohol in Trifacial Neuralgia.
2. Marshall L. Price, William R. Stokes, and C. W. G. Rosser: Control of Typhoid as Applied to the Watershed of Baltimore.
3. Myron Metzenbaum: Comparative Merits of Several Anesthetics.
4. Henry Meyer: Operating Cystoscope for Removal of Pedunculated Tumors.
5. Louis Neuwelt: Exophthalmic Goitre and Symmetrical Lipomatosis.
6. Edwin O. Jordan and Ernest E. Irons: Typhoid Tracers in Milk Infection.
7. John Douglas: Strangulated Femoral Hernia.
8. Henry Sewall: Hygienic and Therapeutic Virtues of Open Air.
9. St. G. T. Grinnan: Anaphylaxis.
10. H. Lowenburg: Vomiting in Infants and Children.
11. Philip K. Brown: Neurotic Basis of Juvenile Delinquency.
12. R. H. Creel: Unusual Cholera Carrier.
13. Robert M. Herbst and L. C. Gatewood: Value of the Treatment of Chancroids.

1. Deep Injections of Alcohol for Trifacial Neuralgia.—Patrick states that the technique of deep injections of the fifth nerve is simplicity itself. A straight needle is introduced at the lower border of the zygoma and pushed in until the point penetrates the sheath of the branch involved; the alcohol is injected through the needle into the nerve. Sometimes the procedure itself is as easy as it sounds, but often there are difficulties, occasionally disappointments; hence the numerous details, hints, and illustrated cuts which he gives in this article, based on the treatment of 150 patients in the course of five years. His conclusions are as follows: 1. For the very old, the very feeble, and

for those with grave organic disease, he believes this to be incomparably the best treatment. Practically without danger, without shock, without an anesthetic, almost without inconvenience the great majority of such patients may be kept comfortable until length of years or intercurrent disease brings the end. 2. Save in the hands of a few exceptionally experienced and skillful men, the Gasserian operation is a dangerous and somewhat uncertain procedure; certainly a capital operation. 3. Nevertheless, when the sufferer from tic douloureux is young and vigorous with a prospect of living many years, it would be better for him to have the radical operation done at once by a first class man, as in all probability eventually he will come to it. 4. There is a considerable class of middle aged patients in good or fairly good health for whom a choice of treatment is not so simple. Concerning these he ventures to submit the following: A. In addition to expressing his own predilection the physician should make a plain statement to the patient of the different methods, their probable results and hazards. The prerogative of choice lies with the patient. B. Injections of alcohol make subsequent more radical operation no more difficult or dangerous. C. When the patient is exhausted by long continued pain and loss of sleep and is weak from lack of food the temporary relief afforded by alcohol injections enables him to recuperate and get into condition for operation. D. Occasionally immediate relief is demanded, if possible. For instance, there came to the author one day a robust woman of forty-six years with very violent pains in supraorbital and infraorbital nerves. Though receiving hypodermics of morphine every day, she disturbed the neighbors with her screams. Her face was coated with a scum of old epidermis, residue of liniments and dirt. She would hardly wait until the author could get some sort of history. Immediate injection of both nerves gave complete relief. The author ventures to note that deep injections of alcohol are not good for migraine, sinus disease, alveolar abscess, brain tumor, brain abscess, syphilitic periostitis, brain syphilis, glaucoma, pressure of a septal spur, or softening in the optic thalamus. Cases of all these diseases had been sent to the author for alcohol injections.

2. **Control of Typhoid Fever as Applied to the Watershed of Baltimore.** — Price, Stokes, and Rohrer describe in detail the methods used by the board of health in Baltimore. Whatever, they say, may be the differences of opinion among sanitarians as to the best means of dealing with the corollary problems involved in the propagation, transmission, and implantation of *Bacillus typhosus*, there is certainly unanimity of opinion as far as the fundamental problem is concerned. Given the fact that the typhoid bacillus does not propagate outside the human body and given that each case can be recognized from or before the beginning of the infective stage, the solution of the problem resolves itself into the immediate destruction of the bacillus at the time it leaves the body of the patient with the bodily excretions. It would appear, then, that under a proper system of control the only two elements necessary to eliminate typhoid fever as a cause of sickness or death would be a proper diagnosis (and by the word proper we mean a diagnosis that is both correct and immediate) and bedside disinfection. On the other hand, "proper control" introduces a third element into the situation, namely, registration or notification. Proper notification also necessarily implies immediate and correct notification. The necessity for registration lies mainly in the adoption of standard and uniform methods of control of an approved character, and such standards can only be adopted and enforced by the State or sanitary authority having jurisdiction in the premises. The public danger involved is certainly sufficient warrant for the State to require cases of typhoid fever to be cared for under such regulations as the State may prescribe. It will be clearly evident that any system of control must necessarily be based on diagnosis and it must be also admitted that many of the difficulties of diagnosis are almost insuperable. Under the best of conditions there will be large numbers of mild ambulant cases and bacillus carriers that will escape the most vigilant observation on the part of either the attending physician or the health officer. For these reasons the whole solution of the problem of the control of typhoid fever will never lie in bedside disinfection alone, though bedside disinfection is, at the present, the most important and logical method for the control of typhoid fever and will be of increasing importance as diagnostic methods improve in accuracy and efficiency. In Baltimore the water board, in addition to the various legal methods general and specific to restrain and prevent the pollution of the water supply by human sewage, has endeavored as far as possible to locate the cases of typhoid and have each case visited by an inspector who tries to secure the cooperation of the family in some method of bedside disinfection. To this end special outfits are delivered to the patient's home with full directions for their use. This outfit consists of a five gallon agate bucket, a bottle of phenol (90 per cent.), a urinal, enamel basin, mercury bichloride tablets, bed pan, agate ware measure, lactose bile outfit (Conradi's bile medium), and mosquito netting canopy (after the case is well this outfit is returned, is disinfected, and is then ready to be sent to another case). The outfit used by the inspectors contains a mailing case for sending bile cultures to the bacteriological laboratory (and a swab for inoculating the bile medium with feces), and this is for the purpose of determining when the stools are free from typhoid bacilli. Several culture materials are useful in isolating the typhoid bacillus from the stools, and litmus lactose agar plates or Endo plates may be used. The authors use a modification of Hesse's semisolid agar. The formula of this is as follows:

Agar (dried at 105° C. for half an hour),	5.5 gramme;
Liebig's extract of beef,	5. gramme;
Peptone (Witte),	10. gramme;
Lactose,	10. gramme;
Glycerin,	50. gramme;
Sodium chloride,	8.5 gramme;
Distilled water,	1,000. c.c.

The medium should be kept in an ice chest, the air of which is artificially provided with moisture. The agar is dissolved in 500 c.c. of distilled water by heating and the loss by evaporation is made up.

The peptone, lactose, beef extract, and salt are dissolved in another vessel containing 500 c.c. of distilled water and the loss of weight by evaporation is made up by the addition of distilled water. The two solutions are then mixed and boiled for thirty minutes, the loss of weight being again made up by adding distilled water. It is next filtered, the reaction corrected to a neutral reaction and the 100 c.c. of glycerin added, and 10 c.c. are placed in each test tube. It is then autoclaved at fifteen pounds' pressure for twenty minutes and stored in the ice box. When the bile culture is received at the laboratory it is incubated for twenty-four hours, and a series of dilutions from the incubated bile is then made. This medium has been found of great service in detecting the presence of typhoid colonies from stools, and when suspicious colonies are obtained a small quantity is mixed in a proper dilution of an immense serum or known typhoid blood. If agglutination takes place the diagnosis is confirmed by a study of the cultural characteristics. The authors consider it very important that the stools of patients, and convalescents from typhoid fever, should be examined at intervals until they are declared free from typhoid bacilli. As long as the stools remain positive they should be disinfected with the five per cent. phenol solution, and negative cultures from typhoid cases should be required in the same way that negative cultures from throats which have been infected with the diphtheria bacillus are required at present. By observing these two measures, namely, the careful disinfection of the stools and urine, and the examination of these until they are free from typhoid bacilli, the authors believe that the starting point of what might otherwise be many cases of typhoid fever can be removed, and they think that this is the most important source at which to attack the spread of typhoid fever throughout the community.

4. Operating Cystoscope for Removing Pedunculated Tumors.—Meyer presents a new operating cystoscope, intended for the removal of pedunculated tumors from the bladder, which embodies the principles of clamp and cautery in one, acting simultaneously. He asserts the following advantages: 1. The snare problem is eliminated. The snare must be placed over the tumor and if we intend to employ the hot snare, which is the most desirable, we must use platinum wire, which is very soft and occasionally causes annoyance by deviating to one side, or forward, or backward; or its shape may become distorted if it happens to touch the tumor or bladder wall, on account of the great flexibility of the wire. Then, again, it does not always catch the tumor close to its attachment, and we must cauterize the stump with the cautery at another sitting. The new instrument is so constructed that its branches go under the tumor and at the same time lifts it, thereby catching the mucous membrane immediately around the tumor and destroys it. 2. It is much easier for a person expert in the use of the cystoscope to learn to use the author's instrument than the Nitze instrument. 3. The instrument can be used to remove a foreign body from the bladder, such as a piece of catheter, with the greatest ease. It can crush a small vesical calculus, and this is a combination instrument. 4. Men who have seen this instrument and who know from experience the difficulties which we must overcome to obtain perfection in the performance of this class of operations, consider it the best instrument to accomplish the work. 5. Operations done with the clamp and cautery are practically bloodless, which is no small factor in this class of work. These operations are carried out in the surgeon's office without anesthesia and the patients immediately resume their occupations. To use the instrument successfully the author advises that the bladder be distended with about 200 c.c. of clear sterile water. The author's instrument will reach every tumor that can be reached with any one of the three parts of the Nitze instrument.

7. Strangulated Femoral Hernia.—Douglas states that this is a surgical condition in which early diagnosis and prompt operation result in a fairly low mortality; while failure to recognize the condition and consequent delay directly increase the danger and operative risk. The fact that a large proportion of these cases are not diagnosticated promptly, or an incorrect diagnosis is made with a resulting delay of the necessary surgical treatment, prompts the writing of this paper. After reporting nine cases showing the frequency of delay (two to four days) before operation was performed and the errors of diagnosis, and failure to recognize the early necessity of surgical interference, the author takes up the diagnosis and treatment of this condition, and states the following conclusions: 1. Because of the danger of strangulation and inability to cure other than by operative measures, operation should be advised when a diagnosis of femoral hernia is made. 2. Sufficiently early diagnosis and operation would prevent the necessity of intestinal resection, and thus lessen the mortality. 3. Intractable vomiting with pain, either abdominal or localized in the groin, especially in women, should indicate careful examination of the femoral rings, even before it is obvious that intestinal obstruction exists. 4. Operation should be performed as soon as the diagnosis of strangulated femoral hernia is made, if gentle attempts at reduction fail. 5. If the strangulated intestine is damaged beyond viability, resection and anastomosis should be performed. When there is a sufficiently long mesentery not to hamper the operation, this may be done through the primary incision made over the femoral ring; otherwise a secondary abdominal incision should be made. 6. Except in the most desperate cases, when the patient's condition is so extremely bad that it is impossible to perform an anastomosis, an enterostomy, even as a temporary resort, should not be done.

8. On What Do the Hygienic and Therapeutic Virtues of the Open Air Depend?—Sewall's answer is found in the following conclusions: 1. No proof has been furnished that the increase of carbon dioxide, the decrease of oxygen, or addition of organic animal matter in the air of ill ventilated apartments is, under any ordinary circumstances, injurious to health. 2. It has been proved that such chemical changes are not the cause of the sensations and symptoms due to poor ventilation. 3. The subjective and objective effects of close air are the result of the combined elevations of temperature and humidity incident to the association of living bodies.

4. It is argued that the temperature nerves of the skin are specific sense organs for the appreciation of the variations of temperature and humidity, and through which a wide range of metabolic actions in the body is regulated. It is through the genius of the moving air of the open that the temperature nerves find their most salutary stimulus and induce metabolisms characteristic of highest machine efficiency in the body. The physiological difference between "open" and "closed" air depends partly or wholly on differences in the stimulation of the temperature nerves of the skin under the two conditions. 5. The environment of the open air is conducive to an esthetic state that should not be ignored as an aid to healthy living.

9. **Anaphylaxis.**—Grinnan reminds us that immunity is now one of the most important phases of modern medicine. In order to understand the process of immunity or antianaphylaxis we must understand anaphylaxis, a condition which precedes immunity. Prophylaxis depends on anaphylaxis. The name "anaphylaxis" was given by Richet in 1904, and was used to define the condition of acquired or congenital excessive susceptibility of an organism to a strange protein, or antigen, with a reaction body formed in the body of the organism undergoing immunity. The substance must be protein in nature, though not all of them will cause anaphylaxis (e. g., leucin and tyrosin). For example, if we give a normal guineapig a sensitizing dose of 0.1 c.c. of horse serum subcutaneously, intravenously, or endocranially, and after a period of from seven to nine days give this sensitized guineapig another dose in the same manner, the pig becomes very suddenly sick. He becomes restless, scratches at his nose and mouth, and appears to be in great distress. His breathing becomes irregular, shallow, and quick. He has convulsions and dies in so called anaphylactic shock, the heart continuing to beat for some time after respirations have ceased. Had the pig survived the second dose, he would have been in a condition of immunity for the time being, and would have no longer reacted to a dose of the same serum. If, after giving the first dose, no more serum had been given, no symptoms would have resulted. The period of incubation is the time that must elapse before the second or intoxicating dose will produce the characteristic symptoms. This period is from one to three weeks, after which the animal is sensitized or hypersensitive. The average time of incubation is ten days. So effective is this process that if the horse serum be dropped into the eye of the guineapig, it may be sensitized to a second dose in seventeen days. The experiments show that the toxic action is specific so far as the various sera are concerned. A guineapig sensitized with horse serum is more susceptible to it than to cattle, sheep, hog, or other sera. Anaphylaxis is therefore regarded as a specific reaction. The poisonous principle in horse serum appears to act on the respiratory system, or centres, the heart continuing to beat after respiration ceases. The poisonous action has no relation to hemolysis, but the blood contains an acute poison entirely independent of any hemolytic action. It was first thought that in the case of diphtheria antitoxine, the antitoxine was the cause of the poisonous action, but it is now known that diphtheria antitoxine is entirely harmless, and that the horse serum is the sole cause of the poisonous action. Of thirty-four deaths reported by Owens (*Northwest Medicine,* July, 1911), following the injection of horse serum (in the form of antitoxine), the majority were persons subject to asthma or inherited a susceptibility to the odor of horses, or discomfort when in the neighborhood of a horse (*Hygienic Laboratory Bulletin,* No. 50, p. 8). According to Donaldson (*Medical Record,* August 5, 1911), eighty per cent. of all serious accidents in the use of serum occur in those who have been previously inoculated. The fact that serum which carries antitoxine at times produces a severe reaction should certainly not prevent the use of antitoxine in diphtheria, as the mortality from the serum has been exceedingly low. In the case of asthmatics for whom the serum conveying antitoxine is so poisonous, and in the case of those who have taken the serum before, some test of their susceptibility is of great value. Dr. August Callé has used and recommends a scratch test (*Pediatrics,* September, 1911). The test is made in the same way as the von Pirquet test for tuberculosis. If a minute quantity of the serum is rubbed into a scratch in the skin and there follows a severe local or systemic reaction, its further introduction into the system in full therapeutic doses would be contraindicated. Atropine has been used by a number of investigators (*Cleveland Medical Journal,* May, 1911) to modify the shock. Chloral hydrate (*Hygienic Laboratory Bulletin,* No. 641, p. 8), epinephrin, and artificial respiration have given good results in a few cases, and have been useless in a large number of cases. Rosenau and Anderson have pointed out the great similarity between anaphylaxis and the process that takes place in tuberculosis. The tuberculin reaction is one of the best known instances of anaphylaxis. The oversusceptibility of the tissue surrounding a tuberculous area assists in encapsulating and limiting the process (*Archives of Internal Medicine,* iii, p. 560, 1909). We see, therefore, that "resistance to disease may be largely gained through a process of oversusceptibility, and that oversusceptibility has an important bearing on the prevention and cure of certain infectious diseases or processes." Should bacilli be lodged on tissue in a state of anaphylaxis, then the protecting agencies of the organism are quickly concentrated where they are most needed. It may be noted here that the immunity caused by vaccinia is due to the power of rapid reaction in the organism. The mother guineapig transmits the susceptibility to the toxic action of horse serum to her young. This may throw some light on the hereditary transmission of tuberculosis. The fact that tuberculosis does run in families must, without doubt, be due to oversusceptibility in a great number of cases. The person who is hypersensitive to tuberculosis may, by the proper use of tuberculin, acquire immunity. By the wrong use, in too large or too frequent doses, the beneficial hypersensitive state of the tissues may be exhausted or destroyed. Beginning the use of tuberculin, it should be given in such small doses as to develop and not diminish the power of anaphylaxis. The early failures in the use of tuberculin were due to too large doses

nd overwhelming an already poisoned system. The connection between the toxemia of pregnancy nd anaphylaxis is regarded by some experimenters s an established fact. The intolerance of milk, specially Jersey cow's milk, egg albumin, and other rticles, find their explanation in anaphylaxis. It s necessary to understand clearly the difference beween antisera and vaccines in order to use these roducts. Antisera which contain antibacterial ower, are elaborated in the blood of a horse. Vacines are suspensions of dead bacteria in physiogical salt solution. The antiserum is a biological ermicide, and when injected into a patient conveys ne protective substance produced by the horse. When the vaccine is injected the patient must by neans of the vaccine produce his own protective odies. It is clearly seen that when a patient is verwhelmed with infection a vaccine will only do arm. Experience has shown this to be true. In a eneral septichemia the serum is to be preferred, hereas in a localized or semilocalized condition ne vaccines are better. Too large a dose and iven at wrong intervals has been responsible for ne failure with vaccines. Furunculosis can be inreased by a very large dose of streptococci. While ne activity of the infecting agent is producing a egative phase the use of vaccine is clearly not inicated. It is clear, the author states, from what e have seen, that in anaphylaxis we are studying most important step in the process of prophylaxis nd immunity. We are studying the use of vacines and antisera which are so rapidly forming uch an important part of our work and which reuire as much study as the most dangerous drugs.

11. Neurotic Basis of Juvenile Delinquency.—rown states that a study of a good many children ho have been brought finally to serious account or misdeeds, and especially children who were referred to him from the juvenile court, has shown in lmost every case a state of the nervous system in hich the symptoms, although often resulting in riminal acts, were none the less expressions of a ondition having its beginning long before, in the ad handling of nervous habits, a stimulation of nem, or a neglect of them altogether. It was not unishment that seemed to be needed in a single ase, and it is a matter of interest that in the juveile court alone is crime considered a symptom, as should be, for which the doctor-judge seeks a emedy, and, if possible, a specific one. That crime esults only too frequently from a disease of the ind or body, or both, no one knows better than ne physician, and it seems to be our function to mphasize at this time the need for putting the tudy and treatment of all crime on the same scienfic basis. From cases reported by the author one annot but take notice how sensitive children are to nvironment, how deeply they are influenced by it, nd yet how generally the tendency is toward right terpretations and healthy ideas. The experience f the author shows not alone the dependence of ne child on its environment, but also the value to ne child of combined personal and class training. here is energy to be dealt with, and, if it is not rovided for in a normal and healthy way, the inant is bound to work out its own way, which may ot be so good. This is equally true of the child, the youth, the young adult, the mature adult, and the old man. In inverse proportion to the early training must be the magnitude of the machinery of the law and its forces for order.

12. An Unusual Cholera Carrier.—Creel reports a case of convalescent cholera carrier in one of about sixty-two cholera cases and carriers recorded at the New York Quarantine Laboratory in the bacteriological examination of Italian immigrants during July, August, and September last. Since, from the time of the initial symptoms to the last positive examination, the interval was only fifty-four days, which period fell short of the longevity of several reported cases, the main point of interest in this case attaches not so much to the longevity of the cholera vibrios in the intestinal tract as to the irregularity of their appearance in the stool. Considering all conditions, the assumption that there were residual masses of fecal matter containing the vibrios, a part of which was evacuated only at times of positive examinations, would furnish a logical explanation of the irregularity of the vibrios in stool. The cause of the intermittency of the vibrios in stools can, the author states, be only a matter of conjecture, but, whatever the reason, the same condition might obtain in any carrier, and this case emphasizes the necessity of repeated examinations before discharging any cholera carrier or case from detention.

13. Experience with a Vaccine in the Treatment of Chancroid.—Herbst and Gatewood began their work in the belief that *Bacillus chancri mollis,* or Ducrey bacillus, as it is more commonly called, was the most important etiological factor in the production of chancroids, and that vaccines prepared from this organism might be of value in the treatment of these lesions. The authors report at this time the complete bacteriological examination and preparation of vaccines from twenty-six typical cases of chancroids. In this entire series they have only found two strains of organisms which could possibly be the so called bacillus of Ducrey. Thirty-eight patients have been treated with the vaccines. Seven patients deserted the clinic after the first or second injection, and they have thirty-one cases to report. The vaccines were administered by subcutaneous injection into the abdominal wall. Little or no reaction followed. The dose ranged from 50 millions to 400 millions, using from one to two c.c. for each injection. In the early work the injections were limited to one a week; later on, increased to two a week, and in one instance an injection was given on ten consecutive days, with no bad effects whatever, and a decided improvement in the local condition. Of the thirty-one patients an absolute cure was obtained in twelve, the time varying from five days to three weeks. In seven others decided improvement followed the injections, although the authors do not ascribe the results to the vaccine, because either the time required was too long or the healing of the ulcers incomplete. Some of the latter are still under treatment. The conclusions of the authors are: "1. In a majority of the cases examined they found an organism belonging to the pseudodiphtheria group, in some instances almost in pure culture. 2. A bacillus, nonpathogenic, belonging to this group and morphologically identical

to what we have found is commonly present in the urinary tract and on the genitalia. 3. Clinically, we rarely see chancroids on clean individuals, while in dispensary practice they are very common. In other words, filth seems to play an important rôle as an etiological factor. Taking these three points into consideration, is it not possible that the condition (so long described as Ducrey's disease, and presumably due to a specific organism called the Ducrey bacillus) is in reality in many instances an infection due to a bacillus belonging to the pseudo-diphtheria group, which has been rendered pathogenic through the presence of filth."

MEDICAL RECORD

January 20, 1912.

1. George E. Bushnell: Extrapulmonary Sounds Which Simulate Râles.
2. Charles E. Nammack: Treatment of Acute Lobar Pneumonia.
3. Cornelius D. Van Wagenen: Multiple Hereditary Telangiectasis of the Tongue, Turbinates, and Septum with Recurring Hemorrhages.
4. William F. Campbell: Management of Inguinal Hernia in Childhood.
5. Samuel B. Childs: Importance of the Röntgen Ray in the Diagnosis of Bone Disease.
6. Mary L. H. A. Snow: Physical Therapeutics in the Medical Press.
7. A. C. Burnham: Radioactive Waters in Gout.
8. Leonard W. Ely: Fatal Case of Bismuth Paste Poison.

1. Some Extrapulmonary Sounds which Simulate Râles.—Bushnell draws attention to the fact that sounds of various origin which imitate râles may be obtained by auscultation over the normal thorax. The study of these sounds is of especial interest in examination for early pulmonary tuberculosis in which weighty diagnoses are frequently based upon scanty auscultatory phenomena. He carefully considers the following sounds as likely to mislead one: 1. The sounds produced by the contraction of muscles, especially of the trapezius; 2, marginal sounds are crepitations which are heard during inspiration over the base of the lungs and are not associated with other evidence of organic disease of this portion of the lung; 3, sounds originating in the sternum and in its articulations; 4, a fine crepitation elicited by pressing the stethoscope rather firmly on the skin of certain patients over muscular areas of the thorax.

2. Treatment of Acute Lobar Pneumonia.—Nammack's factors of success in the treatment of pneumonia are isolation, ventilation, disinfection, elimination, and support. The factors making for fatality are, half enough air, half enough water, half enough rest, too much meddlesome medication. The search for a specific, the author asserts, has hitherto been fruitless. Serum therapy, from which so much was hoped, has thus far signally failed. In the line of treatment two things must be considered, the action of the infecting organism on the tissues; the defensive powers of the host. With the former little can be done by therapeutic means. The latter must be fortified by every means at our command. Death ensues from an overwhelming extent of the inflammation, or from toxemia, producing the condition known as cardiac failure. The entering wedge of this condition is laid at the very beginning of the attack in the vasomotor paresis which transfers a great excess of blood from the arterial to the venous circulation, and this loss of circulatory equilibrium must be fought from the very outset. The time to treat "heart failure" is before it has developed. The physician who withholds cardiac support until his patient presents a dry brown and fissured tongue, low muttering delirium, a pulse rate of over 120 with a low arterial pressure, and a feeble first mitral sound with a failing second pulmonic sound has lost his golden opportunity. In spite of all our measures of support, this condition may develop, and it is here that venesection sometimes gives brilliant results by abstracting a pint of toxine laden blood, and diluting the remainder by introducing liquids by mouth or rectum, or by hypodermoclysis. Venesection should never be done in the very young, the very old, the anemic, or the weak. It is not indicated in the stage of onset, as the formation of the exudate at that time consumes from two to four pints of blood. The view that heart failure is due to the poverty of calcium in the circulating blood in pneumonia has recently been put forward, and the administration of calcium chloride in ten grain doses every three hours is eloquently advocated. For the same reason the free use of sodium chloride has been urged. These remedies have no deleterious effects, and their use may be added to that of the other measures recommended.

4. Management of Inguinal Hernia in Childhood.—Campbell recognizes the fact that there is a marked difference of opinion among practitioners regarding the management of the reducible inguinal hernias of childhood. In infants he believes it is possible to obtain a spontaneous cure by maintaining continuous reduction by means of a truss, but after the second year the chances of cure by this method are doubtful, and he advises in the latter a radical operation if the nutritional index is favorable.

5. Importance of the Röntgen Ray in the Diagnosis of Bone Disease.—Childs reports seven cases of bone disease in which the x ray was of great aid in the diagnosis of the exact condition of the parts. He considers that in the Röntgen ray we are employing an agent which for several years has demonstrated successfully its ability to depict upon the sensitized plate minute changes in the texture of the bones, and it is only since we have acquired by experience the ability to interpret correctly the meaning of these changes, as well as the changes from the normal in other structures of the body, that we are in a position to realize the great importance in diagnosis to the profession of the discovery of Röntgen.

6. Physical Therapeutics in the Medical Press.—Snow makes a strong plea for the greater recognition of physical therapeutics by the medical press. Physical therapeutics, or the treatment of disease by those natural measures, in contradistinction to drugs, which assist or correct Nature in her efforts to restore a normal condition, includes electricity, light, heat and cold, hydrotherapy, mechanotherapy, and diet.

7. Radioactive Waters in the Treatment of Gout.—Burnham, from a study of fifty collected cases treated by means of radium emanations, draws the following conclusions: 1. We have, in radio-

active waters, a heretofore unrecognized therapeutic agent of real clinical value; 2, both *in vitro* and in the human body the radioactive waters have an indisputable action on the purins; 3, in gout the action is in many cases, if not in every case, a favorable one; 4, further study of the radioactive waters, both from a clinical and from a scientific standpoint, is most desirable, and further investigation will no doubt show their value, not only in gout and the allied diseases, but in many cases of neuralgia, muscular rheumatism, and other diseases of like nature.

BRITISH MEDICAL JOURNAL.

January 6, 1912.

1. A. W. Mayo-Robson: Jejunal and Gastrojejunal Ulcers.
2. K. W. Monsarrat: Urethral Calculi.
3. R. L. Spittel: Calculi in Prostatic Urethra.
4. W. H. Brown: Urinary Deposit of Calcium Carbonate.
5. C. J. Macalister: A New Cell Proliferant, Comfrey.
6. William Bramwell: Comfrey.
7. A. Hawkyard: Vaccine Treatment of Puerperal Septichemia.
8. H. Alston: Salvarsan in Yaws.
9. F. N. Windsor: Abor Arrow Poison.

1. Jejunal and Gastrojejunal Ulcers.—Mayo-Robson has seen this condition develop after a number of different types of gastroenterostomy and from the reported cases thinks that no type of operation can render its occurrence unavoidable. The presence of ulcer in the jejunum is seen only after gastroenterostomy. The condition is diagnosticated by the development of symptoms some time after the operation has been done, usually after a period of good health. He has devised a means of treating the condition which seems to give excellent results. If the old ulcer, for which the primary operation was performed has healed he detaches the jejunum from the stomach, excises the existing ulcer, and closes both stomach and jejunum. If this is impossible, or if the food cannot resume its old channel, he excises the gastrojejunal or jejunal ulcer and, after making a new gastroenterostomy, he attaches the jejunum to the anterior abdominal wall and introduces, through a jejunostomy opening, a small catheter through which the patient can be fed for an indefinite time. This puts the stomach at rest and allows restoration to normal and uninterrupted healing of the stomach and jejunum. The operation is also applicable in the following conditions: 1, Extensive cancer of the stomach; 2, general cicatricial contraction of the stomach; 3, chronic and even acute gastric ulcer; 4, chronic duodenal ulcer; 5, in jejunal and gastrojejunal ulcer when the patient is too ill for the more extensive procedure; 6, in persistent vomiting which threatens life.

2. Urethral Calculi.—Monsarrat contends that calculi are more often formed in preexisting urethral diverticula than is generally admitted. The condition at most, however, is a rare one and is frequently not diagnosticated for many years. The following points will greatly aid in making an early and correct diagnosis. The site is usually in the prostatic portion of the urethra. There is pain and dysuria, the stream varies greatly without obvious reason. There is marked intolerance to instrumentation. Bougies affect the stream little or not at all. Passage of an instrument meets with what seems at first to be a stricture, but which is only due to the spasm of the muscles of the membranous urethra. Just before entering the bladder there is great pain. A grating sensation may be noticed and this itself is diagnostic. Rectal examination will show a tumor in the region of the prostate and in this tumor there may be a palpable crepitus due to the presence of a number of calculi. The treatment is the thorough evacuation of the pouch through an incision in the perineum and the insertion of the finger into the cavity to be certain that no very small calculus is allowed to remain.

5. A New Cell Proliferant.—Macalister was accidentally led to investigate the common comfrey which has been used as a simple for hundreds of years in the domestic treatment of sores. He finds that it contains, among a number of inert ingredients, one which is identical with allantoin. This can be isolated in pure crystalline form, and is present to the extent of about 0.8 per cent. in the root. Macalister and some of his fellow physicians used both an infusion of the crude drug and this pure principle in the treatment of obstinate ulcers which had failed to heal under various other measures. Their results were striking; rodent and varicose ulcers healed rapidly and firmly. The crystalline allantoin was applied in the form of aqueous solution of 0.3 or 0.4 per cent. strength. It was also used internally in gastric and duodenal ulcer with apparent benefit. There is biological support for its proliferant action in that it is found in the animal and vegetable kingdoms to any extent only where growth processes are concerned. As for example, in the umbilical cord, in milk, in buds of some plants, in the wheat embryo, and in the root of the plant under consideration.

LANCET.

January 6, 1912.

1. Henry Head and G. Holmes: Sensory Disturbances from Cerebral Lesions.
2. A. H. Tubby: Surgical Interference in Tuberculous Joints in Children.
3. W. Hale White: Three Cases of Erythremia.
4. B. G. A. Moynihan: Chronic Duodenal Ulcer.
5. R. Parker: Foreign Bodies.
6. A. Castelani: Fungi in Tropical Bronchomycosis.
7. J. Herbert Parsons: Treatment of Glaucoma.
8. F. C. Madden: Lymphatic Varicocele.
9. J. Sim Wallace: Prevention of Tuberculosis.
10. R. A. D. Hill: Method of Counting Leucocytes.
11. T. Quaiffe: Cerebral Malaria.
12. J. Bland-Sutton: Pulque.

1. Sensory Disturbances from Cerebral Lesions.—Head and Holmes offer this preliminary communication from their study of the mode of action of the afferent side of the nervous system. They believe that the peripheral mechanism of sensation is far more complicated than previously supposed, for example, they find two sets of tactile end organs and two independent mechanisms for pain. There is no one sensation subserved by a single set of end organs, but every specific sensation results from the combined action of more than one group. They find that in the extreme upper end of the cord the afferent impulses pass in three main divisions: 1. Pain, heat, and cold pass in secondary paths in the opposite side of the cord from that by which they entered; 2, impulses for postural recognition and spacial discrimination remain uncrossed in the posterior columns (there are two groups of these sensory fibres, one a deep one for appreciation of posture, passive movement, weight, consistence, and

vibration. A second from the skin for discrimination of two points felt simultaneously, for size, shape, and form); 3, impulses for contact sensibility of touch and pressure run in a bilateral path and hence are not affected by purely unilateral lesions. The impulses for localization run in these same paths. When the brain stem is reached the arrangement of the various impulses is changed and they are found to pass as follows: 1, Pain, heat, and cold impulses continue as in the cord; any one of these three sensations may be affected separately by disease, though they run in one main group; 2, gross forms of pain and discomfort may pass to consciousness with a lesion in the brain stem, though there is analgesia of the skin areas; 3, at the level of the posterior column nuclei the sensations of posture leave those of special recognition; 4, the elements for the localization of the spot touched seem to be dissociated here for the first time from pure tactile sensation. These numerous changes are but preparatory to the great regrouping to occur in the optic thalamus, which matter they will discuss in the subsequent portion of this communication.

2. **Treatment of Tuberculous Joint Disease in Children.**—Tubby is of the opinion that the less the surgical interference the better the results in general. Even the presence of abscess does not of necessity require any operative procedure. When this does seem to be needed there should be no more than incision with evacuation of the pus, removal of the sequestra, gentle wiping of the cavity with a soft swab, application of pure phenol followed by alcohol, drying, and closure of the cavity to get primary union. Drainage tubes are always a potent source of pyogenic infection and should be assiduously avoided. Excision of bone and erosion of joints are always liable to cause a rapid spread of the disease or the development of general tuberculosis or tuberculous meningitis. Even in the case of the small bones of the foot or hand surgery is to be the last resort In his opinion by far the best results as to both life and function of the member are to be obtained through prolonged immobilization and the most suitable climatic and hygienic treatment over a long period of time.

4. **Chronic Duodenal Ulcer.**—Moynihan regards the clinical history of the case as being of the greatest value in the diagnosis of this condition. The symptoms are those commonly graced by the diagnosis of hyperchlorhydria. Added to this the presence of blood either gross or occult, in the stools in the stage of active ulceration, the signs of stenosis late in the disease, and the rapid emptying of the stomach in the active stage as seen by fluoroscopy with a bismuth meal are sufficient to render the diagnosis certain. Moynihan believes that the ulceration is nearly always secondary to infection and toxemia, usually to be found in some other abdominal organ. The appendix would seem to be the most common site of this infection and he would have it examined and removed in all cases in which the condition of the patient warranted it. The only appropriate operative treatment of the condition is posterior gastroenterostomy with the jejunum attached in the vertical position. The ulcer itself should be treated by infolding and covering its site with a layer of omentum. He is opposed to the idea that "Lane's kink" is either frequent or of any considerable importance in the causation of the disease.

6. **Fungi in Tropical Bronchomycosis.**—Castellani has isolated and studied some dozen varieties of fungi occurring in tropical bronchial affections, which, at times, closely resemble pulmonary tuberculosis in their clinical manifestations. The twelve isolated varieties all belong to the endomyces, the common ones being *Endomyces tropicalis, Saccharomyces krusei,* various strains of actinomyces and streptothrix, and aspergillus and penicillum. There are still a number of fungi which he has not been able to identify. Of those which have been recognized *Endomyces tropicalis, aspergillus, streptothrix, penicillum, and actinomyces* are certainly pathogenic for man.

9. **Prevention of Tuberculosis.**—Wallace sees the matter from the point of view of the condition of the mouth and suggests that in addition to the other means of prophylaxis there be added the important matter of the care of the teeth and the cleanliness of the buccal cavity. As a dental surgeon, he has been impressed by the frequency of occurrence of dental caries and foul mouths in patients having hypertrophied tonsils. These glands are common portals of entry for tubercle when they are chronically inflamed and the carious teeth are, in turn, the sources from which the tonsils become infected. Another phase of the prophylaxis would then lie in the proper adjustment of the diet so as to leave the mouth clean after eating, as is the case with animals and the less civilized races.

BULLETIN DE L'ACADÉMIE DE MÉDECINE.

December 5, 1911.

H. Vincent: Results of Antityphoid Vaccination among Troops in Morocco.

Antityphoid Vaccination.—Vincent reports the results obtained by vaccinating 283 men of the French troops stationed along the Algero-Moroccan frontier. The Wright-Leishman vaccine was used in 129 men and the author's multivalent vaccines in 154. The multivalent preparations included native (Moroccan) strains of typhoid bacilli and also paratyphoid organisms. They were always sterilized by ether, according to the author's method; in some instances the dead bacilli were included in the vaccine, whereas in the remainder a clear autolysate of the organisms, so prepared as to preserve the full antigenic power of living bacilli, was used. The local reaction following the injection of the autolysate was observed to be less marked than that succeeding injection of Wright's or the author's bacillus containing vaccine. A cachet of one gramme of antipyrine was found useful in preventing the local and general reaction, which, however, was no greater than that witnessed after vaccination against smallpox for the first time. In two malarial individuals, chills and fever appeared fifteen to eighteen hours after the inoculation; later this occurrence was readily avoided by prophylactic administration of quinine. The number of antityphoid inoculations given in each case was four or five. No phenomena suggestive of a "negative phase" were ever observed. In men already infected with typhoid when

the inoculations were begun, the latter proved quite harmless. Of 2,632 men not vaccinated and subject to the same general conditions as those immunized, 171 were attacked with typhoid fever, which resulted fatally in twenty-two, and 134 had attacks of acute gastric disturbance attended with fever. Of the men inoculated with Wright's vaccine, in one, who had as yet received but three injections, a very light case of typhoid developed; in none of those inoculated with the multivalent vaccine typhoid developed. Neither did any of the vaccinated men suffer from febrile gastric disturbance.

PRESSE MÉDICALE.

January 3, 1912.

1. Paul Reclus: Tuberculosis and Industrial Accidents.
2. Alfred Martinet: Methodical Regulation of Dyspnea in Therapeutics.

January 6, 1912.

3. Maurice Arthur: Specificity of Antivenomous Sera.
4. Jonnesco: General Rhachianesthesia.
5. Cyrille Jeannin: Salvarsan in Obstetrics.

1. Industrial Tuberculosis.—Reclus, from a study of many cases, has concluded that tuberculosis can be "created" as well as aggravated by traumatism, and suggests that legislation be modified accordingly.

2. Therapeutic Regulation of Dyspnea.—Martinet states that the German contrivance known as *Lungen Saugmaske* is admirable in regulating respiration, as its automatic action permits free expiration but renders inspiration difficult, and it may be worn for hours at a time. Its prolonged use produces considerable pulmonary hyperemia, a lowering of arterial tension, limitation of the excursion of the diaphragm, and prevention of hemoptysis, beside enlarging the thoracic capacity and raising the blood count.

3. Specificity of Antivenomous Sera.—Arthur's experiments *in vitro* prove, according to him, that under proper conditions the coagulation of the liquid fibrinogenated by the venom of *Lachesis lanceolatus* is accomplished in less than twenty seconds; coagulation does not occur if the venom is added to the fibrinogenated liquid plus antibothropic serum; therefore, the neutralization of the venom by the corresponding serum was accomplished in less than twenty seconds, in other words, it was practically instantaneous.

4. General Spinal Anesthesia.—Jonnesco, in reply to several critics, reiterates that this method of anesthesia with stovaine is admirable from every point of view and superior to anesthesia by inhalation in operations on the face, neck, abdomen, perineum, limbs, and urinary organs.

5. Salvarsan in Obstetrics.—Jeannin believes that salvarsan modifies advantageously the accidents of syphilis during the puerperium, when its use is no more dangerous than at other times. It does not influence the course of pregnancy, and both abortions and premature births are rare. He does not believe an injection ever resulted fatally to a fetus. Injection of the newly born child is not as efficacious as earlier treatment of the mother, and for the infant mercurial medication is better.

SEMAINE MÉDICALE

January 10, 1912.

1. J. Lhermite and B. Klarfeld: Real Structure of the Cranial Nerves and Spinal Roots and Their Relations with Pathological Processes, Especially Inflammations and Neoplasms.

BERLINER KLINISCHE WOCHENSCHRIFT

December 25, 1911.

1. M. Massone: Antitoxic Properties of the Leucocytes.
2. Gustav Emanuel: Influence of Salvarsan upon the Wassermann Reaction in Normal Rabbits.
3. Heile: Shot Wounds of the Vena Pulmonalis of the Left Lower Lobe and Cure through Ligatures.
4. Axhausen: Case of Congenital Hairy Polyp of the Fauces.
5. Robert Asch: Abnormal Development of a Pseudohermaphrodite.
6. Wagner: Treatment of Cervical Gonorrhea.
7. H. E. Schmidt: Idiosyncrasy to Röntgen Rays.
8. Friedrich Moerchen: Gelonida Tablets and their Use in Nervous and Mental Diseases.
9. Ernest Runge: Use of Röntgen Rays in Gynecology and Obsterics.

1. Antitoxic Properties of the Leucocytes.—Massone reminds us of the important rôle played by the leucocytes in the battle against disease germs. The importance of the leucocytes is twofold, destruction of the bacteria performed according to Metchnikoff's theory exclusively by phagocytoses, or according to newer theories through production of bactericidal material; and, second, their action upon the toxines of the bacteria. The author has made interesting researches with this second action of the leucocytes. He is of the opinion that the so called endotoxines are not prepared in the cells of the bacteria, but are produced by chemical action of the normal bacteriolysins upon the body of the bacteria. He finds that the leucocytes are able to modify these endotoxines, sometimes even to destroy them entirely. The leucocytes are therefore destroyers not only of the bacteria but of their toxines.

2. Salvarsan and Wassermann Reaction in Normal Rabbits.—Emanuel states that the positive Wassermann reaction in normal rabbits can be made temporarily negative through the intravenous injection of salvarsan. This fact seems to support the theory that the positive Wassermann test in rabbits is fundamentally not to be distinguished from the positive Wassermann reaction of syphilitic or metasyphilitic serum of man. He concludes, therefore, that the temporary change of a positive Wassermann reaction in man into a negative one after treatment with salvarsan cannot be taken as a proof of the therapeutical effect of salvarsan.

5. Abnormal Development of a Pseudohermaphrodite.—Asch reports the interesting case of a pseudohermaphrodite, nine years of age. The child had the appearance of a middle aged dwarf and showed a strong growth of hair on the face and in the pubic region; the voice was deep, the larynx showed the development of a male adult; the muscles were strongly developed, especially the biceps and deltoid; the bony structure of the body also showed adult form. The external genitals showed pseudohermaphroditism; the labia majora were poorly developed, while the labia minora formed the entrance to a child's vagina, with a well formed hymen.

6. Treatment of Cervical Gonorrhea.—Wagner uses a specially designed speculum introduced into the vagina for his treatment of gonorrhea of the cervix, which consists of the slow injection of fifteen or more quarts of very warm water. The patients are to be kept in bed for about seven weeks. The gonococci disappear after the first four weeks, but the treatment must be persisted in for a longer period.

7. Idiocyncrasy to Röntgen Rays.—Schmidt is of the opinion that idiosyncrasy to Röntgen rays does not exist.

MEDIZINISCHE KLINIK.

January 7, 1912.

1. Carl von Noorden: Neurogenetic Diabetes.
2. L. Aschoff: Importance of Combination Stones in the Etiology of Gallstones.
3. Hermann Eichhorst: Nephritic Form of Purpura Hæmorrhagica.
4. Placzek: Forensic Psychiatric Literature.
5. Martin Fischer: Stomatitis Epidemica of Cattle.
6. Egmont Baumgarten: Cure of Infiltrations in Infancy after Acute Infections.

1. Neurogenic Diabetes.—Von Noorden thinks that it is very important to watch carefully neurogenic glycosuria, as it is usually a preliminary symptom of diabetes.

2. The Importance of Combination Stones in the Etiology of Gallstones.—Aschoff defends his theory that pure cholesterin stones are formations of an individual kind and cannot be produced from combination stones, that is, such stones as have in their centre a pure cholesterin nucleus while the periphery shows cholesterin pigment lime formation. A change from the modified form into the pure form does not take place; and the pure form will be found only in gallbladders which are not inflamed, while modified stones are to be found in inflamed bladders.

5. Stomatitis Epidemica of Cattle.—Fischer reports three cases of stomatitis epidemica of cattle in children. The author states that man is not often infected with this disease of cattle and that children are more easily attacked than adults. He thinks that the infection is carried, not through meat of diseased animals, but through unboiled milk and milk products, as butter and cheese. Furthermore, small open wounds afford a good entrance for the disease, which can also be transferred through intermediate carriers. The infection from man to man is said to be very easy. There is no question that the disease is bacterial, but the bacillus has not been demonstrated.

PRAGER MEDIZINISCHE WOCHENSCHRIFT.

December 28, 1911.

Simon Lederer: A Case of Urine Retention as Sequela to Hypertrophy of the Prostate. Punctio Vesicæ Suprapubica.

January 4, 1912.

H. Schloffer: Surgical Progress.

ZENTRALBLATT FÜR CHIRURGIE.

January 6, 1912.

1. C. Biehl: New Method of Operating on the Hypophysis and the Sinus Cavernosus.
2. Willy Meyer: Drainage after Operation within the Thorax.
3. J. E. Schmidt: Plastic Surgery of the Ureter.
4. E. E. Goldmann: Experimentally Produced Inhibitions of Growth in Tumors of Mice

1. New Method of Operation on the Hypophysis.—Biehl has practised on the cadaver an approach to the hypophysis through a suprahyoid pharyngotomy, retracting the soft palate so as to expose the roof of the nasopharynx, opening of the lower wall of the sphenoidal sinus close to the septum, perhaps excising a portion of the latter if the röntgenograph shows that the cavity extends far forward, removal of the base with Hajek's punch, and then passing through the roof to the hypophysis. The advantages claimed for this over the intranasal method are: 1. Considerable broader way of access; 2, better view of the field of operation, allowing of more rapid work; 3, complete preservation of the functions of the nose; 4, avoidance of any functional injury.

2. Drainage of the Thorax.—Meyer makes an incision in the ninth or tenth intercostal space in the scapular line, inserts one or more rubber drainage tubes into the pleural cavity, and closes the thoracic incision in the usual manner. In other words, he applies to the thorax the same technique and means that are used to drain cavities in other parts of the body.

ZENTRALBLATT FÜR GYNÄKOLOGIE.

January 6, 1912.

1. L. Seitz: Genesis of Endocranial Hemorrhages in the Newborn.
2. A. Rosowsky: Anaerobic Streptococci in the Vagina of Healthy Women.
3. H. Sellheim: Artificial Moulding of the Cranium of the Fetus through Movement of the Female Pelvis.
4. W. Stoeckel: Formation of an Artificial Vagina.
5. V. O. Fischer: Effects of Pituitrin in Fifty Obstetrical Cases.

2. Anaerobic Streptococci in the Vagina of Healthy Women.—Rosowsky states that the vagina of healthy female persons, adult or children, harbor streptococci of a saprophytic nature, which may produce, after birth or abortion, under certain circumstances, severe disease with fatal results.

5. Pituitrin. — Fischer has not observed any bad by effects of pituitrin in mother or child, and believes the extract to be a rather trustworthy product in labor.

THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

January, 1912.

1. Richard C. Cabot: Causes of Ascites.
2. Frank E. Bunts: Infantile Hypertrophic Stenosis of the Pylorus.
3. William Fitch Cheney: Leuchemia in Childhood.
4. Edward F. Wells: Management of Failure of the Circulatory Balance in Chronic Interstitial Nephritis.
5. S. T. Darling and L. B. Bates: Bacillus Dysenteriæ Recovered from the Peripheral Blood and Stools of Cases in Panama.
6. Solomon Solis Cohen: Favorable Influence of Quinine and Urea Hydrochloride in Large Doses under the Skin in the Treatment of Acute Pneumonia.
7. Nathaniel Bowditch Potter and Lindsay S. Milne: Bronzed Diabetes.
8. John Norman Henry: Loud Venous Hum Heard over the Xiphoid Cartilage in Cirrhosis of the Liver. Autopsy.
9. J. N. Hall: Tuberculosis among Physicians.
10. Warren Coleman: High Calory Diet in Typhoid Fever.
11. Borden S. Veeder and J. Harold Austin: Multiple Congenital Hemangioendotheliomata of the Liver.
12. Edward L. Keyes, Jr.: Persistence of Gonococci in the Male Urethra.

1. The Causes of Ascites.—Cabot, in the consideration of this subject, has made a study of 5,000 cases. The actual causes of ascites are tabulated as follows: (a) Causes of ascites as found post mortem in 2,217 autopsies from the records of the Massachusetts General Hospital; (b) as observed clinically in 3,086 cases during the last forty years at the same hospital; and finally (c) a tabulation of the *rates* at which ascites accumulates in different diseases (valuable as an assistance in identifying through its more or less characteristic *tempo* of accumulation the ascites of tuberculous peritonitis). Post mortem examination revealed the following as some of the causes, in order of their frequency: Cardiac weakness, nephritis, abdominal neoplasms, cirrhotic liver, and tuberculous peritonitis. In the clinical statistics of ascites, the diagnosis was verified either by operation or autopsy in all cases of neoplasms and thromboses and with most cases of intestinal obstruction and tuberculous peritonitis; but in the cardiac, renal, and hepatic cases and most of the blood diseases the

evidence is wholly clinical. These statistics follow closely those of the first series as to relative frequency. The following are points of interest in this view of the subject: (a) The frequency of ascites with ovarian cysts and tumors, and (b) the large figures obtained in intestinal obstruction (the fluid in these cases may have the result of an actual peritonitis associated with the obstruction). The rate of ascitic accumulation was studied in forty-nine cases with the following daily results: Cardiac weakness, 36 to 54 ounces; cirrhosis of the liver, 20 ounces; nephritis, 13 ounces; solid ovarian tumors, 12 ounces; neoplasms of the abdominal organs and glands, 11 ounces; adherent pericardium (before cardiolysis), 11 ounces; same (after cardiolysis) 2 ounces; uterine fibroid, 8 to 11 ounces; tuberculous peritonitis, 5 to 6 ounces. In the different varieties of ovarian tumors ascites occurred in fibroma, 50 per cent.; carcinoma, 40 per cent.; sarcoma, 20 per cent.; cystoma, 7 to 9 per cent. In none of the fourteen cases of parovarian cyst operated in was ascites found. The writer concludes his study as follows: 1. Among the possible causes of extensive ascites we must not lose sight of the small solid tumors of the ovary. 2. Pleural effusion may be produced by an extensive ascitic accumulation. This association may lead to a false diagnosis of pleural and peritoneal tuberculosis. 3. The cure of both pleural and peritoneal effusions may result from excising a benign tumor. 4. Among all causes of ascites tuberculous peritonitis may sometimes be recognized by the greater slowness of its accumulation of fluid. 5. Intestinal obstruction ranks fifth, and diseases of the female genitals sixth among the causes of ascites, being surpassed in frequency only by cardiac disease, nephritis, cirrhosis, and tuberculous peritonitis. 6. Beside the causes just mentioned, abdominal neoplasms and adherent pericardium are the only factors of importance in the production of ascites.

2. **Infantile Hypertrophic Stenosis of the Pylorus.**—Bunts states that from the first published case by an American physician, Hezekiah Beardsley, in 1778, to the time of the publication of the two cases of the Danish physician Hirschsprung in 1887, little or no attention was given to this important and somewhat frequent malady of infancy, but cases are multiplying with succeeding years and the malady is becoming better known to the profession. The symptoms in order of their importance, ruling out reflex disturbances, are: 1. Persistent vomiting; 2, emaciation; 3, visible dilatation of the stomach; 4, visible peristalsis of the stomach; 5, diminution and absence of stools; 6, anuria; 7, presence of palpable tumor of pylorus. In deciding for operation the relatively early appearance of the symptoms mentioned speaks for organic rather than spasmodic stricture, and also that the latter should speedily respond to proper medical treatment. The proportion of recoveries has been from 50 to 60 per cent. The writer hopes to see the mortality reduced to 25 per cent.; not very largely to an improved technique, but rather to securing patients at an earlier and more favorable time. Following a detailed description of the operative technique and of the diet used in his operative cases, the writer again calls attention to the symptoms of the pyloric obstruction and to the great importance of its early recognition and appreciation that surgery offers a really brilliant prospect for its relief in properly selected cases.

3. **Leuchemia in Childhood.**—Cheney reports three cases of leuchemia in young children. All belonged to the lymphatic type and all were acute, taking the usual course, uninfluenced to any extent by treatment, toward a fatal termination. There is, he confesses, no adequate explanation as to what causes leuchemia, or as to the location of the site of the disease. As to the latter two main theories are propounded. One school of Germans arrives at the conviction that every leuchemia, whether clinically it is lymphatic, splenetic, or mixed in type, is due to disease of all the blood forming tissues in every part of the body; though one tissue may be more advanced in its involvement, and so determine the clinical type. A second school as firmly believes that there are two distinct leuchemias, a lymphatic due to disease of lymphatic tissues all over the body, and a myeloid due to disease of the bone marrow. Leuchemia rarely occurs under ten years of age. When it occurs, the great majority of cases are of the lymphatic type and run an acute course. All observers agree that the splenomedullary type is distinctly rare in childhood. In the way of treatment, there is absolutely nothing that holds out any hope of cure. Once the diagnosis is positive, the case is hopeless.

6. **Quinine and Urea Hydrochloride in Large Doses, Subcutaneously, in the Treatment of Acute Pneumonia.**—Cohen was induced by Galbraith's revival of the treatment of pneumonia by quinine in massive doses (1904), to employ it in hospital practice, substituting hypodermic for gastric administration (as advised by Aufrecht, Petzold, and Henry), and choosing the most active salt of quinine, the double hydrochloride of quinine and urea. The initial dose (regulated by the temperature) is one to 1.6 grammes (15 to 25 grains) This is followed in three or four hours by a second injection, and perhaps by a third or even fourth injection, at some time within the first twenty-four hours, according to results. The same plan is pursued on the second day of treatment, and on the third day, if necessary. Usually from 6 to 10 grammes (90 to 150 grains) are given in from forty-eight to sixty hours. After that smaller doses (0.3 to 0.6 gramme; 5 to 10 grains) are sometimes continued by the mouth. Following Galbraith's plan, tincture of ferric chloride was given when the quinine was withdrawn. Lobular pneumonia was influenced favorably in a similar manner to lobar pneumonia. In making the injections the following precautions must be observed, otherwise there may be cellulitis, slough, or abscess. The syringe is filled with a 50 per cent. solution of the quinine and urea salt in sterilized water; and the needle is inserted deeply, through skin previously painted with tincture of iodine, into a muscle. The syringe is emptied thoroughly, so that the solution does not drop upon the skin when the needle is withdrawn. The point of puncture is sealed with iodoform collodion. The writer has made thousands of injections in this manner without ill result of any kind.

7. **Bronzed Diabetes.**—Potter and Milne con-

clude from a careful study of a case of bronzed diabetes under their care, and from what they have been able to gather from the literature on this subject, that it would seem as if to-day we are warranted in stating only that cirrhosis of the liver is the primary condition; that pancreatic involvement with diabetes is a sequence or coincident event to this; that the hemochromatosis, always present in slight degree in liver cirrhosis, is in some cases excessive and causes a general pigmentation which eventually also involves the skin; and, finally, that the whole process is not any definite symptom complex, but a chain of circumstances which rarely seems to be completed.

8. Report of a Case of Loud Venous Hum Heard over the Xiphoid Cartilage in Cirrhosis of the Liver.—Henry records a case which is one of great rarity, he having found but two similar ones on record, though in neither case was an autopsy obtained so that the anatomical similarity must remain conjectural. The writer furnishes a complete history of his case with autopsy. Over the ensiform cartilage was heard a loud, roaring murmur, which was localized to an area scarcely exceeding the space covered by the head of the stethoscope. This murmur was continuous, but had remissions in its loudness, there being a distinct inspiratory accentuation and a corresponding expiratory lessening. The murmur could be readily made to disappear by light pressure of the stethoscope. The autopsy revealed dense adhesions just beneath the ensiform cartilage to the anterior margin of the liver. Within this mass of adhesions was a large venous sinus, the branches of which passed down into the adhesions. Underlying the ensiform cartilage and extending to the articulation with the sternum, there was found a venous sinus about 7 mm. in diameter. Anteriorly there could be seen through an opening in the ensiform cartilage the anterior wall of this sinus. Proceeding from this opening were several small superficial veins, probably in communication with the sinus. From this sinus there was a vein communicating with the vein in the suspensory ligament of the liver; this latter was somewhat dilated. Apparently there was no communication between the portal vein or the inferior vena cava. The extreme localization of such a surprisingly loud sound was interesting and difficult to explain, unless it was due to the fact that the sinus was not in direct contact with conducting surfaces, being buried in a mass of adhesions. For the same reason, perhaps, no thrill was present. It was impossible to identify this mass with any known vessels. It was apparently not connected with the vein of the round ligament, which in turn was enlarged. The author suggested the possibility of the sinus being an anomalous ductus venosus, but such a theory could not be proved, as careful dissection was impossible. Charcot stated that venous hums in cirrhosis of the liver are of favorable portent, and one might be tempted to go farther and form a corollary to this proposition by stating that the disappearance of such murmurs is of evil omen. In the author's case, and also in one reported by Thayer, the disappearance of the murmur meant the beginning of dissolution.

10. The High Calory Diet in Typhoid Fever.—Coleman, after a close study of 111 cases of typhoid fever, in which the high calory diet was tried, concludes as follows: 1, None of the older diets for typhoid fever furnishes the patient with sufficient energy for his metabolic exchanges, therefore a patient taking any of these diets is compelled to live in part upon his own tissue; 2, The amount of food which a patient requires can be determined only by his individual needs. The clinical guides to these needs are the weight of the patient, and the state of his appetite. A patient who is losing weight should receive more food if he can digest and absorb it. A patient who is hungry should be given sufficient food to appease his appetite. In the early stage of severe cases it is always difficult to give more than 3,000 calories a day; in the steep curve period and in convalescence, patients take readily from 4,000 to 6,000 calories a day. 3. If any article of food causes persistent disturbances of digestion, the quantity given should be diminished, or the food should be stopped; otherwise the object of the high calory diet, the maintenance of the patient's nutrition, is defeated. If a patient cannot take all the food he requires, he should receive all he can digest and absorb. 4. Carbohydrates should furnish the greater part of the energy of the diet. The daily protein ration should not be below 62 grammes nor greatly exceed 94 grammes. Clinical evidence indicates that a diet rich in fat may be taken by typhoid fever patients with benefit. Fat has furnished in some cases from one third to one half of the total energy of the food. 5. In the cases studied, the high calory diet has apparently modified the course of the disease, shortened convalescence, and reduced the mortality.

12. Observations upon the Persistence of Gonococci in the Male Urethra.—Keyes has never known the gonococcus to survive in a male host for more than three years. He believes he could count on his ten fingers the instances of a survival of 18 months or more. In 90 per cent. of cases it disappears, with or without treatment, within a year. In considering this question Keyes divides the patients into four classes, as follows: 1. Patients who have apparently been cured at least three months of a gonorrhea and who show (*a*) no purulent shreds or free pus in the morning urine, and (*b*) no pus in the secretion expressed from prostate and vesicles. The observation of the clinician is sufficient to declare such patients clean without any laboratory confirmation. 2. Patients (usually with acute cases) in the same condition, but whose probation of three months has not elapsed. To declare these well the clinician must be fortified by an expert examination for the gonococcus, which should not be made until the patient has remained entirely well without treatment for at least two weeks. 3. Patients (usually with a chronic pearly morning drop) with mild chronic anterior urethritis and perhaps superficial posterior urethritis as well, and who show (*a*) purulent shreds, but (*b*) practically no free pus in the expressed prostatic vesicular secretion. Such patients are usually gonococcus free, but their clinical diagnosis requires expert laboratory confirmation. 4. Patients with free pus in the urine, which in chronic cases is

usually in large part from the prostate or vesicles. The presence of gonococci in such cases is suggested by the occurrence of complications (acute urethritis, prostatitis, epididymitis, rheumatism, etc.) either spontaneously or as a reaction to local (sounds, injections, sexual intercourse) or general (alcohol, exercise) irritation. Yet such clinical signs have no absolute value in diagnosis, for among the most irritable types of urethritis are certain nongonococcic ones, while certain urethræ, while still harboring gonococci, are benefited by exercise, alcohol, sexual intercourse, and sounds. This class of cases, therefore, always requires laboratory diagnosis.

ANNALS OF OTOLOGY, RHINOLOGY, AND LARYNGOLOGY.

September, 1911.

1. E. M. Holmes: Examination and Treatment of the Eustachian Tube by the Aid of the Nasopharyngoscope.
2. George B. Wood: Actual Cautery in the Treatment of Localized Tuberculous Lesions.
3. Alex. Randall: Efficient Methods of Aural Massage.
4. Henry L. Swain: Are the Tonsils a Menace or a Protection?
5. J. M. Ingersoll: The Technique of Tonsillectomy.
6. Albert C. Getchell: The Relation of Enlarged Tonsils to Endocarditis.
7. F. E. Hopkins: Cases of Late Secondary Hemorrhage after Tonsillotomy.
8. George L. Richards: So Called Conservative Mastoid Operation, with a Description of the Technique of Heath, Bondy, and Siebenmann.
9. Clement F. Theisen: Injection of Blood Serum for Hemorrhage, either Spontaneous or Postoperative.
10. S. MacCuen Smith: Endocranial Lesions Complicating Acute Aural Disease.
11. Sohier W. Bryant: Etiolgy of Otosclerosis.
12. Charles W. Richardson: Case of Rarefying Osteitis of the Mastoid Bone.
13. Frederic E. Sondern: Blood Cultures in Otology.
14. Harold Hays: Supernumerary Auricle Associated with Chronic Suppurative Otitis Media.
15. Robert H. Craig: Case of Extirpation of the Larynx.
16. Harold Hays: Six Cases of Acute Suppurative Otitis Media in One Family.
17. Hill Hastings: Mucocele of the Nasal Accessory Sinuses.
18. R. Johnson Held: Anatomy and Physiology of the Salivary Glands.
19. Robert C. Miles: Symptoms and Diagnosis of Diseases of the Salivary Ducts and Glands.
20. Joseph C. Beck: Treatment of Diseases of the Salivary Apparatus.
21. W. B. Chamberlain: Fibroma of the Nasopharynx.

2. Localized Tuberculous Lesions.—Wood states that the marked benefit derived from the actual cautery in the treatment of localized tuberculous lesions is equally as great in the larynx as in the pharynx, and explains the beneficial action as due to the development of fibroid changes within the infected area. The fibrosis results from the induction of inflammation, with the subsequent formation of new bloodvessels, which in turn encourages the distribution of nutrition to a part which would otherwise break down into a necrotic mass. The author has also shown by his experiments that a retarding influence is exerted, even beyond the part actually destroyed by the heat, and that the extension of the disease is prevented by the sealing of the lymphatics and the bloodvessels.

9. Blood Serum for Hemorrhage.—Theisen has obtained marked beneficial results from the injection of serum in cases of alarming hemorrhage. On several occasions he has used diphtheritic antitoxine to good advantage, and in one case, where a streptococcic infection existed, he augmented the primary injection of antitoxine with a later injection of antistreptococcic serum, with the complete arrest of the hemorrhage. In each case thus treated the size of the dose of serum depended upon the age of the patient, and the frequency of administration on the extent of the hemorrhage. Rarely more than two or three injections were necessary. The author concludes that the injections of blood serum for either spontaneous or postoperative hemorrhage appear to be of the greatest value, and that the control of hemorrhage after the use of serum cannot be regarded as a mere coincidence, because this method succeeds when the usual methods for control of hemorrhage sometimes fail.

11. Otosclerosis.—Bryant believes that otosclerosis may be prevented in adults if the catarrhal infections of childhood are treated properly. He is of the opinion that chronic infection of the upper air tract is the principal cause of otosclerosis. Trophic and toxic changes have been considered by many as etiological factors, which view is also held by the author, who believes that these trophic disturbances are due to altered internal secretion, chiefly of the thyroid gland, and that in many cases they affect the otosclerotic foci only indirectly, acting through the medium of the sympathetic or trophic nerves.

13. Blood Cultures in Otology.—Sondern states that in acute purulent otitis media, with or without mastoid involvement, bacteria are not usually found in blood cultures, but where there is a thrombosis of the sinus, bulb, or vein, the organisms are found in a very large percentage of cases. A positive culture, however, should not be accepted alone as certain evidence of a coexisting thrombosis of the sinus, although early positive blood cultures with an unopened mastoid infection usually indicates coexisting thrombosis of the vessel. The streptococcus is the most frequently offending organism, while the streptococcus mucosus and the staphylococcus occur next in the order of frequency. It is an advantage to estimate the number of colonies for each cubic centimetre to determine the increase or decrease in the bacteremia in case subsequent cultures are taken.

BRITISH JOURNAL OF DERMATOLOGY.

December, 1911.

Arthur Whitfield and R. Sabouraud: Eczematoid Ringworm of the Extremities and Groin.

Eczematoid Ringworm.—Whitfield and Sabouraud, under this title include not only eczema marginatum, as usually seen in the crotch and on the general surface of the body, but a number of other eczematoid affections that are not usually supposed to be parasitic. From time to time various investigators have reported findings of varieties of trichophyton in dermal eruptions, some of which resembled ringworm clinically, while others were apparently of an ordinary eczematoid type. These organisms have received various names, as *Epidermophyton cruris* (Castellani, 1905), *Epidermophyton inguinale* (Sabouraud, 1907), *Trichophyton cruris* (Castellani, 1905), *Trichophyton Castellani* (Brook, 1908), *Epidermophyton Perneti* (Castellani, 1907), and *Epidermophyton rubrum* (Castellani, 1910). The skin lesion itself is of three types. It may be distinctively "ringworm" in appearance, a spreading circinate eruption with healing centre, or it may resemble closely an ordinary intertrigenous eczema; or, again, secondary inflammatory thickening of the skin may cause it to resemble a keratotic eczema. The diagnosis is made fairly

readily by the microscope; and Whitfield recommends an ointment of soft paraffin and cocoanut oil, containing five per cent. of benzoic and three per cent. of salicylic acid, as the most generally efficacious local application. Sabouraud's conclusions are as follows: 1. The principal eczematoid ringworm is the eczema marginatum of Hebra, caused by *Epidermophyton inguinale;* its primary and principal site is the groin flexure, but it often determines a so called intertrigo of the feet, and, rarely, eczematous lesions on the hands; 2, lesions on the feet, like the preceding, may be caused by *Trichophyton rubrum* of Castellani, usually accompanied by a ringworm eruption disseminated over the whole body surface; this is an exotic (tropical) parasite; 3, other varieties of ringworm, usually *Trichophyton violaceum* and *acuminatum,* occasion the keratotic eczematoid eruptions on the soles and palms; 4, ringworms, occasioned by trichophyta of the microoides group, are common causes of eczema of the backs of the hands.

THE INDIAN MEDICAL GAZETTE.

December, 1911.

1. David Semple: "Quinine without Tetanus" and Some Remarks on "Tetanus and Quinine."
2. A. Steichen and H. Sierp: Radioactivity of Some Thermal Springs in the Bombay Presidency.
3. J. G. P. Murray: Blood Pressure.
4. F. F. Elwes: Acute Hepatitis with Indications of Pus Formation, Subsiding under Ipecacuanha.
5. W. E. Scott-Moncrief: Leech in the Air Passages.
6. G. G. Jolly: Treatment of Oriental Sore.
7. T. H. Keates: Uncommon Fracture of the Skull.
8. R. G. Pickle: Worms in the Peritoneal Cavity Simulating Appendicitis.

2. Radioactivity of Some Thermal Springs in the Bombay Presidency.—Steichen and Sierp state that the radioactivity of the thermal waters at Lasundra is great, and that of the springs at Tuwa quite extraordinary. As far as they could learn from scientific periodicals there are only four out of a large number of thermal springs in Austria which show a greater radioactivity than the springs at Tuwa, three out of eighteen at Gastein, and one out of three at Joachimsthal in Bohemia.

8. Worms in the Peritoneal Cavity.—Pickle reports an interesting case in which the patient, a Mohammedan, presented symptoms indicative of appendicitis. When the peritoneal cavity was opened nothing abnormal could be found at first except thickened peritoneum, but finally a small abscess was detected in the neighborhood of the cecum which contained two round worms and half an ounce of thick white pus. The parasites were alive when removed.

ARCHIVES DE NEUROLOGIE.

December, 1911.

1. G. Winternitz: Physical Agents in Mental and Nervous Diseases.
2. A. Marie and Nachmann: Considerations of the Results Obtained with the d'Arsonval Registering Chronometer Relative to Hearing and Touch.

1. Physical Agents in Neuroses.—Winternitz's article is practically limited to a consideration of hydrotherapy in nervous and mental diseases, which is thoroughly discussed. The physiological effects of the various forms of baths, packs, etc., and their indications, have been carefully set forth. It is pointed out that the sedative effect of the prolonged warm bath, which has come into such general use only within the last few years, was utilized as early as the middle of the last century by Türk, Pinel, and others in much the same form as at present employed. It is interesting to note that where hydrotherapy is systematically used the administration of sedative drugs is reduced to a minimum; thus, Alter, in an entire year, used fewer than twenty doses of sedative drugs for his patients.

ANNALES DE GYNECOLOGIE ET D'OBSTETRIQUE.

December, 1911.

1. J. Parisot and A. Spire: Pituitary Extract in Obstetrics. Clinical and Experimental Researches.
2. A. Herrgott: Some Considerations upon the Different Kinds of Premature Births.

1. Pituitary Extract.—Parisot and Spire, as the result of their own experiments and those of many other investigators, affirm that while the extract of the pituitary gland increases the blood pressure and the arterial tension, its action is less intense but more prolonged than that of adrenalin, and is accompanied by slackening though strengthening cardiac contractions, its influence extending also to many other organs. Pituitrin, the extract from the posterior lobe of the pituitary gland, excites moderately the muscles of the bladder and very considerably those of the uterus, and its action is much more marked upon the gravid than the nongravid uterus. In regard to the toxicity of the extract, it is agreed that it is less toxic than adrenalin; and in no case have the many investigators observed any toxic effects, or local irritation at the point of injection, and the contractions never have a tetanic character. Clinical observations show that in a majority of cases the pituitrin tends to arouse and reenforce the uterine contractions and to reduce the duration of labor, though in some cases it had no appreciable effect. It was administered sometimes by the mouth, more generally by injection either subcutaneous, intramuscular, or intravenous, the latter method, by injection, being apparently the most effective. In cases in which the induction of labor before term was indicated, some obstetricians have tried to induce labor by the use of this extract alone, with success in two cases out of three. It has also been employed, generally with some advantage, in cases of uterine atony and post partum hemorrhage. But the authors consider that it should never be used unless the patient is free from albuminuria, any unusual arterial tension, or symptoms of eclampsia. The use of this extract in cases of abortion, to hasten the expulsion of the dead fetus, has been tried but without encouraging results. Because of its effect upon the bladder it has been used to combat the retention of urine after or during labor, with favorable results. The results obtained by French obstetricians have been less satisfactory than those reached in England and Germany. This, it is suggested, may be due to the fact that the French have used the extract of the whole pituitary gland, while the English and German investigators have used that of the posterior lobe alone, having thus a stronger dose, which the French purpose to employ in their further investigations.

2. Premature Births.—A. Herrgott classifies all premature births as physiological, pathological, early, late, accidental, or induced; the prognosis as to the life of the child depending upon the class to

which it belongs, and being the most favorable in the physiological and later born. Among the accidental premature births are those resulting from an onset of untimely uterine contractions in consequence of a pathological lesion of the fetus, as in syphilis, or in toxemia from some infectious malady, or from excessive fatigue or emotion. Sometimes the only apparent cause is an excessive excitability of the uterus peculiar to the mother. The physician may induce premature delivery with a therapeutical aim because of some pathological condition of the mother threatening the life of the child; or more frequently, because of a narrow pelvis. Herrgott states that in the case of narrow pelvis, the time for such untimely deliveries, so deplorable for the infant, has now happily passed since the Cæsarean operation, which thirty years ago was so fatal to the mother, has now been brought to such perfection of technique that usually both mother and child are saved. Yet, even now, this operation should not be lightly undertaken. If the pelvis measures from 8.5 to 9.5 cm., the Cæsarean section can generally be avoided and labor induced with safety to both lives, if it is done fifteen days or three or four weeks before term. As it is very difficult to ascertain the exact age of the fetus, to be scientifically accurate, so the determination of the moment of intervention is often a very delicate and difficult matter, and it cannot be denied that the obstetrician may easily be deceived; yet if many die after such premature birth, a great number, happily, survive.

Proceedings of Societies.

SOUTHERN MEDICAL ASSOCIATION.

Fifth Annual Meeting, Held at Hattiesburg, Mississippi, November 14, 15, and 16, 1911.

The President, Dr. ISADORE DYER, of New Orleans, in the Chair.

The Stokes-Adams Syndrome.—Dr. J. G. GAITHER, of Oxford, Miss., after detailing a case that had come under his observation, stated that in the list of reported cases there seemed to be two distinct classes: First, in patients past middle life in whom arteriosclerosis had become pronounced in its effect upon the brain, heart, and kidneys; and, second, a younger class of patients under fifty, usually men, in whom a variety of causes was found. Competent pathologists had frequently made autopsies upon subjects of Stokes-Adams disease, and had failed to find any lesion sufficient to justify the assumption of a causal relation. The prognosis was serious and uncertain. The treatment was purely symptomatic. The subcutaneous administration of a fourth of a grain of morphine was indicated in frequently recurring attacks. The head of the patient should be put low to overcome the cerebral anemia, which was particularly pronounced in a case with the complication of an aortic stenosis. The treatment after the attack resolved itself into the general, hygienic, and the administration of potassium iodide. Any particular line of diet which was found to lessen the frequency of the attacks should be followed. Eliminative treatment should be instituted in cases showing a tendency to renal involvement.

Dr. J. B. ELLIOTT, JR., of New Orleans, had seen only one case of Stokes-Adams disease, and this was associated with arteriosclerosis. The patient died in the second attack. Patient was a man, seventy years of age. There was an atheromatous cicatrix found in the bundle of His post mortem.

Dr. J. B. MCELROY, of Memphis, pointed out the importance of distinguishing clinically between two groups of cases, one the cardiac group, and the other the neurogenous. Much work had been done with reference to the disturbance of the conductivity of the bundle of His, but undoubtedly there were many of these cases which presented the symptoms of the Stokes-Adams syndrome in which this bundle was not involved. Adami had reported such a case, and the speaker had performed an autopsy in one case himself in which the bundle of His was involved and almost completely destroyed by a gumma of which there were no symptoms or evidence during life.

Dr. J. B. GUTHRIE, of New Orleans, had not had the good fortune to see either one of the two diseases described by the essayist, although he had been on the lookout in a large hospital service for the Stokes-Adams syndrome where the cardionephritic cases predominated.

Dr. FRANK A. JONES, of Memphis, stated that in the last several years he had seen five cases of heart block, three of them in men, and two in women. In nearly all these cases or types of heart block there was pronounced arteriosclerosis. Not only was there pronounced arteriosclerosis, but the arteriosclerosis was accompanied with high blood pressure in contradistinction to arteriosclerosis with a low blood pressure. We did not know what the exact pathology of Stokes-Adams disease or heart block was. He had seen one case with bradycardia with the pulse as low as eight for nearly a week before the patient died in coma instead of a convulsive seizure. In the five cases he had seen there had always been well defined arteriosclerosis with high blood pressure.

Causal Factors in Malarial Recurrences.—Dr. GRAHAM E. HENSON, of Crescent City, Florida, reviewed the possible etiological factors in malarial recurrences, the significance of such cases, and considered their treatment. He drew the following conclusions: 1. Parthenogenesis could not be considered a factor in the recurrence of malaria, for the reason that the very existence of such a phenomenon was a matter of great doubt, many observers, working over a period of years, having failed to demonstrate such forms. 2. There were many cases reported that had at no time during the infection shown the sexual forms, but had frequently relapsed. 3. The four cases cited by Ross, in which inoculation experiments containing only sexual forms, failed in each instance to produce clinical symptoms of malaria or to reveal the presence of any plasmodia, while in fifty-one cases cited by the same author inoculation experiments containing the asexual parasites, in every instance produced clinical symptoms of the infection, and parasites of the type inoculated were demonstrated in all of the

cases experimented with since the discovery of the plasmodia.

Pernicious Malaria.—Dr. H. H. Booth, of Drew, Miss., reported three cases of pernicious malaria with cerebral symptoms which resembled heart stroke.

Dr. R. H. von Ezdorf, of Mobile, stated that, according to investigations made in 1898 and 1899, parthenogenesis might have something to do with the recurrent cases of malaria. He had noticed in blood examinations what appeared to have been the conjugate forms. Again, he had observed cases where only the gametes had been present, and he had not been able to find the gametes changed into the form which would revert to the schizodont cycle. In making examinations of the blood of the estivoautumnal cases, where the gametocytes were present, he had found that under the specific treatment of quinine the microgametes would disappear in a short time and the macrogametocytes would predominate.

Dr. Louis Leroy, of Memphis, had not had an opportunity to study parthenogenesis or asexual reproduction, but the resting form mentioned by the essayist had occurred to him a number of times. He had had quite a number of patients who came from latitudes that were considered more malarious than in his section of the country, who had, in many instances, been free from any malarial attacks for a period varying from six months to several years, and invariably, after a week in that district, outbreaks of malaria would occur. As a matter of curiosity, at the time he examined a dozen or more specimens of blood, he failed in many instances to find any parasites, and yet inside of ten days or so apparently new attacks of malaria would be developed. Most of these patients would have enlargement of the spleen develop subsequently. Whether or not the spleen or the bone marrow was the site of the resting parasites, which under these changed conditions brought that about, he was not able to say, but that was his working hypothesis. He had also brought about paroxyms in one patient following exposure of the enlarged spleen to the x ray, in whom again he was unable to find parasites in the blood. Again, under similar conditions, he had seen malarial paroxysms following the administration of large doses of ergot and hydrastin, given with the idea of attempting to reduce the size of the spleen.

Dr. J. B. McElroy, of Memphis, said that his impressions, as gained from a study of the blood itself and from the literature, were directly in opposition to those of the essayist. He could see no evidence from a study of the blood of these conjugating forms developing in the body. On the other hand, according to the work of Schaudinn, parthenogenesis was a well established principle. He agreed with Doctor von Ezdorf that the macrogametocytes continued in the blood after the continued and heroic administration of quinine; and he would further say that in the diagnosis of malaria we should not only include the presence of malarial parasites, but the varieties of them, and we should determine from an examination of the blood whether or not we were dealing with a relapse. This could be easily determined both by the presence of the macrogametocytes and by the tertiary and the estivoautumnal types.

Vaccine Therapy in Typhoid Fever.—Dr. J. B. Elliott, Jr., of New Orleans, stated that in a series of over 200 vaccinations among the senior class of Tulane University during the past two years, they had had only one patient with typhoid fever, which patient was proved to have had the infection previous to vaccination. The most remarkable report was that made by Cullinan of an epidemic of typhoid which occurred in an asylum of which he had charge, and to prevent its spread he inoculated some five hundred who consented, and of these only 1.3 per cent. had it, while of the nonvaccinated 14.6 per cent. went down with typhoid fever.

In a hasty review of those cases treated with vaccines, he found that Russell had collected 118 cases, with a mortality of four per cent. Callison, up to July 1, 1911, had collected thirty-two cases, with a mortality of five per cent. Almost every individual reporter had declared that the temperature, course, and convalescence had been markedly benefited.

Personally, he had treated only three cases. While he fully realized the danger of drawing conclusions from such a very small number of cases, and while he was very conservative, as a rule, in therapeutic matters, yet he had become a little enthusiastic over this method of treatment and should continue to administer the vaccines to all cases of typhoid fever, if seen within the first eight or ten days, and if the practitioner made blood cultures early and often, few cases would escape diagnosis in their incipiency.

Dr. A. W. Freeman, of Richmond, Va., said it was hardly fair to say that typhoid vaccination at the present time was without danger. In a recent issue of the *Naval Medical Bulletin*, the case of a young marine was reported. He was inoculated with the same vaccine that was used in the routine inoculations of the marines of that corps, and within two or three days a most virulent case of typhoid fever developed, and he died of it promptly. At the autopsy typhoid bacilli were found in the circulating blood and in the various tissues of the body. Those who studied this case and did the bacteriological work, as well as the clinician, agreed that this young man was in the incubative stage of typhoid fever, and a dose of vaccine was sufficient to overwhelm him and result fatally, when he might have had a case with demonstrable symptoms of the disease. There was no doubt that typhoid vaccination did confer immunity against this disease, but the degree of that immunity had been variously estimated by various experimenters and observers.

Dr. Louis Leroy, of Memphis, said that, at present, we were suffering very largely from a pernicious activity in pushing and recommending indiscriminately, biological products of this nature. It was asserted that negative phases were not as frequent in typhoid as in some other forms of vaccine administration; still, it was calling upon the reserves, and without skillful clinical observation, we were apt to call out all of our reserves, squander

them in an almost helpless charge, and leave the patient helpless in the face of his increasing infection. Doctor Elliott was careful to say that he limited the use of the vaccine to the first ten days. Even then it would require some discrimination, which he was willing to concede he possessed, in the administration of this vaccine to all cases. All had seen typhoid patients who were almost overwhelmed from the beginning, and he would question the administration of large doses of vaccine to a patient in that condition. Again, late in the disease, it did not seem to be of much use. The main thing he wished to protest against was the indiscriminate use of typhoid vaccines and untruthful advertising of these remedies by therapeutical houses and by detail men who did not know the first principles about it, urging its indiscriminate use in all patients with typhoid fever.

Dr. CHARLES LE BARON, of Gulfport, Miss., mentioned the Spanish-American war, stating that shortly after his return from Chickamauga Park, there was quite an epidemic of typhoid fever below this region. Twenty people were exposed to the disease. Every one of them received typhoid vaccine, and not one contracted the disease.

Dr. GRAHAM E. HENSON, of Crescent City, Fla., mentioned the case of a man, in whom, after typhoid vaccination, a temperature developed which varied from 103° to 105° F., and he was very sick in the hospital for a week. As a prophylactic agent, typhoid vaccination was valuable; but the unfavorable results of typhoid vaccination should be reported as well as the successful ones.

Dr. J. B. MCELROY, of Memphis, thought Doctor Elliott should hedge in these good results from typhoid vaccination by a warning or by putting a large question mark against the proposition as to whether or not these typhoid vaccines could be used promiscuously for the prevention of typhoid fever. Theoretically, we would expect that while these individuals were acquiring immunity from one or two doses which had been administered, there was a negative phase, or sensitization of the individual, during which he was more liable to contract typhoid fever than at other times. It was questionable whether we should use these vaccines promiscuously because one or two cases of the disease had occurred in a community.

Dr. R. H. VON EZDORF, of Mobile, stated that in one patient to whom the vaccine was given a temperature of 104° F. developed, which lasted two days. On the second injection the same reaction occurred, which did not last quite as long. Statistics showed that we could expect these reactions to take place in about ten per cent. of the cases.

Dr. HIRAM BYRD, of Jacksonville, Fla., said that about a year and a half ago they began the administration of typhoid vaccines. They vaccinated 125 people. In two instances the reaction was severe. In a woman the reaction lasted for three days. Aside from these reactions, the results had been very favorable. The youngest child vaccinated was sixteen months old. There was a reaction in that instance, as in two other children. They had vaccinated several children under five years of age in whom the reaction had been very slight.

Dr. J. B. GUTHRIE, of New Orleans, felt that physicians were perfectly justified in resorting to vaccination as a preventive of typhoid fever when the present condition of sanitation in some of our cities and country towns was considered, particularly where streams were so liable to contamination. Any person whose occupation brought him in contact with typhoid patients, or who was forced to live in a neighborhood where typhoid infection was rife, should be vaccinated against typhoid fever.

Dr. WILLIAM KRAUSS, of Memphis, said we might take it for granted that the German government would not countenance any system of experimentation with its troops which would prove detrimental to the personnel of the army, and considering that soldiers were regarded as priceless possessions, no government would permit vaccination against typhoid fever if it was so dangerous as some gentlemen would have us believe.

Diphtheria.—Dr. W. W. HARPER, of Selma, Ala., said that in diphtheria an early diagnosis was essential to successful treatment. Not only could the disease be more promptly cured, but the patient could be spared the complications and sequelæ that followed the delayed administration of antitoxine. As to the treatment, if the patient was seen on the first day of the illness, he gave 5,000 units of antitoxine as an initial dose in faucial, and 10,000 units in laryngeal and severe nasal diphtheria. This dose was repeated in twelve hours unless there was marked improvement. He had seldom found it necessary to repeat the dose.

Dr. P. W. ROWLAND, of Oxford, Miss., did not know by what reasoning the author arbitrarily gave 10,000 units of antitoxine in all cases. No rule could be laid down for regulating the dose of antitoxine. It depended largely upon one's habit and practice. He saw no need of giving such large doses. The ordinary dose of antitoxine in any given case of diphtheria was from 3,000 to 5,000 units, and this was found generally sufficient.

Dr. J. J. STEVENS, of Hattiesburg, Miss., said that he had been called to see a child in the night that had all the ear marks of laryngeal diphtheria, but careful inspection failed to reveal any membrane. He gave calomel, left, but was called back early, and found the child in great distress. The laryngeal symptoms were very prominent. He immediately asked for consultation and ordered some antitoxine. His consultant seemed surprised that he had not administered antitoxine at his first visit. He gave the child liberal doses of antitoxine some hours after the calomel had been given, and the next report he received was that the child had passed a number of very large worms, and was immediately relieved. He thought this case fitted in very well with the essayist's case of appendicitis which was relieved by the administration of antitoxine.

Dr. P. R. BROWN, of West Point, Miss., emphasized the importance of the early use of antitoxine. He did not believe we would have more than one death in a thousand cases if we used antitoxine within the first twelve or twenty-four hours. He had administered antitoxine to four or five patients within the first twelve or twenty-four

hours, and had no need to repeat the dose. He generally opened the bowels with calomel, and in some cases he washed out the throat with some antiseptic solution.

Dr. W. V. DAVIS, of Booneville, Miss., asked whether in giving immunizing doses to members of the family and to others who had been exposed to the disease, any member had noticed urticaria or other skin manifestations.

(To be continued.)

Letters to the Editor.

AN UNUSUAL CASE OF FOREIGN BODY.

NEW YORK, *January 22, 1912.*

To the Editor:

I have the following rather unique and interesting case to report to the profession:

J. R., a laborer, working on a wire drawing machine, had four fingers of his right hand amputated in June, 1909. He was taken to a hospital, the stumps were treated and sutured, and healing took place with primary union. During the last two and a half years he was working more or less steadily, using his right hand as best he possibly could. On the 19th of January, 1912, he came to me complaining of a sticking pain in the stumps of one of his fingers, remarking, that he struck that finger a few days before and it hurt him since. On examination I could plainly feel a foreign body, which I thought to be a piece of bone, chipped off, when he struck his finger; however, to make it certain, I sent him to Dr. J. A. Heine, of 313 East Eighty-seventh Street, who examined it with the x ray and reported seeing a foreign body, which, judging from his present occupation (a wire drawer) must be a piece of wire.

I cut down on the stump under cocaine anesthesia and easily removed what proved to be the tip of a silver probe, half an inch long, left there two and a half years ago, when he was operated on, and strangely enough giving him no inconvenience all this time.

With the hope that the report of this case will prove to be both instructive and interesting to our surgeons, I remain, etc.,

EUGENE BAUMAN, M. D.

IRREGULAR PRACTICE IN THE CANAL ZONE.

NEW YORK, *January 20, 1912.*

To the Editor:

Speaking of Christian Science in the Canal Zone, the *World* asks "why should doctors expect the government to protect them from competition and vest a monopoly of the healing art in practitioners of the regular school? No such protection is extended to ministers who preach only the orthodox doctrine, or to lawyers." Coming from a "comic" weekly which has long advanced it seriously, this argument may be ignored. It ceases, however, to be a joke when earnestly propounded in the editorial columns of a great daily paper.

Like the mobbing and killing of "regular" doctors in Italy lately who were sent to stamp out pestilence there (the only ones, by the bye, who do this kind of work), it must be put down as another of the many "misunderstandings" to which they are subject.

In permitting "any kind of therapeutics" in the Canal Zone, the government should not grant this boon nor restrict this "principle of constitutional freedom" to those residing there alone. It should, likewise, be extended to government territory generally and the army, the navy, and the quarantine service should partake of its benefits as well as the fortunate employees of the government residing in the Canal Zone. Whatever the *World* may say to the contrary, the men who spend from four to six years studying medicine in a university or a medical school never maintain that theirs is a hieratic art or an exact science. This is especially the assertion of those who set up to cure without any human preparation for their calling and whose art and science are derived from knowledge revealed in a "dream" or extracted by a "key" from another and higher science. The sea lawyer or chaplain who demanded governmental toleration on the same grounds in the Canal Zone or on governmental territory elsewhere would receive scant consideration for his pretensions. It is in medicine, and in medicine alone, that such contradictions as this act of the government in the Canal Zone—where one of the greatest pages in the history of medicine has just been written—can take place. No better place could have been selected to contrast for what might be called the edification of the world the rival pretensions of workers in medicine as an "acquired" or as a "revealed" art.

JOHN P. DAVIN, M. D.

UTERINE MYOMATA.

Dr. Arthur Stein requests us to point out that Figure 1 in his article on Uterine Myomata, printed in the JOURNAL for January 20th, on page 109, shows a subserous fibroma, while the reference in line 24 of the second column of the same page should read *intramural* instead of *submucous*. Figure 2, on page 110, should be inverted so as to accord with the facts described.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Developmental Pathology. A Study in Degenerative Evolution. By EUGENE S. TALBOT, M. S., D. D. S., M. D., LL. D., Professor of Stomatology, Bennett Medical College (Loyal University); Corresponding Member, Budapest Royal Society of Physicians, Honorary President, International Association of Stomatology, 1907, Paris. With 346 illustrations. Boston: Richard G. Badger, The Gorham Press, 1911. Pp. xxii-435. (Price, $6.)

Under the heading of developmental pathology Doctor Talbot attempts to show that "as the vertebral phase appears early in embryogeny, an unstable nervous system checked by parental defects, eruptive fevers, and other agencies at the periods of stress in the child, affect phylogeny and ontogeny." Of the 420 pages the first 82 are given over to brief descriptions of the development of the various organs of the body. From page 83 to page 185 the matter under discussion is chiefly the action of an un-

stable nervous system and its effect upon the evolutionary development of the structures of the body. The remaining 236 pages are taken up by an elaborate presentation of the development of the bones of the face, of the jaw, and of the developmental pathological conditions of the teeth.

Doctor Talbot points out that both during the intrauterine and the extrauterine life there are many so called periods of stress, times when a new function disturbs the physiological balance previously existing. Such disturbances may be mechanical, toxic, and nutritive. The power to pass unscathed through fetal periods of stress depends upon the condition of the fetus at the time and this, in turn, depends upon inherited and maternal conditions, especially the latter. The integrity, therefore, of the individual would seem to rest upon the parent, Doctor Talbot saying that "owing to an unstable nervous system in the parents, arrests may take place at any one, or a number of these types [stages of fish, reptile, bird, and mammal in the uterine development] so that when the child is born his general appearance or a structure or organ may resemble one or more of the vertebrate forms.

We cannot help but feel that in many cases the conclusions are drawn *post hoc* rather than *propter hoc*, particularly when the question of maternal impressions is considered. On page 86 it is stated that "even sex is determined by conditions of stress after a certain period. Poor maternal nutrition will determine an excess of males, while good will determine an excess of females." Such conclusions cannot be substantiated. On page 92 is the following: "Maternal environment or its reverse [*sic*] may exercise an enormous influence on embryonic development in the direction of arrested or progressive evolution. Maternal shock produces arrests of development which are not photographic impressions but survivals of embryonic states. While maternal impressions do have an effect, as before stated, it is in conditions of arrest and not in photographic reproduction of the alleged cause of the impression."

Among other statements it is seen on page 36 that as a result of the loss of inhibition exerted by the central nervous system upon the local system, the latter becomes exhausted through overactivity and in consequence "tumors and cancer result from the local reproduction of cells." The legend of Fig. 41 indicates that on account of an unstable nervous system, the tissues are not properly formed, resulting in cleft palate and harelip.

On page 6 the startling statement is made that "the human ovum is typically multicellular," while on page 14 we are correctly informed that it consists of a cell. On page 3 it is correctly stated that the chromatin threads are the bearers of the hereditary tendencies of the cell, but on page 14 that function is attributed to the linin threads.

The mechanical make up of the book is good, but there are quite a number of typographical errors, "humerous," "Assooiation," "internaitonal," "adontoblasts," "myalin," etc. The cuts Nos. 100-101 and 102-103 are evidently misplaced and the legend to Fig. 130 has a word omitted.

Many of the illustrations are good but a number of the original photomicrographs have been reproduced too darkly and do not show the necessary details.

Electricity. Its Medical and Surgical Application, Including Radiotherapy and Phototherapy. By CHARLES S POTTS, M. D., Professor of Neurology, Medico-Chirurgical College. With a Section on Electrophysics by Horace Clark Richards, Ph. D., Professor of Mathematical Physics in the University of Pennsylvania; and a Section on X Rays by HENRY K. PANCOAST, M. D., Professor of Röntgenology in the University of Pennsylvania. With 356 illustrations and 6 plates. New York and Philadelphia: Lea & Febiger, 1911. Pp. viii-509.

This recent work from the pen of Doctor Potts is a readable, terse, and compendious volume, which offers an exposition of many of the newer theories in electricity and their practical applications to the domain of medicine and surgery, as well as the inclusion of the older and tried methods, that for scores of years have stood the test of time, as well as the test of intelligent criticism.

The arbitrary method of considering the physiological action, therapeusis, and mode of application for each form of current separately, is supplanted in this work by the more scientific plan of offering a composite picture of the effects produced by the various currents in each disease, thus presenting a medical study rather than a strictly physical subdivisions.

The more recent additions to the field of electrotherapeutics are perhaps too briefly dwelt upon, nevertheless they form a readable part of the volume, among them being fulguration, hydroelectric methods, high frequency currents, electric sleep, electric light bath, and the more interesting and valuable advances made in the field of actinotherapy.

The first section of the work on electrophysics is by Doctor Richards, who speaks from authority on this subject, and gives a thorough and complete treatise of the physical side of electricity, together with numerous diagrams and illustrations of apparatus, etc., with formulæ.

About one fifth of the volume is devoted to an intelligent consideration of the nature and production of the x rays, their application in diagnosis and therapeutics, and the possible dangers incident upon their use—this section being contributed by Dr. Henry K. Pancoast. This last portion of the volume, in itself presents quite a comprehensive study of Röntgen's masterwork, and every signal advance in this special field of endeavor finds at least a brief remark.

Taken as a whole, Doctor Potts's recent book reflects the very latest teachings in medical and surgical electricity; the volume is well edited, and the index is easy and complete of reference.

Diseases of Infants and Children. By HENRY DWIGHT CHAPIN, A. M., M. D., Professor of Diseases of Children, New York Postgraduate Medical School and Hospital; Attending Physician at the Willard Parker and Riverside Hospitals, etc., etc., and GODFREY ROGER PISEK, M. D., Professor of Diseases of Children, University of Vermont; Adjunct Professor of Diseases of Children and Attending Physician to the New York Postgraduate Medical School and Hospital, etc. Second Edition, Revised. With One Hundred and Eighty one Illustrations and Eleven Colored Plates. New York: William Wood & Co., 1911. Pp. xvii-636. (Price $4.50.)

We are glad to welcome a second edition of Chapin and Pisek's well known textbook on diseases of infants and children, the first edition of which we reviewed in our issue for January 15, 1910. It must be a source of gratification to both authors and publishers to see that a book is so well received that a second edition becomes necessary after two years. The changes in the new edition are not very important. The book has been brought up to date. A table of doses for the vaccines has been added, and syphilis, together with the Wassermann test and the new arsenic therapeutics, is discussed. In short, the book has been fully brought up to date.

Juckende Hautleiden. Dermatologische Vorträge für Praktiker, Heft 3 und 4 (Doppelheft). Von Sanitätsrat Dr. S. JESSNER. Vierte umgearbeitete Auflage. Würzburg: Curt Kabitzsch, 1911. Pp. 120.

The author rightly divides the "itching diseases" of the skin into two classes, those produced by external causes and those resulting from internal causes. Accordingly the treatment must be external, internal, or combine both methods. As is usually the case with Jessner's books, a good many more or less valuable prescriptions are given. We have lately observed that Doctor Jessner has added many preparatory combinations to his armamentarium, chemicals which have not always stood the test and the value of which is often dubious. This fact seems to us to detract from the value of the author's pamphlets.

The Diagnosis of Nervous Diseases. By PERCY STEWART, M. A., M. D., Edin., F. R. C. P., Physician to the West End Hospital for Nervous Diseases, and to the Royal National Orthopedic Hospital, etc., etc. Third Edition, Revised and Enlarged. New York: E. B. Treat & Co.; London: Edward Arnold, 1911. Pp. vii-477.

That a third edition of this book appears three years after its predecessor is evidence of the field of usefulness that is filled by a work which has for its main purpose diagnosis, and which refers to treatment only incidentally, so that the volume supplements, but does not replace, the standard textbooks on the subject.

While the author has given the work a thorough revision, and has added fresh material both in text and illustration, he has not departed from his plan to approach the

subject of diagnosis in nervous diseases from the clinical standpoint, to avoid abstruse details of theoretical interest, and to give as clinical illustrations cases he has observed personally in hospital or private practice. The text has kept pace with present knowledge and the book deserve the continued popularity accorded it.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending January 19, 1912:

Cholera—Foreign: *India*, Nov. 12-18, 42 deaths; Dec. 1-31, 3,879 cases, 2,412 deaths; *Italy*, Dec. 10-17, 18 cases, 10 deaths; *Java*, Nov. 19-Dec. 2, 8 cases, 3 deaths; *Persia*, Nov. 4, 1 case, 1 death; *Turkey in Asia*, Sept. 11-Dec. 7, 953 cases, 814 deaths.

Yellow Fever—Foreign: *Mexico*, Dec. 24-30, 1 case, 1 death.

Plague—Foreign: *Brazil*, Sept. 1-30, 2 deaths; *British East Africa*, Oct. 15-25, 2 cases; *Chile*, Nov. 26-Dec. 9, 2 cases, 1 death; *China*, Jan. 15, present; *India*, Oct. 1-Dec. 9, 36 cases, 43 deaths; *Mauritius*, Nov. 10-16, 2 cases, 1 death; *Straits Settlements*, 1 case, 1 death.

Smallpox—United States: *Alabama*, Jan. 1-5, 1 case; *Colorado*, Dec. 1-31, 23 cases; *Florida*, Dec. 24-Jan. 6, 38 cases; *Iowa*, Dec. 1-31, 45 cases; *Louisiana*, Jan. 1-6, 3 cases; *New Jersey*, Dec. 1-31, 1 case; *North Dakota*, Dec. 1-31, 33 cases; *Ohio*, Dec. 1-31, 45 cases; *Tennessee*, Dec. 1-31, 5 cases; *Utah*, Dec. 1-31, 242 cases, 1 death; *Virginia*, Dec. 1-31, 68 cases.

Smallpox—Foreign: *Arabia* (Aden), Nov. 28-Dec. 4, 1 case; *Canada*, Dec. 10-Jan. 6, 125 cases; *France* (Paris), Dec. 10-16, 11 cases, 2 deaths; *India*, Oct. 1-Dec. 9, 42 cases, 21 deaths; *Italy*, Dec. 17-23, 48 cases; *Java*, Nov. 19-Dec. 2, 7 cases, 2 deaths; *Mexico*, Nov. 12-Jan. 6, 19 cases, 18 deaths; *Portugal* (Lisbon), Dec. 9-23, 8 cases; *Russia*, Dec. 9-23, 8 cases, 1 death; *Spain*, Nov. 1-Dec. 23, 11 cases, 6 deaths; *Straits Settlements*, Nov. 19-25, 2 cases; *Teneriffe*, Dec. 17-23, 10 deaths; *Turkey in Asia*, Dec. 17-23, 12 cases, 4 deaths.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the Public Health and Marine Hospital Service for the seven days ending January 17, 1912:

Ebert, H. G., Passed Assistant Surgeon. Relieved from duty in the Philippine Islands, and directed to proceed to San Francisco, Cal., and report arrival to the Bureau. **Grimm,** R. M., Assistant Surgeon. Detailed to prepare and present a stereoptical lecture on tuberculosis at the Farmers' Conference to be held at the Georgia State Industrial College, Savannah, Ga., February 22, 1912. **Rogers,** Edward, Pharmacist. Relieved from duty at Port Townsend, Washington, and directed to proceed to San Francisco, Cal., and report to the medical officer in command for duty and assignment to quarters. **Thomas,** A. M., Pharmacist. Relieved from duty at San Francisco, Cal., and directed to proceed to Port Townsend, Washington, and report to the medical officer in command for duty and assignment to quarters. **White,** J. H., Surgeon. Granted one month's leave of absence, without pay, from January 15, 1912.

Promotion.

Blue, Rupert, Surgeon. Promoted by the President and confirmed by the Senate to be Surgeon General of the Public Health and Marine Hospital Service.

Board Convened.

Board of medical officers convened to meet at San Juan, P. R., on the call of the chairman, for the examination of Pharmacist B. E. Holsendorf to determine his fitness for promotion to Pharmacist of the first class. Detail for the board: Passed Assistant Surgeon S. B. Grubbs, chairman; Acting Assistant Surgeon P. del Valle Atiles, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending January 20, 1912:

Brewer, Isaac W., Lieutenant, Medical Reserve Corps. Ordered to Fort Porter, N. Y., for temporary duty. **Fisk,** Owen C., Lieutenant, Medical Corps. Ordered before an Army Retiring Board at Washington, D. C., for examination by the Board. **Koeper,** C. E., Major, Medical Corps. Left Fort Bayard, N. M., on ten days' leave of absence. **Morse,** Arthur W., Major, Medical Corps. Granted fifteen days' leave of absence. **Phalen,** James M., Captain, Medical Corps. Will proceed to Albany, N. Y., to deliver an address on the work done in the Army with typhoid vaccines at the meeting of the Homeopathic Medical Society of New York, February 12 and 13, 1912. **Schmitter,** Ferdinand, Captain, Medical Corps. Orders to Fort Clark, Texas, revoked and instead will proceed to Fort Greble, R. I., for duty. **Straub,** Paul F., Major, Medical Corps. Ordered to report to the examining board at the Army Medical Museum Building in Washington, for examination to determine his fitness for promotion; relieved from duty, General Staff, Washington, to take effect March 13th, and will then proceed to the Philippine Islands for duty. **Wallace,** George S., Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Sam Houston, Texas, and ordered to Fort Clark, Texas, for duty. **Waterhouse,** Samuel M., Major, Medical Corps. Granted three months' leave of absence, with permission to go beyond the sea.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending January 20, 1912:

Rose, M. E., Acting Assistant Surgeon. Appointed an acting assistant surgeon from January 12, 1912.

Births, Marriages, and Deaths.

Married.

Margot—Archibald.—In Colorado Springs, Colo., on Friday, January 12th, Dr. Arthur Margot, of Cincinnati, and Miss Henrietta S. Archibald.

Died.

Abbett.—In Indianapolis, on Thursday, January 11th, Dr. Charles Harrison Abbett, aged seventy-three years. **Beach.**—In Coxsackie, N. Y., on Monday, January 15th, Dr. Ambrose Beach, aged fifty-seven years. **Beebe.**—In Guilford, Conn., on Tuesday, January 9th, Dr. George H. Beebe, aged fifty-six years. **Brown.**—In Jersey City, N. J., on Friday, January 12th, Dr. Bailie Brown, aged forty-two years. **Brown.**—In Los Angeles, Cal., on Wednesday, January 10th, Dr. John W. Brown, aged seventy-two years. **Cole.**—At Black River Falls, Wis., on Sunday, January 14th, Dr. Henry B. Cole, aged seventy-three years. **Conrad.**—In Philadelphia, on Thursday, January 11th, Dr. George Conrad, of Johnstown, aged fifty-seven years. **Davis.**—In Spencer, N. Y., on Thursday, January 11th, Dr. George W. Davis, aged sixty years. **Dudley.**—In Philadelphia, on Wednesday, January 17th, Dr. Perry H. Dudley. **Flintermann.**—In Detroit, on Monday, January 15th, Dr. Johann Flintermann, aged seventy-one years. **George.**—In Denton, Md., on Friday, January 12th, Dr. Enoch George, aged sixty-two years. **Jackson.**—In Muskegon, Mich., on Wednesday, January 10th, Dr. James G. Jackson. **Kisner.**—In San Francisco, Cal., on Wednesday, January 10th, Dr. Thomas J. Kisner, aged eighty years. **Koonz.**—In Jersey City, N. J., on Tuesday, January 9th, Dr. Philip Koonz. **Lamson.**—In Boston, on Tuesday, January 16th, Dr. John Augustus Lamson, aged eighty years. **Pague.**—In Chicago, on Wednesday, January 10th, Dr. Charles Hilliard Pague, aged sixty-nine years. **Riggs.**—In Pittsburgh, on Sunday, January 14th, Dr. W. J. Riggs, aged seventy-two years. **Ryder.**—In Cleveland, Ohio, on Friday, January 12th, Dr. Harry F. Ryder, aged thirty-two years. **Scott.**—In Denver, on Friday, January 12th, Dr. Mary E. Scott, aged seventy years. **Swett.**—In Bangor, Me., on Wednesday, January 17th, Dr. Atwell William Swett, aged seventy-one years. **Terry.**—In Brooklyn, on Thursday, January 18th, Dr. Charles H. Terry, aged sixty-eight years. **Wheeler.**—In Portland, Me., on Saturday, January 20th, Dr. William A. Wheeler, aged fifty-nine years. **Wood.**—In St. Paul, on Tuesday, January 9th, Dr. Edward Snow Wood, aged fifty years.

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Original Communications.

THE RELIEF OF PROSTATIC OBSTRUCTION.*

BY J. BENTLEY SQUIER, M. D.,
New York,
Professor of Genitourinary Surgery, New York Postgraduate Medical School and Hospital.

In presenting the subject of this paper, The Relief of Prostatic Obstruction, I shall endeavor to enlist the interest of the general practitioner as well as the surgeon, since it is the general practitioner who is usually first consulted by the patient and upon whose judgment and advice his future comfort largely depends.

The question in each instance of the method to be used for the relief of prostatic obstruction, resolves itself into a decision between catheter life or operative removal of the prostate. When one considers that catheter life in the hands of the patient carries with it 100 per cent. mortality, and that the average expectation of life after such a method of relief is instituted is about three years, operation is really the conservative procedure in the treatment of prostatic obstruction.

Operative mortality in prostatic removal will average between six and ten per cent. in unselected cases and the operative mortality of many surgeons is far below this.

The completeness of operative cure will depend upon the ability to restore the urinary function and leave the urinary tract free from infection. To make this possible, these patients must receive the benefit of operation early in the course of the disease, and therefore an early recognition of the condition is imperative.

Nowhere in the practice of medicine is there a greater opportunity for the medical adviser to aid mankind than in being able to recognize the train of symptoms which herald the onset of prostatic obstruction, and deplorable is the lack of information which exists among the profession concerning the early manifestation of this disease. Patients often succumb to the sequelæ of the disease before the primary cause has been appreciated.

To emphasize the point, I wish to put in evidence this specimen (see Fig. 1), which shows, more graphically than words can picture, the ultimate results inflicted upon the bladder by an unremoved prostatic obstruction. The patient died of suppurative nephritis, the infection ascending from the bladder. He had been warned against surgical intervention early in the disease and had been living a catheter life. The specimen shows an obstructing prostate, multiple diverticula of the bladder, some of which contain calculi, the ravages of chronic inflammation in the bladder wall, dilatation of the ureters, etc.

If the diagnosis of prostatic obstruction is to be made at its onset, certain facts must be remembered, important of which is that the degree of prostatic enlargement may be no indication of the degree of urinary obstruction. To illustrate, a small fibrous prostate or a nodular outgrowth may cause complete retention, and a true hypertrophy with very considerable enlargement of the gland may not form an obstruction to urination.

If, as is the custom with many physicians, we rely only upon rectal examination to acquaint ourselves with the presence of prostatic obstruction, many cases will remain undiscovered and be considered ones in which the urinary symptoms are secondary to kidney disease or spinal cord lesion. It must be admitted that although the diagnosis in the first stage of obstruction from a small fibrous prostate, namely, while the bladder is still able to empty itself, may have to be made by elimination, this possibility should be kept in mind.

For the sake of argument let us admit that the proper time for operative relief in prostatic obstruction is at the incipiency of the disorder. Such being the case a large percentage of patients will require operation while they are still sexually vigorous, and the question will arise, what effect they may expect the removal of the prostate to have upon the sexual function. In view of this it may be well to review the physiology of the prostate gland in the light of recent research.

As a sexual organ the prostate is a secreting gland, and supplies the ingredient of the semen which excites the spermatozoa to motility and makes it possible for them to live when in contact with the uterine mucosa. Serralach and Pares, from experimental excision of the prostate in dogs and other animals, have concluded that the prostate and seminal vesicles have similar functions; that one can supplant the other, and that either or both of them secrete some substance which renders the testes active and in the absence of these organs the testes cease to function and become small and soft.

Walker comments upon these deductions by saying that "in dogs the ejaculatory ducts pass through the gland and that it is most difficult to remove all the prostate without taking away the ducts; and, in

*Read before the New York County Medical Society at the Academy of Medicine, December 27, 1911.

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order to justify their conclusions, they should have operated upon animals from which the gland could be excised without damage to other structures."

Walker removed the prostates from seventy-eight white rats, fifty-two of which remained fertile and twenty-six became sterile. He concluded that excision of the vesicles alone, of the prostate alone, or the vesicles and prostate, did not appear to have any effect on the sexual capacity or on the structure or function of the testes.

Conclusions from the postoperative reports of man after prostatic removal, justify us in expecting the power to copulate to remain and in many instances to be improved, with a diminution or absence of ability to procreate.

The possibility of procreation will also depend upon the patency of the ejaculatory ducts following operation, and the ability of the patient to force the seminal fluid out of the urethra during coitus. This last point is mentioned because I have had a number of patients under observation following prostatic removal, who were able to perform coitus successfully, in whom no ejaculation would take place at the end of coitus, but who would discharge seminal fluid subsequently at the first urination.

The ducts in these instances must have been patent, but the support of the prostatic urethra, and the resistance of the internal sphincter of the bladder having been removed, the semen would run back into the bladder, rather than accumulate in the urethra and be forced out of the meatus during the act of coitus.

A final word on this subject, and one that is not often taken into consideration; the pathological changes which produce prostatic hypertrophy are such as probably so materially to alter, diminish, or stop the secretion of normal prostatic fluid, that by the time operation is indicated the semen has already lost this essential element. These pathological changes, in all probability, occur as follows: There is first a hyperplasia of the parenchyma of the organ with an increase of secretion; then a retention within the alveoli and tubules of the secretion, and, finally, an atrophy of the secreting epithelium, associated with cystic acini and muscular and connective overgrowth. Therefore, early in the course of prostatic hypertrophy the fecundating power of the semen is lost whether or not operation is performed.

There are definite reasons, however, for preserving the patency of the ejaculatory ducts during prostatic removal, as atrophy of the testicles with associated impotence probably takes place if the ducts become occluded. The probability of the preservation of the ejaculatory ducts is largely dependent upon the type of operation employed for prostatic removal. Recent contributions to the study of the anatomy of the pathologically enlarged prostate bear out this statement.

Legueu and Papin, after a comprehensive study of clinical and post mortem specimens of removed prostates and the parts remaining following prostatic removal, conclude, first, that the ejaculatory ducts in prostatic hypertrophy are always situated behind the enlargement; and, second, that after suprapubic removal of the gland, they should remain intact.

Fully to appreciate this, the conception of the prostate as being composed of two lobes must be given up, and replaced by picturing the prostate as divided into four lobes according to the zones of glandular distribution.

Tandler and Zuckerkandl have proved such a contention to be supported by the embryology of the prostate. According to them the organ is divided into an anterior lobe, middle lobe, and two lateral lobes. The ducts of these various lobes open into the prostatic urethra behind the verumontanum, and account for the urethra being adherent to the prostate in this situation. The ducts of the anterior lobe empty into the prostatic urethra on its anterior wall, opposite to the verumontanum, the ducts of the posterior and lateral lobes on the sides and floor.

The middle lobe lies between the urethra and the ejaculatory ducts, and it is this lobe which is the starting point of prostatic hypertrophy.

Better to understand the mechanics of urinary obstruction due to prostatic hypertrophy, let us consider the various lobes of glandular tissue which compose the prostate as being enclosed in a cone. (Fig. 2.) The sides of the cone are formed of dense unyielding vesicorectal fascia, the apex by the external sphincter muscle, and the base by the internal sphincter muscle. Now we will suppose that the phenomenon of hypertrophy takes place in one or more of the lobes contained in this cone. Up to a certain point of enlargement the prostate will be contained within the cone, then it will force its way out, and follow the line of least resistance. This line of least resistance will be into the bladder through perforation of the internal sphincter; since lateral advancement is limited by the dense capsule of rectovesical fascia and anterior advancement by the triangular ligament. (Fig. 3.)

The internal sphincter is forced outside the prostate as the enlarging lobe insinuates itself into the bladder between it and the bladder mucous membrane. (Fig. 4.)

Remembering that the middle lobe is the commencing point of hypertrophy, it is readily seen that but little increase in size of this lobe would, by pushing up from the floor of the prostatic urethra just at the internal meatus, effectually close the bladder outlet to the outflow of urine. (Fig. 5.) Assuming that all obstructions to urination, occurring in the course of true prostatic hypertrophies, are due to the enlargement of the glandular zones which lie between the urethra and ejaculatory ducts and above the verumontanum, we may expect to find the ejaculatory ducts pushed downward by the hypertrophy.

As these lobes increase in size, the pressure exerted upon the periphery of the lobes produces a false capsule to the lobes composed of compressed glandular tissue. When enucleation takes place during prostatic removal, the line of cleavage occurs in these areas of compressed prostatic tissue, and, therefore, some prostatic tissue remains unremoved. What in all probability is accomplished, is the removal of the adenoma or fibroadenoma, from within the gland.

This has been proved (by a number of observers) by histological examination of the pouch remaining, following prostatic removal.

Such being the case, enucleation of these hypertrophies should have no effect upon the second function which has been attributed to the prostate; namely, the secretion of some substance which renders the testes active. This is explained by analogy, taking the ovaries or the thyroid as examples. Leaving a small piece of either of these organs behind, when operating upon them, will preclude the possibility of the appearance of the group of symptoms which become manifest when total extirpation is done.

It is reasonable to suppose, therefore, that in event of prostatic removal, the function of the testes would remain unimpaired with an absence or diminution in the motility of the spermatozoa.

I have discussed the physiology of the prostate, and the effect that removal exerts upon this function somewhat at length, because our views upon the subject have been undergoing changes, and be-

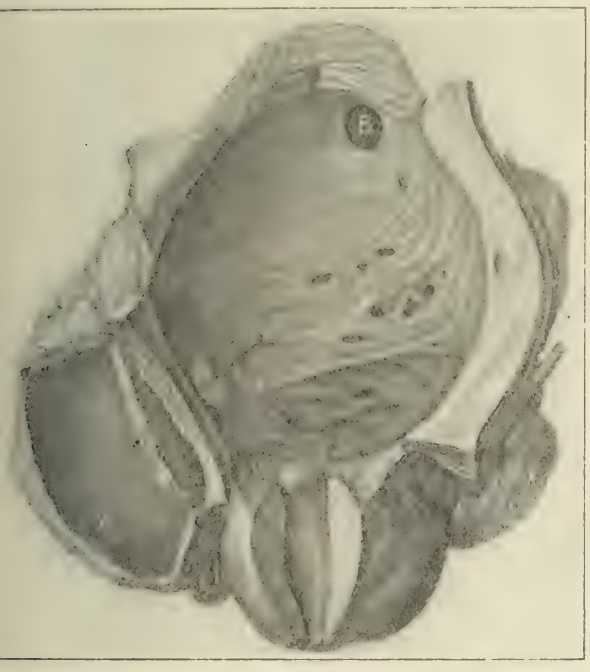


FIG. 1.—Drawn from specimen removed from patient who died of suppurative nephritis. *A* represents large diverticulum; *B*, diverticulum which contained calculi; *X*, multiple diverticula. No intravesical projection of the prostate. Urinary obstruction from median outgrowth. Complete retention of urine.

cause it is expedient that the physician should be able correctly to enlighten the patient concerning it.

The question of the conservation of sexual capacity is of small moment compared to the relief of the condition which makes the removal of the prostate necessary, viz., the obstruction to urination; but the method of operation which best removes the urinary obstruction and reestablishes urinary function, at the same time conserving the ejaculatory ducts, would seem to be the natural selection. As this is the crux of the prostatic situation as regards operative relief, I beg to devote a few moments to discussing this phase.

Three factors should be considered when choosing the particular operation to be employed for the relief of prostatic obstruction: first, the removal of



FIG. 2.—Anatomical relation of normal prostate.

the obstruction; second, an absolute certainty that the patient will be able to control the bladder and not suffer from postoperative urinary incontinence; and, third, preservation of the ejaculatory ducts and sexual capacity.

Of the two routes by which the prostate is reached surgically, the perineal and the suprapubic, the first factor, the removal of the obstruction, can be satisfactorily done by either route. Anatomically, however, the choice would be by the route which would give the closest access to the obstructing lobe, and this favors the abdominal incision. To guarantee the second factor, that is restoration and control of urinary function, certain anatomical requirements are necessary; the most important of which is to avoid injury to the external sphincter muscle of the bladder and the perineal muscle. These muscular structures are never in danger of being injured during a properly performed suprapubic removal of the prostate, but are always in danger during perineal operation. There is less danger from a prostatic removal through



FIG. 3.—[illegible] position.

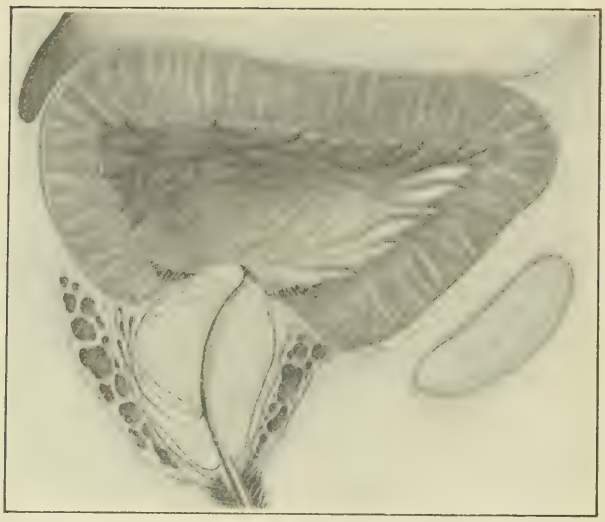


Fig. 4.—Further degree of enlargement; internal sphincter muscle displaced outward; floor of urethra raised.

lateral capsular incision than through median urethral incision.

This is the one point, above all others, which should dissuade surgeons from employing the so called median perineal operation for prostatic removal. If a surgeon has seen a few patients suffer from postoperative urinary incontinence, it seems impossible to understand how he can continue to perform an operation which carries so great a chance of such a possibility.

Postoperative incontinence of urine is the seriour factor in perineal prostatectomy. Many devotees to this method of prostatic removal are apt to beg the question and make light of it. Nevertheless, patients appear in our offices and clinics all the time who are suffering from this noisome operative sequela, and whose condition is more burdensome on this account than it was from the urinary obstruction before operation.

If the records of many surgeons who perform median perineal prostatic removals are studied, we often find reference made to the subject, by merely saying that some patients have temporary incontinence requiring exercise to regain urinary control. Even temporary incontinence should not occur after proper suprapubic removal. I feel that a guarantee of an ability to retain urine after prostatic removal is almost as important a consideration when making a decision as to choice of operation as the rate of mortality.

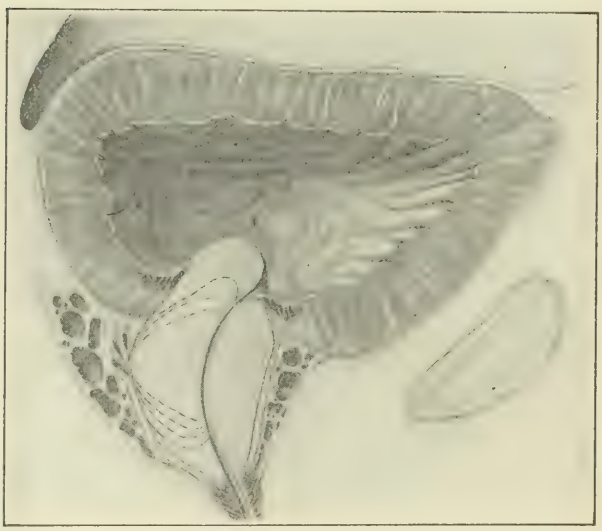


Fig. 5.—Internal sphincter constricts prostate; obstruction to internal meatus complete; ejaculatory ducts displaced downward.

The third factor, preservation of the patency of the ejaculatory ducts, can be more definitely assured by suprapubic than by perineal operation. In performing median perineal removal, they are regularly damaged. Young makes an attempt to save the ducts by shelling the prostate out of the capsule through lateral incisions in it, and by leaving a bridge of prostatic tissue.

In summing up, the suprapubic route anatomically offers advantages not possessed by the perineal, and, in addition, gives a better opportunity to deal with the vesical complications of prostatic obstruction, should they be found to exist.

49 East Forty-ninth Street.

COMPLETE AMPUTATION OF THE PENIS BY A JEALOUS WIFE.

Catheter Lost in Bladder and Extracted Four Weeks Later with the Lithotrite.

By G. Frank Lydston, M. D.,
Chicago,
Professor of Genitourinary Surgery, Medical Department, State University of Illinois;
and Harold F. Steere, M. D.,
Chicago,
Instructor in Genitourinary Surgery, Medical Department, State University of Illinois;

Cases of mutilation of the penis by jealous women are more frequent than is generally supposed. The senior author of this paper has met with a number of cases of mutilation of the organ, and two cases of complete amputation besides the one herein recorded. A fourth case has been reported to him by a colleague. Quite recently also, a case came under his observation of mutilation of the testes produced by a similar agency.

The psychology of cases of genital injury by criminal assault varies:

1. Simple jealousy. Women sometimes injure not only the offending male, but also the female rival, making the genitals the object of assault. The male often makes the genital organs the objective point of assault upon a rival. The dominant idea is in most cases simply revenge.

2. The desire to deprive a rival of what seems to the jealous person the chief point of interest to the rival.

3. A desire to punish the one at whose hands the assailant has suffered injury.

4. A "dog in the manger" sentiment. Both women and men have been known to commit sex mutilation on persons in whom they no longer had an interest.

5. The desire to protect oneself from future encroachments on one's sexual rights. A recent famous Western case is in point.

6. Insane impulse.

7. Reversionary instinct, resulting in sadism. Apropos of this point, the attack of the female spider and of the female *Mantis religiosa* upon the male after copulate are illustrations.[1]

CASE. X., an honest, hard working, decent Bohemian incurred the jealousy of his wife through what she chose to believe was marital indifference due to attentions to



FIG. 1.—Healed stump of amputated penis.

other women. So far as the authors have been able to determine the woman was abnormally developed sexually and the "indifference" of the unfortunate victim of her jealousy and vindictiveness was due merely to the physical fatigue incidental to his occupation, which was that of a laborer.

About 3 o'clock on the night of October 15, 1911, while X. was sleeping soundly, Mrs. X. procured a razor and completely amputated his penis, about an inch from the pubic symphysis. The hemorrhage was, of course, very profuse, and as Doctor Steere, who was called to attend the case, did not arrive on the scene for about forty minutes he found the patient in semisyncope and almost exsanguinated. The amputated organ was found hanging by a narrow strip of integument.

After severing the skin and removing the injured member, Doctor Steere trimmed the stump, leaving the urethra longer than the stump. He then split the "cuff" of urethra and stitched it partly over the stump to form a pseudomeatus. A small, soft rubber catheter, No. 17 F. was left in the bladder. Healing was prompt, and Doctor Lydston was privileged to exhibit the case at his clinic three weeks later.

CATHETER LOST IN THE BLADDER.

It would seem that the foregoing victim of jealousy and revenge had experienced about all the trouble that was "coming to him," but it remained for an accident to add to his quota of misery. Several days after his admission to the hospital the catheter which had been left in the bladder "turned up missing." There was much argument as to what had become of it. Doctor Steere could get no definite information, but being suspicious that the catheter had been permitted to become lost in the bladder, kept the case under careful surveillance. A severe cystitis with ammoniacal urine developing, Doctor Steere brought the case to Doctor Lydston for examination.

By cystoscopic examination, Doctor Lydston demonstrated the catheter at the base of the bladder. It was curled upon itself several times, the distal portion extending up toward the fundus some two or three inches. The texture of the catheter could not be seen on account of the incrustation of the instrument with urinary salts and mucopus. The cystoscope was withdrawn and a lithotrite introduced by Doctor Lydston. With this the catheter was grasped at the second attempt and with some little difficulty withdrawn from the urethra. Just as the beak of the lithotrite with the catheter in its jaws appeared at the meatus, the catheter slipped from the grasp of the instrument and was lost in the urethra. After a little effort, however, it was withdrawn with the alligator forceps. There was considerable hemorrhage, mainly from the contracted pseudomeatus, which was torn a little by the passage of the lithotrite and the extraction of the catheter. The hemorrhage was readily controlled



FIG. 2.—Catheter encrusted with urinary salts.

by adrenalin. Since the extraction of the catheter the patient of this most interesting case has been doing well. The senior author of this paper has similarly extracted a catheter from the bladder in two previous cases of retained catheter drainage.

32 NORTH STATE STREET.

[1]Dallenger, Clevenger, Kiernan, and others have descanted upon this point. The senior author of this paper has treated more fully of this subject in his work, *The Diseases of Society*.

TREATMENT OF DISEASES OF THE POSTERIOR URETHRA,*

BY JOHN A. HAWKINS, M. D.,
Pittsburgh, Pa.,
Genitourinary Surgeon to South Side Hospital.

The suggestions set forth in this brief paper are the results of my personal experience and may differ from textbooks which in many instances appear to me as mere repetitions of previous works.

*Part "d" of a symposium, Diseases of the Posterior Urethra and Their Treatment, read at the meeting of the American Urological Association, Chicago, September [illegible], 1911.

The day of treatment of diseases of the posterior urethra by sounds and instillation alone is long past and with the etiology and pathology fairly understood, the use of more rational methods should give more satisfactory results. I confess that with the results of treatment of the deep urethral lesions, I am not entirely satisfied.

It is possible that too much is expected, but there are so many patients presenting groups of symptoms leading to suspicions of conditions which are found not to exist when examined by modern methods that the work really is disappointing. I hear doctors of limited experience frequently tell how easy it is to get rid of pus threads in the urine. To me, that condition is a nightmare, for, after long, careful, and conscientious treatment, I frequently must confess, to myself at least, that permanent distortion of the affected parts prevents a return to a perfectly normal condition. And, is it not possible, especially in long standing cases of gonorrheal urethritis that pathological changes occur that never become normal? I believe so.

In previous papers before this honorable body and others, I have always advocated the use of the urethroscope with the light thrown down the tube from the proximal end and for years used the Fenwick instrument made by Schall, of London. During the past year I have used a light carrier—a modification of the little instrument shown by Dr. J. Bentley Squier[1] at the St. Louis meeting. The modification consists simply in having the lamp carrier movable on the bar in order that it may be moved closer to or farther from the object, as on its top are two lenses, a plus and a minus, for enlarging the image with the different length tubes. These tubes, to which the light carrier is attached by the Leiter method, are the regular Leiter tubes, varying in size from 18F to 32F, the curved beak, deep urethral tubes ranging from 24F to 30F. The 24F deep urethral tube (originated many years ago by Leiter and now sometimes called the Swinburne tube) measures from shoulder to fenstrum 6.5″, and with it a very clear image of the urethral floor is secured.

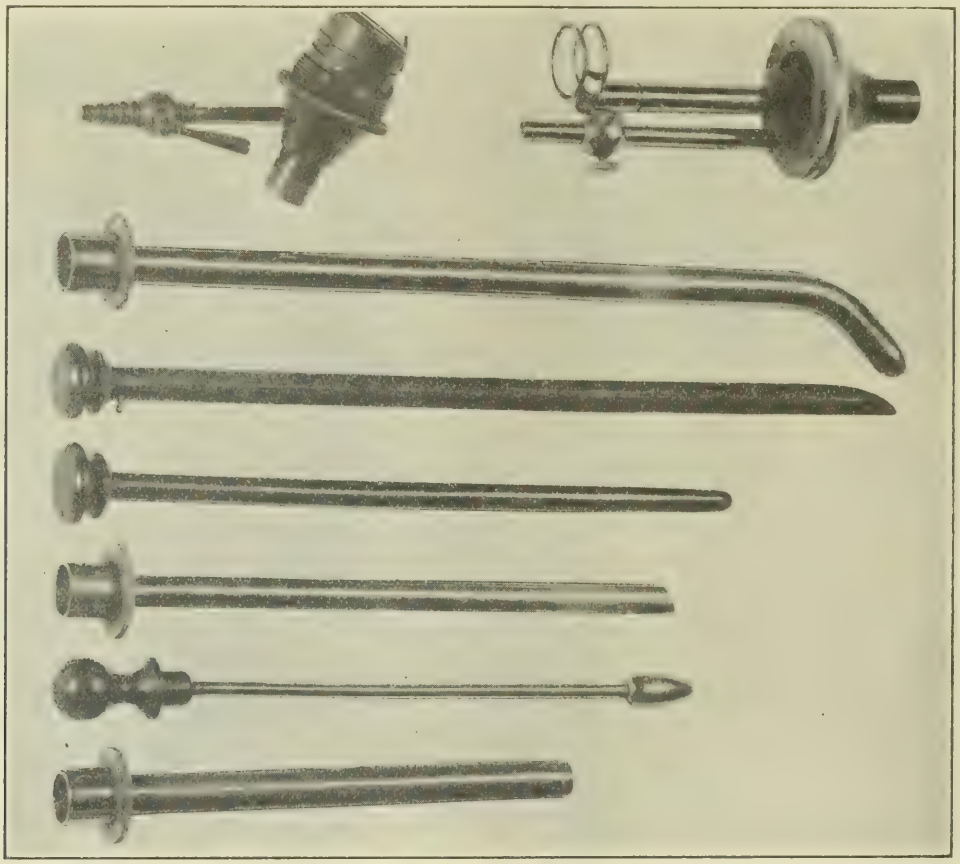


Fig. 1.—The first illustration shows Fenwick's air attachment. The second is a light carrier (modification of Squier's). The third is Leiter's deep urethral tube. The fourth, fifth, and seventh are obturators. The sixth is Leiter's straight anterior urethral tube. The eighth is a silver tube with sharp edge for removal of polyps in the anterior urethra, with air dilatation.

In addition, the oblique view cystoscope made by Wappler has proved of great value for examinations and I think is the only cystoscope of much value in the deep urethra, except that of Buerger and of Pilcher. With this instrument, examination of the deep urethra and of the bladder, and ureteral catheterization can be completed without removal of the cystoscope and, best of all, the image is not transposed. As, with the Buerger instrument, water is allowed to flow into the deep urethra

[1]Squier's little instrument is being sold by some dealers as the "Ideal," "Young's," etc. This is, to say the least, reprehensible plagiariasm, as the inventor who usually pays many times the ultimate selling price for the first instrument and then gives it to the profession deserves the credit.

through the cystoscope from an irrigator so as to push the mucosa away from the fenestrum.

Stricture of the deep urethra was believed until recently never to exist and in Chicago in March, 1910, when I reported a case, several gentlemen received the report in an unflattering manner. Fortunately for me, in the discussion, Doctor Kolischer spoke fully of the existence of the lesion.

Stricture of the deep urethra occurs in the circular fibres at the vesicourethral junction, and I think is always an inflammatory sequence. In the case I presented, the internal urethral orifice was so small that the removal of the tube inserted after a perineal prostatectomy, was followed by retention and the patient was only permanently relieved by cutting, in several places, the contracted ring through a suprapubic opening and then forcibly dilating it. This was in 1909, and since then the patient has never been troubled with retention or dribbling, but the irritation is always present to a greater or less degree. Six years before seeing him first, he had passed a good sized stone, the appearance of which explained his previous sufferings.

In a number of patients operated upon for prostatic obstruction, stricture, or fistula, the same condition has been found and have all been treated likewise.

Severe inflammatory symptoms of tenesmus, drop of blood, etc., following or accompanying an acute gonorrhea are most quickly relieved by a few drops of silver nitrate of fifteen per cent. strength deposited in the deep urethra with an Ultzman syringe after local anesthesia.

Irrigation with a one to 2,000 solution of quinine and urea hydrochloride causes less distress and as good results as any other irrigation. In this connection, I might add that quinine and urea hydrochloride, fifteen grains to the litre, after any severe treatment of the deep urethra completely abates all pain for a number of hours and, as it does no harm, I suggest its almost routine employment.

I confess that my results with potassium permanganate have been neither pleasant nor satisfactory and I consider weak solutions of nitric acid equally efficient and much cleaner. (Five to eight drops of C. P. nitric acid to the litre.)

Papillomata of the deep urethra need not be snared or burned off with the platinum cautery. They may be easily scraped away with the edge of the urethral tube. This little operation I first saw at Mr. Fenwick's clinic in London, in 1899, and I called attention to it in the *Journal of Cutaneous and Genitourinary Diseases*, for November, 1901. It has served me well on several occasions and many times for removal of polyps of the anterior urethra.

Fulguration is also a successful method of removal of these growths and with the posterior urethra distended, it is not a difficult task with the ("Oudin current") high frequency outfit, using the fulguration electrode through the Wappler oblique vision cystoscope, exactly as you would catheterize a ureter or probe areas in the deep urethra. The "Tesla current" from the small coils shocks the patient severely.

Ulcers in the deep urethra are best treated by strong solutions of silver nitrate on swabs, through the deep urethral tube. If desirable, fulguration may be used through the "oblique vision" cystoscope in the same manner as in ureteral catheterization or through the open tube by passing the electrode through a cannula.

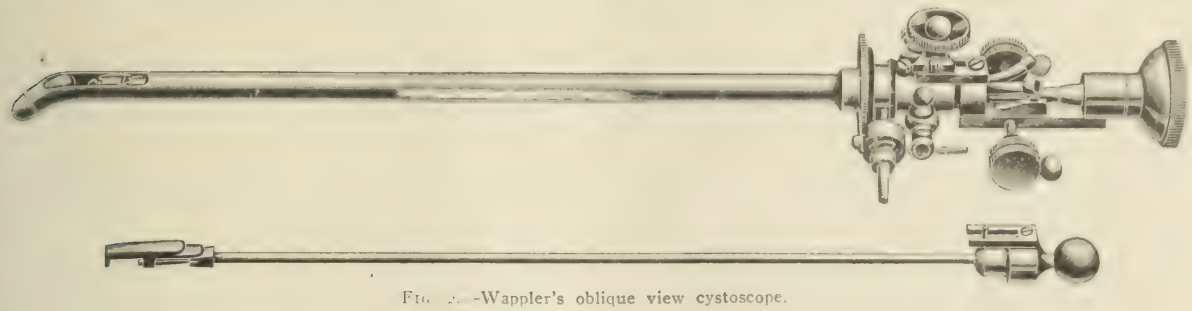


FIG. 2.—Wappler's oblique view cystoscope.

Chronic gonorrheal posterior urethritis seems less obstinate in recent years. Use of the cold sounds is not routine. You all, no doubt, recall Ultzman's line of treatment, where cold sounds followed by either irrigation or instillation was used every second or third day. I endeavor to treat these patients at long intervals—one week if possible, endeavoring never to overtreat them. The full sized sound followed by quinine bisulphate solution by irrigation or silver nitrate instillations, is followed at the next sitting by topical application through the urethroscope. The next time, a copper electrode is passed, the positive pole attached to it and the galvanic current applied and increased until the patient just feels it. He usually complains of burning of the skin over the abdomen, which necessitates the frequent sliding of the negative sponge placed there, before burning is felt in the urethra. The amount of current varies from 0.5 to 3 milliampères and the duration, three to five minutes. I purpose trying the high frequency current as soon as I can get a suitable electrode.[2]

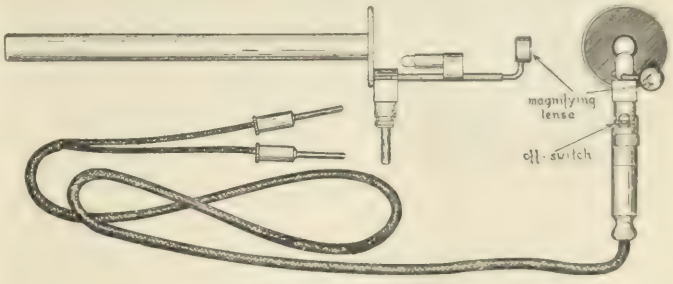


FIG. 3.—Squier's urethroscope.

[2]Since writing this paper I have used both the insulated and plain vacuum tubes in the urethra with excellent results. Urethral burning in one case disappeared after three minutes' treatment.

No anesthetic should be applied when the galvanic current is used, although with a positive pole destruction of the tissue is hardly possible.

I have also used a hollow rubber electrode with perforations in the sides of the part placed in the deep urethra. Through this fluid extract of hydrastis is instilled, a copper wire inserted to the bottom of the ruber cannula and the positive pole attached. Cataphoresis is secured with beneficial results in some cases.

Although, as in other methods of treatment, good results are not always secured, I must say that I have never seen any disagreeable symptoms follow cataphoresis and I have great hopes for it when it is better understood.

The treatment of inflammation of the various parts of the verumontanum resolves itself into topical applications through the endoscope and cystourethroscope, cataphoresis, and internal medication. Silver nitrate, fifteen per cent., on a saturated swab has given better results than any other application. This strength appears to be much less painful than weaker solutions. Once a week is often enough, in fact, never give a subsequent treatment until all irritation has disappeared, and between applications it is advisable to irrigate the entire urethra and bladder with a solution of nitric acid, four to eight drops to the litre (one to 4,000 or one to 2,000) or quinine bisulphate, ten grains to the litre (one to 1,500). This usually reduces the succulent caput, one or two treatments frequently showing improvement. I favor this treatment rather than more radical measures, because no scar tissue remains. After cutting or deep burning, this always results and may be followed by retention cysts or even stenosis of the puncta ejaculatoria. Fulguration in this particular locality, unless carefully performed, is open to the same objection, and I think it is a part of wisdom to deal cautiously with these very important structures.

Many patients suffering from lesions of the deep urethra are badly in need of tonic treatment, many being markedly neurotic, constipated, morose, and with poor appetites. The less balsam, the better Although contraindicated in inflammatory conditions, I believe these patients are all benefited by strychnine in not less than one twentieth grain doses four times daily. Quinine also is useful in two grain doses. Cold or tepid baths, autocondensation, massage, etc., are all useful adjuncts and should not be forgotten.

800 Keenan Building.

A CASE OF KERATITIS ROSACEA.*

By Burton Chance, M. D.,
Philadelphia.

Rosaceal keratitis may be said to be a rather uncommon affection, notwithstanding the fact that acne rosacea is a common disease. Since Arlt first described it in 1864 (1), only about a score of cases were reported up to 1910; standard works in both dermatology and ophthalmology scarcely speak of it. It remained for Holloway (2) to analyze, in English, the literature on the subject in a classical paper which he published last year in the *Archives of Ophthalmology,* while Erdmann, of Rostock, at the same date, presented an exhaustive paper on the relation between rosacea and other diseases of the eye and detailed the histories of fifteen cases (3). Holloway describes a case of his own, and in February of this year Weidler (4) reported a case under his observation I wish to present another, because in it there are certain features which place it among those already published and because of certain others which make it unique and entitle it to adequate presentation.

Case I. The patient was a man aged forty-two years. He had been freckled faced in boyhood, but had no other dermal blemish until he was eighteen years old, when his nose became red. At that time, and for the three years previous, he had been employed in a hosiery mill, and he believed that there was something irritating in the oily materials with which he had to work that had caused this redness; the oils, and the use of grease paint, for he was quite athletic and frequently appeared as a clown gymnast. For several years, each springtime, the redness recurred. He did not worry about it, because the redness faded of itself in the cold weather, and because it seemed to be benefited by the use of a well advertised skin soap.

His worst attack was when he was twenty-six years old, and this lasted for four months. When it subsided his eyes became affected. He had styes at first and then photophobia and lacrymation, and his sight rapidly became clouded so that by the end of two weeks he could not see. The visual symptoms lasted for about four months, and by this time the skin had become pale and smootn again. After a week or two the irritative symptoms subsided so that he was able to see a little. On recovery he had useful sight which remained but little changed until 1903, when he had repeated but brief alternate attacks of redness of the skin and inflammation of the eyes.

During all the years he had not had any special treatment for either the eyes or the skin, but had used only the proprietary soap. He had had two attacks each year in the spring and autumn. In 1902, however, he did consult a physician who prescribed a salve which he used only for two weeks. In 1903 he was taken into the police force of the city and is still employed on a patrol wagon.

I saw him first as a hospital patient in 1899. He reported then because of styes, for which some simple treatment was given. His corneas showed the scars from old superficial disease. The man did not continue long under treatment at that clinic and he was lost sight of until 1904, when he came to the Germantown Hospital with progressive involvment of the corneas. At that time holocaine and atropine were used. The symptoms were soon alleviated, though the skin symptoms began to increase, but the progress of the case could not be observed because the patient again disappeared, and was lost sight of until June, 1908, when he visited me at my office. He had had "ulcers of the cornea" of the right eye for the eight months past, and "crops" of ulcers on all his eyelids.

At this time the corneas showed extensive erosions which were greater in the right than in the left. These occupied the area of the fissures, although the peripheral portions were studded with minute areas of infiltrate beneath the epithelium. There was distinct vascularity, the vessels being tortuous and looped. The whole of the cornea was edematous and there was marked photophobia. The lids were boggy, the glands were congested, their ducts obstructed, out of the mouths of which the contents could be expressed. Atropine and zinc lotions were ordered and a saturated solution of sodium salicylate with cathartic pills were prescribed for the maintainence of gastrointestinal antisepsis. After forty-eight hours there was less edema of the corneas and the peripheral portions seemed to be clearer, while the photophobia was distinctly reduced. The patient did not report again for eight weeks.

By this time the eroded areas were distinctly necrotic, the patches had become quite wide on each cornea, and the remaining portions were very uneven. I touched the

*Read at College of Physicians, Section in Ophthalmology, December 21, 1911.

denuded surfaces with carbolic acid, and hot compresses were applied steadily and a solution containing holocaine, etc., was instilled every three hours. After two days there was a marked regression, though the globes were excessively vascularized.

One week later both the skin and the eye were less affected, and for the first time it was possible to ascertain the visual acuity; in the right it was 5/25; in the left, 5/30. I allowed the man to return to duty.

By August 23d, his weight had increased to 190 pounds, an increase of ten pounds since June 5th. Chalazial masses had formed in the right lower lid. These were incised and their contents removed, the wounds healed promptly, and by the end of a week the man disappeared and was not seen again by me until July 13, 1911, when he consulted me stating that his left eye had been inflamed for several days. The globe was congested, and the cornea quite vascular. In the centre of the cornea the surface was depressed in little pits, and the substance was occupied by a grayish infiltrate.

A solution containing holocaine was instilled and ordered for frequent use. Two days later iodine was applied to the infiltrated area, which tended to flatten the walls of the pits and make the surface uniform. A pill of arsenious acid, 1/100 grain, was prescribed once daily and later twice. The lids were boggy and there was lacrymation with injection. In a few days the corneal surface became filled in and marked pannus developed. The solution was used from this time but once a day. Then I restricted the diet to boiled rice, which he bore with a good deal of fortitude, as his diet had been very full and of rather coarse food. At the end of eight days the scleral injection was gone and the cornea had become glossy again. The lids were puffed, however, and were still dense and boggy. By August 8th his weight had decreased several pounds. The eye was free from injection and the cornea was smooth, even over the central area. By August 22d, the eye was well and quiet. The arsenic was continued and he was directed to use the solution in both.

In the meantime the skin process had remained quiet. The right eye showed nothing but the opacity. There was marked bulbar injection, the centre of the cornea pitted and "moth eaten," while the surrounding portion showed scattered foci of subepithelial infiltrate. The rice diet was resumed. Hot and cold applications to the eye were ordered and frequent instillations of the solution, as the iris had been sluggish and boggy. Believing the skin disease to be acne rosacea, though it must be remembered it was not at its height in any attack in which I attended him, I sent the man to Doctor Knowles on general reasons and for further advice. He confirmed my diagnosis and recommended the use of zinc washes for the face and outlined certain restrictions of the diet. The man was then placed under his care for the special treatment of the skin lesions.

I continued using the compound zinc lotion for the eye and dusted the face with stearate of zinc. In four weeks the facial symptoms had remarkably regressed, the eye was becoming quiet, there was less injection, and no new peripheral areas appeared. The subepithelial tissues were more intact, for fluorescein stain failed to permeate as formerly, and a few days later the eye whitened and the corneal areas, big and little, coalesced. By October 11th, the left eye was free from injection, and the lids smoother, while the symptoms of the latter had regressed to a remarkable degree; the corneal area seemed to be concentrating. Arsenic was withdrawn and a tonic prescribed by Doctor Knowles, who had also ordered a zinc wash for the face, was used. Doctor Knowles had been meanwhile subjecting the face to exposure to the x rays.

By October 20th, the scattered foci were fewer in number and the infiltrate seemed to have become concentrated in the fissures, while the epithelium had become so much restored that the fluorescein did not stain it, and large, singularly looped vessels stretched across from the limbus to the "moth eaten patch." The lids remained boggy. In the superior and interior portions of the left cornea there was no sign of recent or old disease. The iris was clearly seen. On the pupillary edge were two tags which seemed to be the stumps of a pupillary membrane fibre. The nasal fragment was rather thick and the filament was curled; the temporal filament appeared to be adherent to the central opacity in the posterior surface of the cornea. In neither eye were there signs of exudative iritis. The fissural patch had begun to contract; but an edema of the cornea prevented a clear view of the fundus.

By November 28th, the general symptoms had subsided to a remarkable degree. The surface of the skin was smooth, without thickening and prominence of the follicles. The rosy hue remained because of the chronically dilated venules. The lids were thin and healthy. There was no photophobia nor tarsal cramp. The globes were white, the corneas free from vascularity, the obliterated vessels showing their branchings by transmitted light. The left corneal surface was quite smooth, the right uneven because of the wider distribution of the deposits.

The man has always been of steady habits. He has been vigorous in health, being quite athletic. Almost anything agrees with him and his appetite is always good. He has been pure in his personal life. He was married at twenty-five years of age, but has only one child, a son of fourteen years. Since marriage the disease of his eyes has been worse than before. He has never noticed any causal relation between the state of his general health and the onset or progress of the skin disease, nor or the ocular lesions. He maintains the idea that the onset of the disease followed his working among the oily yarns and in the use of theatrical grease paint.

In the literature frequent allusion is made to the resemblance this affection bears to phlyctenular disease. This case most certainly did not at any time remind me of any manifestation of that disease that I could remember. I had never seen so wide an involvement of the corneal surfaces; nor any infiltration with such an outline and shape as shown in these areas; nor as relatively superficial, and with so marked resistance to perforative tendencies. In this case there was in each eye a broad, dense, apparently homogeneous opacity, extending across the summit of the cornea from limbus to limbus, irregular in border outline, while from the upper and lower periphery were scattered spatterings. In appearance it was as though the large central area had been formed by a pushing in of just such scattered foci. The epithelium was not necrotic in the sense that it was ulcerous. It was rather like what one sees when an interstitial deposit liquefies and the overlying epithelial stratum sinks in. There were no true blebs. When the outburst subsided, the scattered drops seemed to melt away, for the peripheral portions of the cornea became translucent. At no time was there an involvement of the limbus.

The vascularity was unusual, for the vessels were unusually large and most singularly looped and festooned—a subject commented on by Weidler in the report of his case.

The bulb did not participate in the affection, ex-

cept in the respect of a deep injection, which was universal. The corneal vascularity arose from only the upper and lower branches, and these twigs did not seem to intermingle, but rather returned on themselves and thus formed the loops already mentioned. The vascularity was greater from the upper limbus than from the lower.

It is difficult to account for the invasion of the cornea, in a disease primarily affecting the glandular elements of the skin. There cannot be any possible connection between the dermal and corneal tissues.

I have ventured to believe that the affected lids, with the chalazeal and hordeolar formations, had produced traumatisms to the corneal nervous elements, so that the affection of the cornea is really a neuropathic keratitis.

Except in the instance already mentioned suppuration of the glandular portions of the lids did not occur, but throughout the height of the disease of the eye the lids were heavy and sodden and the glands swollen and prominent, and as there was intense photophobia the pressure of the lids was sufficient to cause such traumatism.

It is quite singular that so pronounced an involvement of the cornea should have been unaccompanied by distinct inflammation of the iris. Even during the weeks of the relapses, when the patient was not under observation, the irides must have been unaffected seriously, for when mydriatics were used dilatation promptly occurred and no signs of exudation could be seen.

As to the treatment many substances were tried. The case did best when zinc lotions were used, and even before using the almost specific zinc sulphate and potassium sulphurate for the skin, I noticed that the excess of the collyrium seemed to reduce the inflammation of the skin and of the eyelids and upper cheeks. I regarded holocaine as of exceptional value and I can testify to the value of the rice diet. The skin is resuming a healthier tone from the frequent applications of the Röntgen rays.

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SOME NEW IDEAS CONCERNING PHYMATIASIS (TUBERCULOSIS),

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We cannot protect ourselves against invasion of tubercle bacilli, nor, what is more important, against development of phymatiasis, after such invasion, in case we are subject to predisposition. The part which predisposition plays in infectious diseases in general has been demonstrated most thoroughly by Rosenbach.[1]

The tendency of bacteriology is to find curative sera. Such a serum has been found in the antitoxine against an *acute* disease (diphtheria); a serum against a chronic disease like phymatiasis has not yet been discovered. The treatment of phymatiasis remains as it was before the period of bacteriology in medicine, namely, in changing the nutritive soil, in invigorating the constitution, in order to develop power of resistance until the bacilli have been eliminated. The results obtained under favorable conditions, as for instance in proper institutions, which we may call *therapeuteria* or *iatreia* instead of sanatoria or sanitaria, are by no means so satisfactory that we have no need to look for still better and additional methods as long as we have not found the curative serum and as long as we are unable to secure accommodation for the majority of sufferers from phymatiasis in proper iatreia or therapeuteria.

We all know that consumptives who regain good appetite have the best chance; those whose digestive disorders cannot be regulated are doomed. The worst cases are those with incessant vomiting; they all perish rapidly. The prognosis in cases with dilatation of the stomach is especially unfavorable. How close the relations of atonia gastrica are to phymatiasis, I could demonstrate by applying my abdominal adhesive plaster belt.[2] Most marked and prompt relief has been afforded in such cases of extreme severity in which reflex cough and reflex vomiting were among the symptoms. Patients whose night's rest had been interrupted by almost constant coughing, and whose nutrition had been impaired by frequent vomiting, have at once enjoyed comfort, after months of distress, the first night after strapping, and have been able to retain properly selected food, which they had not been able to do before such strapping.

In phymatiasis we have to deal with a stomach question. As long as an active, perfect metabolism exists in the body, the bacilli do not find favorable soil for their development; they will perish, even when they have invaded in large numbers. All methods of treatment by means of which the appetite is improved and metabolism regulated have proved beneficial.

In phymatiasis we find in most cases, more or less, sooner or later, atonia gastrica. The relief of this condition, in all instances in which it has caused disorders of digestion, of circulation, of innervation, means an improvement of the general condition, and the most rational remedy for atonia gastrica—there can be not the slightest shadow of a doubt—is abdominal strapping. And abdominal strapping has to be considered not only as a *palliativum* but as an essential *adjuvantium*.

Dr. Hugo Weber, of St. Johann, Saarbrücken, Germany, published, in the year 1906, a monograph, *Die Heilung der Lungenschwindsucht durch Beförderung der Kohlensaürebildung im Körper* (The Cure of Pulmonary Phthisis by Means of Promoting Development of Carbonic Acid in the System), in which he says: "Lungs overcharged with carbonic acid, as in the case of emphysema, enjoy a certain degree of immunity against the attacks of the tubercle bacillus." Weber is of the opinion that carbonic acid in our system protects the tissues against invasion by tubercle bacilli. In support of his theory he mentions a number of facts, among

[1] O. Rosenbach, *Physician versus Bacteriologist.* Translated from the German by A. Rose, M.D. Funk & Wagnalls Company, New York, 1904.

[2] A. Rose, *Atonia Gastrica.* Funk & Wagnalls Company, New York, 1905.

which may be instanced that diabetics are especially prone to phymatiasis; this is due to insufficient development by them of carbonic acid. He reasons as follows:

According to Ebstein imperfect development of carbonic acid is a factor in the causation of diabetes. The frequent association of diabetes and phymatiasis justifies the conclusion that Ebstein's tissue anomaly furnishes simultaneously favorable conditions for the development of phymatiasis. We have also to consider the weighty circumstance that while there is insufficient combustion of sugar, there must be doubly reduced formation of carbonic acid in the system, thus forming a *circulos vitiosus*. This view of the interference of carbonic acid with the development of phymatiasis is supported by other generally known facts, which, however, have not yet been regarded from this standpoint; phthisis is arrested during pregnancy, although one would think, according to physiological conceptions with which we have been made familiar, and by the increased demands made on the sick individual, that the contrary was to be expected. With the aid of our theory, however, we can comprehend it and find it even natural, when we consider the following fact: The fetus continuously introduces carbonic acid by the metabolism into the maternal organism, and it is this carbonic acid which checks the murderous disease.

Patients with heart disease and considerable venous hyperemia of the lungs—i. e., the lungs overcharged with carbonic acid—enjoy a certain degree of immunity against phymatiasis. On the other hand, children born with stenosis pulmonalis die invariably from phymatiasis, because the afflux of venous blood to the lungs is imperfect.

In regard to the mucous membranes, we find that wherever there is greater vascularity, and consequently more active metabolism, more carbonic acid is produced, and this means better protection against phymatiasis. The mucous membranes of the mouth, pharynx and esophagus are less vulnerable in regard to phymatiasis than those of the larynx and trachea, while the stomach, dodecadactylon (duodenum), bile ducts, and urethra are almost immune. In other tissues—external skin, muscles, cartilages, bones, serous membranes—the relation to phymatiasis depends on the amount of carbonic acid they contain. It would lead too far to enter into the application of this theory of Weber to the etiology of the bones and his explanation why; in most cases, pulmonary phymatiasis begins at the apex.

That tubercle bacilli cannot thrive where an excessive amount of carbonic acid is present can be illustrated by Bier's method for the cure of phymatiasis of the bones. The success of Dettweiler's method of a continuous recumbent position is due to the fact that, during the horizontal position of the body, venous blood, or, what is practically the same thing, carbonic acid, will accumulate in the lungs. The fact that laborers in lime kilns remain immune against phymatiasis, is explained by the circumstance that in their case the diffusion of gases is made more difficult, elimination of carbonic acid being to a certain extent prevented.

Weber's methods of enriching the system with carbonic acid by developing the gas in the body are very complicated and do not seem to have been tried by any one but himself. The simplest way of introducing carbonic acid into the system, namely, by inflating the rectum with it, he has not even mentioned. This method was introduced by Bergeon in the year 1886.[8] The best results were obtained in patients whose temperature was from 37° to 38° C.; in these cases was observed frequently a decided reduction of the fever after the first few applications, and in the course of further treatment the temperature became normal. In patients with higher temperatures, 39.5° to 40.5° C. in the evening and 37° C. in the morning, the effect was less; a reduction of a few tenths was all that could be obtained, but even this did not last. The height of the fever returned and remained, notwithstanding continued inflations with the gas. The same negative result was noticed in cases of continued high fever; a slight reduction, but not a lasting one. Positive benefit was secured in regard to general condition: the appetite improved promptly even in those patients who had complained of anorexia for a long period, and they felt better generally. Night sweats, although they did not cease completely, were decidedly diminished, and the patients were well pleased on this account and asked urgently for continuation of the treatment.

From what we know of carbonic acid therapy in phymatiasis we can consider it as a valuable *palliativum*, and we should recommend carbonic acid inflation of the rectum in cases of slight fever and in cases with night sweats.

But there is another method by means of which we may expect to obtain great results, even complete cure in advanced cases. This is the continuous warm bath.

Six years ago I was called to a distant country town in consultation in a case of spondylitic phymatiasis.

The patient had at first suffered for years from pulmonary phymatiasis, but as it appeared an intermittent valvular disease of the heart, causing pulmonary stasis had been the means of arresting the phymateous process in the lungs and then spondylitic phymatiasis had developed. There had been necrosis of one of the vertebræ and consequently kyphosis was present; no paralysis of the lower extremities nor of the sphincters. The patient was unable to rise; he suffered great pain, was feverish, his general condition was deplorable, being complicated with gastric disorder.

I entertained no hopes as to final recovery, but in order to give relief I ordered the continuous warm water bath, which was kept up twenty-four hours every day for over a month. The next time I saw the patient, from whom I had not heard a word, I was much surprised. He had come from his country town to my office in New York city without any truss, without any support, without even a cane. I need not enter into details, because it is an established fact that phymatiasis of the bones and joints is a disease in which the continuous bath affords triumphant results. All I have to say is that I cannot understand why it is almost unknown among the surgeons of New York.

The action of the continuous bath, the physiological explanation of its action, is fully described in numerous papers published by me, most extensively, however, in my book quoted already, *Carbonic Acid in Medicine*. Here I beg to recapitulate only a few words.

The thermic irritation of the peripheral nerve ends caused by the warm bath excites by way of reflex action, especially in the muscle, an increased metabolism. The changes of the physical and chemical condition of tissues, the augmentation of

[8] A. Rose, *Carbonic Acid in Medicine*. Funk & Wagnalls Co., New York, 1905.

the organic function, the acceleration of the blood circulation, the dilatation of the bloodvessels—all these depend on the specific action of the continuous warm bath on innervation. The accelerated blood circulation facilitates the elimination of the products of inflammation and infection, and, with the removal of pyrogen substances and toxines through the general circulation, fever is reduced. This I have demonstrated by treatment of erysipelas and arthritis by means of the continuous bath and it has been demonstrated in the treatment of combustion. By no means can there be any doubt that the continuous warm water bath is the most rational remedy in phymatiasis.

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ALCOHOL AND THE INDIVIDUAL.*

By Harlow Brooks, M. D.,
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Of late it has been the custom to consider nearly all disease processes from the standpoint of public health, not from that of the individual. For illustration, we are at present concerning ourselves much more with the prevention of typhoid fever and the limitation of its epidemic spread than with the treatment of the individual case, more with the cure of social evils of all sorts than with the relief and elevation of the individual. I have no plea to make either for or against this modern tendency, but I hope to call your attention away from the problem of the alcoholic as it affects the body public, or the State, or even the family, and to consider, or rather to reconsider, for it was customary in the not far distant past to consider the individual more and the public less, the effects of the abuse of alcohol on the individual.

I do not propose to argue the point whether or not alcohol may ever be beneficial to the individual, for each and every person here has already formed his or her opinion as to that, and though I might talk until midnight, which, allow me to relieve you by saying, I do not intend to do, I could probably not change a single conviction held by any person here. I propose to consider this afternoon solely the effects of the abuse of alcohol on the individual.

It has been argued by some that when alcohol is taken even to the point of physical detriment, that its beneficent effect on the mentality has been a sufficient recompense or even a reward for the physical damage which may have resulted. Witness such popular expressions, for example, as *Wer nicht liebt Wein, Weib, Gesang, bleibt ein Narr sein Leben lang,* and our frequently used and popular drinking and *Stein* songs. It has been asserted that campaigns have been won by high balls, that masterpieces of music, painting, and sculpture have been produced under alcoholic stimulation and that the greatness of these have depended not infrequently on the inspiration of alcohol. While we cannot deny that much work of this high character has been accomplished by alcoholics, and there seems to be a most unfortunate proclivity for brilliant minds to turn to the misuse of alcohol, we believe that such conditions as we have mentioned have been brought about in spite of rather than because of alcohol, and the admitted tendency of the artistic temperament to turn to the abuse of alcohol is perhaps explained by the statement that genius is often closely akin to insanity. But alcohol used to the abuse point does not act in this way; it stimulates, but not the higher functions, not the finer spirit and mentality but the lower centres, perhaps the imagination, but not the logic, and with its stimulation goes a corresponding diminution in finish and detail. The alcoholically stimulated brain can never produce the *quality* of which that brain was capable of elaborating without alcoholic stimulation, except in those who have become so accustomed to, or dependent on the whip and spur of the drug that it is only under its effects that the brain as it were rises to its normal level. It is the diseased and deficient not the normal and brilliant brain which acts better, more quickly, and more truly under the drug. One may compare its action to the effect of the whip or spur on the jaded and abused horse which, no longer able to accomplish his norm without artificial aid under the goad, may, at least for a time, equal his normal in production as a result of the outside stimulant, but at a greatly disproportionate loss when destruction of tissue or nerve energy is considered. It is absolutely certain that the normal mind does better work without alcohol. It is, however, possible that the abnormal mind, especially that long accustomed to the drug, may equal its normal under the effects of alcohol taken to the point of abuse, but it is a point too definite even to admit discussion, that the normal individual loses in mental grasp and production when alcohol is used to the point of abuse.

The evil effects of the abuse of alcohol on the physical part of the individual is almost too axiomatic to merit the attention of such an audience as this, but perhaps it will do no harm briefly to state some of the more important ways in which the drug may work injury to the physical individual.

We have perhaps sufficiently discussed the most serious effects of alcohol on the brain, inasmuch as we have shown that it limits or impairs the quality of the products of brain activity, so we shall pass on from this to the question of the effects of the abuse of alcohol on the circulatory organs.

Although we cannot definitely and certainly say that alcohol in itself has a serious immediate effect on the heart, at least we know that the associated conditions of dissipation, malnourishment, and exposure, which go to make up the composite picture of alcoholism, cause or invite such disease of the liver, kidneys, and other organs which secondarily produce cardiac disease. Much is being heard nowadays of the strenuous life and of the awful effect which it has on the bloodvessels through the causation of arteriosclerosis, or old age of the arteries. All of these changes in the arteries and the closely allied diseases of the veins are invited and accelerated by the abuse of alcohol, and the jaded and tired business man or woman, who is

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unable to eat dinner without the anteprandial cocktail, is but adding fuel to the flame which is calcining and weakening the arteries and shortening not only life, but much more important, from the standpoint of the individual, limiting and curtailing productive value, and possibilities of work qualitatively and quantitatively. Even pleasure and the whole joy of living are diminished and perhaps, worse than death, mental or physical crippling may follow.

As I see it here in New York, in my private and my hospital practice, alcohol is abused most often by the average man or woman who is really worth while, largely because of his or her inability to take food, which is the natural stimulant, in sufficient amounts at regular and proper intervals—at least this is the excuse which is commonly given me by those of this type who abuse drink. Often without this quickly derived energy, they feel themselves unable to carry on the obligatory routine of their complicated lives. Let us consider for a moment whether there is anything in this very plausible theory. That alcohol is a food, no one well informed on the subject can deny, but that it can be taken without damage in sufficient amounts to furnish a requisite amount of nourishment to the body under working conditions is quite another question, and to this we must answer with a decisive *No!* What then are the effects of alcohol on the taking, digesting, and absorption of the ordinary food stuffs? Perhaps in minute amounts it may act as a tonic, a carminative tonic as the student of medicine would say, but taken in such quantities it can hardly be estimated as a food. In larger amounts it diminishes the appetite, it lowers the secretion of the necessary digestive juices, it slows or checks digestion, and decreases or stops absorption. Taken in still larger amounts, not only is all this true, but in addition the tissue effects produced on the digestive organs themselves are such that not only is temporary harm done, but permanent disease conditions are induced in the digestive and allied organs which may readily become incurable.

In the stomach, the drug taken to abuse, changes the highly organized secreting mucous membrane into a sheet of hardened and useless tissue, so that the organ ultimately becomes of little digestive value and is useful only as a retention sac or reservoir into which the food is taken before it is passed on into the intestine where all the digestive processes must then take place. Fortunately, alcohol has a much less direct and frequent disease effect on the intestine than on the stomach, so that the gut ordinarily becomes but secondarily affected by this agent. Yet the functions of intestinal digestion are very seriously hindered by excesses in alcohol, for the pancreas or sweetbread, the most important digestive gland of the entire body, which pours its digestive secretions into the small intestine, is very seriously and early affected by the abuse of alcohol, so that intestinal as well as stomachic indigestion with all its multitudinous sufferings and its limitation of life as well as comfort ensues.

While the effects of alcohol on the liver are commonly much exaggerated in lay literature, especially in the wretched physiologies which as a rule are the textbooks in our minor schools, still the liver quite frequently becomes seriously diseased as a result of this abuse, and by symptoms of its perverted function adds to the general upsetting of the digestive process. Secondary to these changes develop serious and usually permanent diseases of the heart and other circulatory organs.

Of the excretory organs of the body, the lungs, skin, and kidneys, probably the most serious injury is wrought on the last named. It may be said with little possibility of scientific dispute that the kidney suffers almost inevitably from the effects of alcohol wherever it is taken to the point of abuse. It is doubtless the organ of all the body which first and most certainly feels the effects of this toxine and few indeed are the alcoholics who do not eventually suffer in some lesser or greater degree from the effects of kidney disease. This is particularly true of those who have taken this drug into their bodies in sufficient quantities so that it is required to be excreted via the urinary tract unoxidized and as alcohol. High school and kindergarten physiologies to the contrary notwithstanding, there is no type of kidney disease which is alone caused by alcohol, but one may almost say that there is no type of kidney disease which may not be caused or invited by the abuse of this evil.

On the reproductive organs, not only is the welfare, physique, and even the mentality of the child imperilled—I am now trespassing on the public effects of alcoholic abuse—but from the individual's standpoint reproduction is qualitatively and quantitatively diminished, perhaps fortunately so from the standpoint of the offspring.

To return from our excursion into the domain of pathological anatomy, it is fully apparent that the abuse of alcohol is quite as disastrous from the individual as it is from the public at large standpoint, and in no respect does it increase or better the welfare of the individual except in one possible direction. It has been said that the legitimate object of life is the pursuit of happiness. It has always appeared to me that in its finite application this is a particularly selfish doctrine and one certainly not actuating the average medical man; but when we take into consideration ultimate personal happiness, the true and lasting happiness of the individual, it seems that right doing toward others is one of its essential principles, none the less, if the abuse of alcohol contributes materially to the gain of personal happiness, even of the most selfish variety, then it must be admitted that at least there is a theoretical justification for the individual abuse of alcohol. But, if what I have said is true—and I believe that I have stated these facts mildly and well within the range of average truth—alcohol used to the point of abuse does not contribute to individual happiness, but rather to individual misery.

If the individual can be thoroughly taught that for his own personal best welfare intemperance is a detriment, then the public problem of alcoholism will be automatically solved. In the language of the street we are entitled to ask, does it pay? and I think that there is no one here who can for a moment consider any other answer than that it does not.

ALCOHOL IN ITS RELATION TO THE STOMACH AND LIVER.*

By Margaret M. York, M. D.,
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Alcohol is generally consumed in the form of champagne, beer, wine, whiskey, brandy, or other spirituous liquor. The friends of alcohol say it is a food in small quantities; that it relieves pain as in colic; that it is good in snake bite, for its quick action; that it reduces fever by sending the blood to the surface, for radiation and evaporation. What its enemies say would fill many books.

Thompson, in his work on *Practical Dietetics,* says: "Alcohol adds to the nutrition of the body as it fulfils the two conditions necessary for a perfect food; easy assimilation and perfect combustion; it does not tax the digestive organs, but is immediately conveyed to the liver and so to other parts of the system. This combustion results in the formation of carbon dioxide and water. Alcohol prevents tissue waste." Atwater says: "It (alcohol) does not require digestion, it is absorbed by the stomach, and presumably by the intestines, with great ease. Outside the body it is oxydized very readily; within the body it appears to be quickly burned, and it supplies a large amount of energy."

But some other authorities think that even a small quantity of alcohol leaves marked impression and if indulged in at frequent intervals will lead to structural changes in the liver or in the nerve cells whose vitality is destroyed by it. It is not my province here to speak of the effect on the brain and nervous system, other than to state that it is a narcotic, a stupefier, and not a true stimulant, like coffee or strychnine.

Alcohol in very small amount increases the flow of gastric juice and possibly aids digestion; but in large amounts it delays digestion and there are cases on record where drinking a pint of whiskey or even a glassful has been followed by death in those unaccustomed to its use. If alcohol is a food, we know of no other food that will cause death if taken in excess. But it is not a food, as it cannot sustain life. A food is something that will sustain life indefinitely without producing injurious results. The post mortem examinations are constantly showing cases of diseased organs due to the use of alcohol. A food does not increase the desire for more of the same kind of food, but whiskey does so and a person taking it will drink more and more until stupefied or crazed by it.

An interesting study has been made by Roberts to determine the effects of several wines upon peptic digestion by adding to two grammes of dried beef fibre fifteen per cent. of hydrochloric acid, one cubic centimetre of glycerin extract of pepsin, and varying amounts of hock, claret, or champagne and water, to the hundred cubic centimetres. With ten per cent. of hock it took 100 minutes to digest the mixture; of the claret, 100 minutes, but the champagne only ninety minutes; the normal being 100 minutes, champagne performed the work in ten minutes less time than either of the other two. With twenty per cent., the hock digestion was 115 minutes; the claret 140 minutes, and the champagne 100 minutes; increasing the hock to forty per cent. it took 150 minutes; the claret, 180 minutes, and the champagne 130 minutes; while with sixty per cent. of the alcoholic ingredient, digestion was totally arrested in the case of the hock and of the claret; while the champagne took 180 minutes to perform the work (Thompson's *Dietetics,* p. 249). This shows how alcohol in the test tube retards digestion in small amounts and destroys it entirely in large amounts.

The stomach is an organ with complex activities. It converts albumen and protein into peptone which are the results of the combined action of hydrochloric acid and pepsin and the milk curdling ferment. It also has the property of converting cane sugar into grape sugar and gelatin into soluble peptone, and some fats are split into fatty acids (Einhorn, *Diseases of the Stomach*). By certain movements of the stomach walls each particle of food is brought in intimate contact with the digestive glands; is liquefied and passed on through the pylorus into the intestines, where the main processes of digestion take place; being acted upon by the bile, pancreatic, and intestinal secretions and finally carried to the liver by the portal vein.

Of all the organs in the body none is more often poisoned and made cirrhotic by alcohol than the liver. Cirrhosis of the liver is technically known as interstitial hepatitis, but to those of my audience who would like further explanation, I will say that it is a hardening of the liver substance, in a more or less irregular manner, so that the names *hobnailed liver* with reference to its appearance, and *gin drinker's liver* with reference to its causation may perhaps be more familiar terms. Cirrhosis consists of an inflammation of the connective tissue of the liver, chronic in its progress, resulting in a hardening of the organ and an atrophy of the secreting cells.

When we remember that the liver is the largest single organ in the body, weighing from three to four pounds, and that it secretes bile, forms glycogen, urea, and uric acid, manufactures heat, and converts poisonous and harmful substances into inert material (Lippincott's *Medical Dictionary*), we can sympathize with a person whose liver has become "hobnailed." Nearly all food taken into the body, after going through the process of digestion, is carried to the liver by the portal vein, which divides in the substance of that organ, is modified and gathered into the hepatic vein and then into the general circulation to carry nutrition to every portion of the body. Seeing, then, how important is the liver, we are prepared to appreciate that old conundrum of Thomas Wentworth Higginson's "Is life worth living?" The answer, "It depends on the liver," takes on a broader meaning than usually falls to the lot of this form of wit.

The habitual taking of beverages containing alcohol undoubtedly plays a large part in producing cirrhosis of the liver, for many of those who have the disease have been habitual partakers of alcohol. In more than sixty per cent. of the patients suffering from this malady who were admitted to Guy's Hospital, London, there was a history of alcoholic

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excess. Chronic gastritis and chronic venous congestion are seen in cirrhosis; they are due partly to the alcohol taken and partly to the obstruction to the portal circulation. Cirrhosis is more common in men than in women, but women using alcoholic beverages are more often afflicted with neuritis in some form.

The fact that alcohol is so readily consumed in the liver is its chief danger, because while the cells are acting upon this most easily disposed of substance, other and more essential products, which have come to this great storehouse from the intestines, are not used or cannot be used because of the disabling effect upon the liver itself, which finally ends in destruction of the cells and weakening of the whole system.

It has been suggested that as cirrhosis of the liver occurs in those who have never used alcohol, as among the Mohammedans of India and Egypt, it may in their cases be due to gastritis and other digestive troubles caused by the use of spices, curries, and other stimulating articles of food, such as ginger, and may be explained as depending on the irritating action of acetic, butyric, lactic, and other acids manufactured as the result of intestinal fermentation.

Body resistance is weakened by alcohol in any form; in the summer, when the thermometer is in the nineties the first to succumb are those who imbibe too freely; and in winter, of those who are exposed, the ones yielding first are those who use the so called stimulants. Alcohol is specially harmful to children and in cases of intoxication mentioned by Professor Demme the children lay from twelve to eighteen hours and in one case for thirty-six hours in a comatose condition out of which they could be roused only by cold douches. One of these was an infant, the child of a woman laborer in Switzerland who had received brandy to quiet it while the mother worked in a near by field. Monotony in diet, with bad cooking of coarse food, especially associated with overwork, is a potent factor in forming the drink habit among the poor, and it would seem that instruction in cooking to the wives of workingmen would be a strong ally of the temperance cause in checking the growth of intemperance.

Alcohol is particularly injurious when taken between meals or on an empty stomach. Sitting in the Plaza at Caracas, Venezuela, some years ago, enjoying the tropical night and listening to the music, my husband and I met a rugged looking, middle aged Englishman, who was in charge of a mining enterprise in the lowlands along the Orinoco river. He mentioned, incidentally, that before he took the place it had been vacated by the death of the manager three times within a year. We said to him: "You look strong and well; but, are you not afraid of malaria and the fever?" He replied, "No, I have been some years in the swamps." We then asked him if there was any special reason for this confidence on his part; what was the trouble with the other men? His reply was substantially as follows: "I can tell you in three words: 'Rum before coffee;' some put it in other words which mean the same thing, 'Cocktails before breakfast.' A man comes out from England to this climate where the sun and humidity make him feel languid; he takes a drink when he gets up, more at intervals during the day, and naturally he has no appetite, does not care for nutritious food. Some little imprudence or exposure and—he goes home in a box." He continued: "The fact is in the Tropics it is not the fever that carries men off, but alcohol and improper diet. I take black coffee on rising, eat moderately of simple, nourishing food, such as beans, meat, rice, yams, etc., let liquor alone, and I sleep on the ground, go in my wet clothing, sometimes for days, and feel well and active." That was the common sense conclusion of a practical man.

The post mortem examinations of cirrhotic livers and kidneys; of inflamed and ulcerated stomachs, should cause us to reflect upon the terrible ravages produced by the widespread use of alcoholic beverages among all classes of the community. It weakens resistance to disease and it is a well known fact that pneumonia and erysipelas are usually fatal in those addicted to cocktails and high balls and surgeons do not give an encouraging prognosis in cases of fractures or in operations where the subjects have used alcoholic beverages habitually or to excess, even at intervals.

Dr. Robert C. Kemp, in his book on *Diseases of the Stomach and Intestines,* says: "Alcoholic wines are recommended by many as a mild stimulant to the stomach in certain cases, but from personal experience I advise against their use. There are other remedies which give better results."

I agree with Doctor Kemp.

Bowne Avenue and Franklin Place.

SERUM TREATMENT OF HEMORRHAGE AND BLOOD DYSCRASIAS.

By A. W. Lescohier, M. D.,
Detroit.

It has been reported by numerous investigators that the injection of fresh serum is a potent factor in controlling certain types of hemorrhage where there is a delay in the coagulation of the blood. This clinical fact does not appear to have received general recognition, and it has seemed worth while to attempt a brief review of the scattered references upon this subject with the object of offering a possible incentive to further clinical experimentation. The treatment of hemorrhage depends upon two factors; first, drugs employed for their action on the vessels; second, agents used to promote the coagulation of the blood. Among those drugs whose value depends on vasomotor effects are adrenalin, pituitrin, atropine, and the nitrites; while the salts of calcium, strontium, magnesium, and solutions of gelatin have been employed with varying success in endeavors to shorten the coagulation period. In certain types of hemorrhage, particularly those in hemophilic subjects, these measures have been inadequate.

Regarding the pathogenesis of hemophilia, there is considerable uncertainty. The older pathologists laid much stress upon abnormities in the walls of the bloodvessels as the principal pathological factor, but it is now thought to depend more upon deficient coagulability of the blood.

marked bleeding from the skin and mucous membranes. Profuse hemorrhage from mouth and nose of a newly born infant was treated by local application of sponges dipped in horse serum, which rapidly controlled the bleeding. In a number of cases hemorrhages in the lower part of the bowel or from hemorrhoids were arrested by administration of ten c.c. of ox or horse serum injected into the bowel. Injections of serum were also successfully employed in controlling postoperative hemorrhage in tonsillectomy. From his experience Wirth concludes that while it may be applicable in other cases, this method of treatment is particularly indicated in affections in which the coagulating power of the blood is reduced. As a rule twenty c.c. are sufficient, but forty c.c. may be given without harm. He prefers the subcutaneous method, excepting in cases where the emergency is so grave as to demand immediate results. In such cases, intravenous injections were employed. He believes horse serum to be preferable and that ordinary diphtheria antitoxine can be used, by selecting the vials with the latest dates. Wirth also found the local application of serum to be a valuable adjunct to the injections.

Baum (21) studied the influence of blood serum upon coagulation from both laboratory and clinical standpoints, and his conclusions differ quite markedly from those of other observers. While he was able to demonstrate that the coagulation period in rabbits could be markedly shortened by injections of serum, his clinical results in three cases of hemophilia which came under his observation were by no means as satisfactory as those reported by Weil, Broca, and Wirth. Baum believes that the serum undoubtedly possesses value in certain cases where there is a tendency toward bleeding, but questions its efficiency in true cases of hereditary hemophilia. He does not agree that with the use of serum hemophilic patients can safely undergo surgical procedures, but holds that the proper handling of this class of patients precludes surgical measures except where it is absolutely unavoidable.

At a meeting of the *Gesellschaft der Aerzte,* May, 1909, Mautner (22) presented a typical case of hemophilia. The child was known to have been a "bleeder," and was admitted in nearly moribund condition as a result of a steady loss of blood following the extraction of a molar tooth three days previous. The local application of styptics had proved absolutely useless, and it was decided to try the administration of serum. Twenty c.c. of normal horse serum were injected, and after a few minutes the oozing became less and the bleeding soon stopped. There was a recurrence, however, on the following day, and another injection of the same amount was given. The hemorrhage ceased and did not reappear. The blood count on admission showed the erythrocytes to be 1,700,000 per cubic millimetre; their number rose steadily and five days after the first injection the count was 2,700,000. There was a coincident general improvement in the condition of the patient.

Trembur's (23) patient was a child of about thirteen years, who had shown pronounced hemophilic tendencies since the age of five, although otherwise in good health. The child had been in the hospital two or three times on account of excessive hemorrhages. These had previously been controlled by tamponing and injections of gelatin. While there was no history of hemophilia in the family, Trembur is inclined to class this case pathologically as true hereditary hemophilia, believing that the child was the first to introduce it into the family. The patient was brought into the hospital because of serious hemorrhage from mouth, left ear, throat, and gums. Blood examination showed the red cells to be 3,280,000 and the hemoglobin fifty per cent. The child was placed in bed, but, although lying quietly, suffered from epistaxis on the second day. Five c.c. of sheep serum were injected in the left arm, and four hours afterward hemorrhage ceased. A recurrence two days later was controlled by a gauze tampon soaked in sheep serum. Bleeding from gums was also arrested by local application, but severe hemorrhage from both ears occurred during the night. Ten c.c. of sheep serum was then injected into each thigh, and prompt cessation of bleeding took place. Two weeks later, as there was still a slight tendency to bleed, the injections were repeated. Three weeks later nineteen c.c. were injected into the abdomen. Between February 22 and May 1, 1909, when she left the hospital, the child received a total of 106 c.c. of serum. At the time the patient was discharged there had been no tendency toward bleeding for some time, she was in the best of health and had gained twenty pounds.

Patek's (24) case was a young woman, twenty-six years old, with a negative family history, who had been a "bleeder" since childhood. Slight contusions were followed by marked ecchymoses, menstruation was excessive, and epistaxis frequent. At the age of twelve the patient had severe hemorrhage of the bowels, and in April, 1910, an intra-abdominal hemorrhage. At the time patient reported for treatment she was very anemic, mucous surfaces were pale, and arms and legs covered with ecchymoses. Blood examination showed hemoglobin sixty per cent. and red cells 3,000,000. Dietetic measures and the administration of hematic preparations and calcium lactate were followed by marked improvement of patient's condition. Several months later another severe intraabdominal hemorrhage occurred, leaving the patient in serious condition. Recovery took place in about six weeks. Four months later another attack developed, which was very transient, patient recovering in a few days. In four subsequent attacks injections of antitoxine were employed, and the hemorrhage was controlled without any difficulty. Severe attacks of epistaxis developed from time to time, in which serum was used both by injection and tampon with somewhat doubtful results.

A striking report of the use of serum in treatment of hemophilia is afforded by Welch (25), pathologist to the New York Lying-in Home. He employed injections of normal human serum in the treatment of nine babies suffering from hemophilia neonatorum, without the loss of a single patient. He believes that all of these babies would have succumbed under any other treatment. Of the eighteen cases of hemophilia neonatorum, which had oc-

curred in the previous history of the institution, seventeen had ended fatally.

The bleeding in these nine treated cases varied in its source, occurring from the cord, mouth, nose, bowel, stomach, vagina, etc., and began in every case during week following delivery. The serum was employed in ten c.c. doses, administered subcutaneously, injections being repeated two or three times a day for several days. The total amount varied from sixteen c.c. in two days, to 209 c.c. in five days. In most cases the bleeding was markedly diminished after the first injection, and ceased entirely in from two to seven days. Welch calls attention to the importance of beginning treatment upon the slightest indication of bleeding, as a very slight hemorrhage from the cord may be accompanied by serious internal bleeding.

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Robert and Chody (29), in 1909, reported the use of dried horse serum as a hemostatic. They were led to try this work because of the difficulty in promptly securing a supply of fresh normal serum for use in hemorrhagic conditions. The serum was collected under aseptic conditions, dried in vacuo, at a pressure of about two millimetres of mercury, and at a temperature approaching 0°C. They found that the serum retained all its properties, both in the dry state, and after having been redissolved in water. Externally it was useful in various profuse hemorrhages, in epistaxis, and in operations on the tonsils, removal of adenoid vegetations, or hemorrhoidal protrusions, and rupture of hymen. Internally the dried serum was given in cachets to patients suffering from severe hemophilia and other dyscrastic conditions attended with hemorrhage.

Ricard (30) and Micleon (31) have reported cases in which serum has been successfully employed in treatment of hematoma. In Ricard's case, a hematoma of cicatrix following laparatomy in a hemophilic subject was evacuated, and injections of antidiphtheric serum were effectually employed to check the bleeding. Micleon used the serum in one case in the treatment of hematoma of the hand, and in another instance, a hematoma of the floor of the mouth.

Gangani's (32) case did not respond to injections of regular antitoxic serum, but prompt cessation of bleeding was accomplished by the use of fresh rabbit serum. Gangani believes that such failures as have been reported in the use of serum in hemophilic conditions were due to the fact that the serum employed was either too old or had been modified in some way.

Hubschei (33) combined the serum treatment with surgical procedures in correcting contractures in knees of a fifteen-year-old boy, a typical "bleeder" with a family history of hemophilia. The serum was used, two hours after having been taken from the horse. The various procedures necessary for the correction of the deformity were conducted without marked bleeding, whereas the slightest attempt had previously resulted in the production of a dangerous hemorrhage. By this means Hubschei believes it will be possible to avoid fatalities, such as have been reported following operations on hematomas which had been mistaken for tuberculous joints. He refers to cases of this description which have come under his observation, as well as those which have been reported by others. In operations on joints in doubtful cases, he believes the serum should always be injected as a prophylactic measure.

A résumé of this mass of clinical data indicates certain conclusions as being reasonably well established. Other factors important to the practical application of this phenomenon are suggested as requiring further investigation. The consistency with which certain results have been obtained by different workers appears to justify the following conclusions:

1. The coagulation period in hemophilic subjects is greatly shortened by the injection of fresh serum.

2. The local application of fresh serum in wounds, in patients in whom there is a delayed coagulation of the blood, tends to act as a hemostatic.

3. The serum of any species is efficient in producing this phenomenon.

4. The sera of the ox and dog should be avoided if possible because of the toxic symptoms frequently attending their use.

5. Although possessing some efficiency, regular antitoxic sera are less satisfactory than freshly drawn material.

The first of these conclusions seems established beyond question. The only negative results which have been reported were those of Bonzani and Mauclair. Baum's results were not strikingly positive; one case was very favorably influenced, while in the other two very little effect was observed. These negative results may have been due to the fact that the serum was too old, or modified in some way as suggested by Gangani, or that the pathological conditions present did not justify its use. After reviewing the results obtaned in a comparatively large number of cases by Weil, Wirth, Welch, and other investigators, we cannot but be convinced of the efficiency of the serum treatment. In the case reported by Patek the results were only fair, but it is noted that he employed regular antidiphtheric serum.

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Two questions arise which have an important bearing upon the clinical value and practical application of this method of treatment.

1. Has the serum any value in promoting coagulation of the blood in conditions in which there is no hemophilic tendency?

2. Why are stock sera less satisfactory than freshly drawn material?

In view of our lack of knowledge of the way in which the serum produces its effect, and the limited clinical trial which it has had, we are not warranted in drawing any definite conclusions, but the indications are that the serum will be of use only in those conditions in which there is delayed coagulation. This question can be answered only by a thorough clinical trial of the serum treatment in various types of hemorrhages, and by laboratory experiments conducted to determine the possibility of accelerating normal coagulation.

The difference between antitoxic and fresh serums may be due either to age or to the presence of a preservative, which the former always contain The clinical reports that antitoxic sera have been strikingly efficient in some cases and disappointing in others would tend to discredit the assumption that the preservative acts as a retardant. The inactivity of the sera in accelerating coagulation probably depends upon the changes which they undergo with age. Rettger (34) calls attention to the old observation that serum loses its active thrombin on standing. The older observers stated that the thrombin disappeared entirely, but Rettger demonstrated this to be only apparent, that the loss of its ability to produce coagulation is due to thrombin entering into a combination with the other constituents of the serum. He found that serum inactivated by age, or by heating to 65° C. could be reactivated by the addition of a weak alkali or acid.

The resistance of thrombin toward heat was shown by Rettger to be relatively high, solutions after boiling for several minutes still being capable of producing typical clotting. In dry form thrombin resisted a temperature of 135° C. for half an hour. It was further observed that the resistance to heat was increased by the diminution of the protein substances present in the thrombin solution and that serum which had been inactivated by heating to 65° C. could be reactivated by heating to a higher temperature.

Putrefaction also restores to serum, which has been inactivated by age or by heating, its inability to produce clot.

The explanation is advanced that these various agencies, acid, alkali, putrefaction, high temperature, break up the combination of thrombin and other constituents of serum, and that the thrombin in its free state is again capable of acting on fibrinogen.

Rettger, commenting on this phenomenon, states: "The parallelism between the gradual disappearance of thrombin from serum on standing, and its recovery by activation, and the disappearance of thrombin from serum when heated to 65° C., and its recovery by a similar activation, all point to the conclusion that these two things are essentially the same phenomenon, and that disappearance of the thrombin is probably due to the combining in a loose way with some substance, possibly the proteins of the serum, from which it may in turn be liberated by agencies which tend to destroy this combination. That the disappearance of the thrombin is due to such a loose combination with some substance, and that activation by alkalies is due to the breaking apart of this connection, seems probable from the further fact that serum which has become completely inactivated on standing, becomes later, if submitted to putrefactive processes, quite active again."

We have here a probable explanation for the clinical fact that stock sera do not yield uniformly successful results in treating these hemorrhagic conditions. Furthermore, this phenomenon is of peculiar importance in its relation to the practicability of the serum treatment. The use of the native sera in their liquid state offers this serious objection, that they very shortly become inactivated, probably by combining with the protein substances present. The complete isolation of thrombin from these protein bodies has not been accomplished. It seems possible that the use of dry serum will overcome this difficulty, as Chody and Robert have used it with apparently satisfactory results. This suggests a field for investigation, and the future serum therapy of hemorrhagic conditions must depend very largely upon the preparation of a suitable product.

In conclusion, it may be well to consider briefly how the accelerated coagulation is brought about in hemophilic subjects, and in order to arrive at any conception of the action of the serum, it will be necessary briefly to refer to the physiology of the coagulation of the blood. Coagulation has been shown to be due to the production of fibrin brought about by the action on fibrinogen of a fibrin ferment (thrombin) in the presence of calcium salts. Fibrinogen and calcium salts preexist in the circulating blood, but the thrombin exists as such in certain stages of blood coagulation only. It is thought that thrombin is produced from a proferment, which becomes activated by a zymoplastic substance derived either from the formed elements of the blood or from the tissues.

Decreased coagulability of the blood may be due either to a deficiency of the calcium salts, absence of fibrinogen, or inefficiency of thrombin, either quantitatively or qualitatively. Total absence of fibrinogen has never been observed. Delayed coagulation is sometimes due to deficiency of the calcium salts, as evidenced by laboratory findings and by clinical results which have occasionally been obtained in treating certain types of hemophilia with salts of calcium. In the majority of cases such treatment has not been attended with marked success. The work of Addis indicates that variations in the percentage of calcium have very little effect upon the rate of coagulation. The same observer also shows that hemophilic thrombin is fully as active as thrombin from the normal blood, and that deficient coagulation depends upon the delay in the formation of the thrombin from some preexisting substances in the blood. In his opinion, hemophilia is due to an absence or low percentage of this preexisting ferment, prothrombin.

The ability of serum to promote coagulation may be due either to the substitution of the thrombin or to a zymoplastic substance which activates the hypothetical prothrombin of hemophilic subjects. There are certain reasons for believing the former

to be the case. The work of Addis indicates that the amount of these zymoplastic substances apparently makes little difference in the rate of coagulation, and that they are present in hemophilic subjects in an equal degree with the normal individual. Further support to this theory is afforded by the findings that relatively large doses (from ten to twenty c.c. intravenously, or from twenty to thirty c.c. subcutaneously) are required to produce this phenomenon, and by the laboratory investigation of Rettger, who showed that the amount of thrombin present had a very pronounced effect both upon the rapidity and completeness of the coagulation of the blood. "The rapidity of the coagulation was found to be directly proportional to the amount of thrombin added, as indicated in the following experiment:

20 c.c. fibrinogen + 40 drops thrombin extract, 14 minutes.
20 c.c. fibrinogen + 20 drops thrombin extract, 26 minutes.
20 c.c. fibrinogen + 10 drops thrombin extract, 50 minutes.
20 c.c. fibrinogen + 5 drops thrombin extract, 90 minutes.

"The time required for coagulation was determined by the moment when the glass could be inverted without spilling the contents. Such a rate, however, holds good only within certain limits. If the amount of thrombin becomes excessively large, the rapidity of coagulation does not vary in similar proportions. There is soon reached a maximum amount, beyond which the further increase of the amount of thrombin no longer increases the rapidity of coagulation."

Rettger also conducted experiments to determine the quantitative relationship between fibrin formation and the amount of thrombin present. "For the experiments on this point, 500 c.c. of clear plasma were taken, and from this plasma 500 c.c. of fibrinogen solution were prepared. This amount was divided into four equal parts. To one part, five drops of tested thrombin solution were added; part two, ten drops; part three, twenty drops; part four, forty drops. The glasses of fibrinogen were then allowed to stand untouched for twenty-four hours at room temperature to allow ample time for coagulation. The fibrin from each glass was then collected on a filter, washed and placed in the weighing tube, which, together with the filter, had been previously heated several times at a temperature of 100° C. to approximately constant weight. The weighing bottles with several amounts of fibrin were then heated for several hours to 100° C. The final weighing gave the following results:

5 drops of thrombin.....0.2046 grammes fibrin.
10 drops of thrombin.....0.3573 grammes fibrin.
20 drops of thrombin.....0.6089 grammes fibrin.
40 drops of thrombin.....0.5872 grammes fibrin.

"It will be seen from these results that while they fall short of exact mathematical proportionality, yet they indicate very clearly the formation of the fibrin at definite and direct quantitative proportion. . . . It need not be pointed out that such quantitative relationships will appear only when the amount of thrombin is below the maximum amount required to effect the entire fibrinogen. Adding thrombin beyond this maximum amount can, of course, be of no moment, there being no further fibrinogen available."

The belief that the action of serum in accelerating coagulation of blood in hemophilic subjects depends upon the substitution of active thrombin is, therefore, based upon the following facts:

1. The quantity of zymoplastic substances is of little importance, as they have been shown to be present in hemophilics in an equal degree with the normal individual (Addis).

2. Rapidity and completeness of coagulation is directly proportional to the amount of thrombin present (Rettger).

3. There is a direct proportion between the quantity of thrombin present and amount of fibrin produced (Rettger).

4. Clinical experience shows that relatively large amounts of serum must be employed to produce definite results.

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THE RESPONSIBILITY OF THE MEDICAL PROFESSION FOR THE EARLY DIAGNOSIS AND PROMPT TREATMENT OF PULMONARY TUBERCULOSIS.

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The problem of the early diagnosis of pulmonary tuberculosis is an ever present and insistent one. For failure to make an early diagnosis the general practitioner has had to endure a very considerable amount of blame, both justly and unjustly in my opinion.

In order that no one in the incipient stage should escape, every person would have to be examined, which is obviously impossible. Neither can the physician go about hunting up possible subjects who do not think or realize that anything is the matter with them, or enough to warrant their consulting the doctor. He is not to be blamed for this. Again, the physician has not the time, nor will the patient always pay for or even submit to an examination of the lungs when he consults his physician for some other malady; although if the physician did examine, as a routine measure, the lungs of every patient who consulted him, for whatever cause, he would undoubtedly discover some, or perhaps many, cases of incipient tuberculosis.

It is a very different thing when the patient comes to the expert who has the time and is paid enough for a careful examination. With many patients, often long distances to cover and small fees, it is not always possible for the general practitioner to make a painstaking examination, involving much time and energy, of every suspected case, much as he would like to. Granting, however, that he can and is willing to devote the time for such an examination, whether properly remunerated or not for it, difficulties arise inherent in making the diagnosis itself.

In the first place, it is not infrequently of extreme difficulty to make a diagnosis of a suspected case at the first examination. Every expert knows this. Then, again, both teachers and textbooks perplex the physician by not only giving a mass of signs and symptoms to be looked for—some of the first and some of minor importance—but also by differently emphasizing them, some asserting that one set of signs is the most important, while others put the emphasis upon a different combination, due, perhaps, to personal experience and training.

Again, I am not sure that we have not been overemphasizing the importance of the physical signs to the neglect of the symptoms. Perhaps Paterson, of the Frimly Sanatorium, is more nearly right when he goes so far as to say that he is guided by the symptoms even to the disregard of the physical signs. A careful investigation of the symptoms and the recognition of their different values will, I believe, in the majority of cases, put one on the right track; and this every practitioner can make, even if he feels himself unable to detect and interpret slight changes in the physical examination. Many a diagnosis can be made upon Norris's quartette of early ascertained symptoms: 1, Rapid pulse; 2, evening rise of temperature; 3, loss of weight; 4, cough—the protracted existence of any two of which, he says, require that good cause should be shown why a diagnosis of tuberculosis should not be made.

Slight changes in the percussion note and the respiratory sound are often difficult of detection and interpretation, especially for one who has not a finely attuned ear or who has not had much experience, and the most skilled diagnostician is sometimes baffled. It is said of the elder Flint that he used to play upon his violin every day in order that his ear might be readily responsive to slight changes of pitch or note in chest examinations. We cannot, therefore, expect the general practitioner to make a definite diagnosis upon such changes alone; it is asking him to do what the expert is often unable to do. If, however, he carefully observes and studies the symptoms, and takes account only of such physical signs as he is sure of, particularly localized râles, and examines the sputum, he will usually be successful in making a diagnosis, I believe.

So far as physical signs are concerned, the great mass of practitioners have regarded, and will continue to regard, the localized râle as the most important, although when detected it may not always mean an early diagnosis. Râles are unmistakable—they are absolutely abnormal, while other signs "represent merely deviations from the normal."

Again, the difference between clinically active tuberculosis and anatomically inactive tuberculosis is not always clearly discerned and this may mislead the physician. An individual may show the physical signs of tuberculosis, but he may have no symptoms and suffer no deterioration of health; he is, therefore, practically well and requires no treatment. Another may have no determinable physical signs, but definite symptoms of the disease; he, on the other hand, is suffering from active tuberculosis and requires treatment.

When the diagnosis of early clinical tuberculosis is made, the general practitioner again is often unjustly blamed for not instituting prompt treatment. The patient may not appreciate the gravity of his condition and will not submit to rigorous treatment, or he feels that he must take the risks and continue his work for the support of those dependent upon his labors. We have all met with examples of this. Or, if he realizes the danger, he has also learned from the experience of others the stigma left upon one if it becomes known that he has had tuberculosis and the difficulty of obtaining employment afterward. As desirous as the conscientious physician may be to institute prompt treatment, either in a sanatorium or under his own supervision at home, his efforts are often rendered futile by the patient or his friends from these or other causes, and so the case drags on untreated, and from no fault of the physician.

What is the remedy? The universal dissemination of knowledge regarding tuberculosis in general, and regarding the results obtained when the disease is treated early, at the right time, when arrest is probable; or late, at the wrong time, when death is probable; the establishment of free dispensaries; examination of workshop and factory operatives; better medical inspection of schools; some form of automatic provision for families of tuberculous individuals while they are under treatment; perhaps a workman's compensation law against sickness, as now exists in this State against accidents; more assurance of employment when cured; special instruction and training in medical schools in early diagnosis; and, finally, the deeper and fundamental remedy—prevention of all those causes which lower normal resistance; poverty from a nonliving wage; bad housing; insanitary and dusty workshops; alcohol; and all the other preventable causes.

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AN EXPLANATION OF THE POSITIVE WASSERMANN TEST FOLLOWING SOME CASES OF ANESTHESIA.

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The Wassermann test has been found positive in diseases other than syphilis, notably in leprosy, frambesia, yaws, and less commonly in measles, scarlet fever, lupus erythematosus, and malaria.

Theoretically, in this test, complement may be bound by the presence in the patient's serum of, 1, specific antibodies, or, 2, antigenic substances, in amounts large enough to fix the complement. In this latter class may belong the occasional positive tests found in measles, malaria, scarlet fever, etc., the antigenic substances coming probably from the liver, heart, or other organs rich in lipoid substances.

Strength is given to this view by the following experiments with chloroform. Positive Wassermann tests have been found during and after severe ether and chloroform narcosis, in patients free from syphilis. The part played by chloroform in these results is shown here.

1. *Effect of chloroform on complement.*

Solution A.—Chlorofrm 0.1 c.c. Alcohol 5.0 c.c.
Normal salt q. s. ad 50 c.c.

0.1 c.c. solution A + 0.1 c.c. complement.....Complete hemolysis
0.2 c.c. solution A + 0.1 c.c. complement.....Slight hemolysis
0.4 c.c. solution A + 0.1 c.c. complement.....No hemolysis
0.6 c.c. solution A + 0.1 c.c. complement.....No hemolysis
0.8 c.c. solution A + 0.1 c.c. complement.....No hemolysis

(Incubate for one hour at 37.5° C., then add corpuscles and hemolytic serum.)

2. *Effect when chloroform is added to a negative serum.*

Solution B.—Chloroform, 0.1 c.c. Alcohol, 5.0 c.c.
Normal salt q. s. ad 20 c.c.

0.1 c.c. sol. B + 0.1 c.c. serum + 0.1 c.c. complement..Fair hemolysis
0.2 c.c. sol. B + 0.1 c.c. serum + 0.1 c.c. complement..Slight hemolysis
0.4 c.c. sol. B + 0.1 c.c. serum + 0.1 c.c. complement..No hemolysis
0.6 c.c. sol. B + 0.1 c.c. serum + 0.1 c.c. complement..No hemolysis
0.8 c.c. sol. B + 0.1 c.c. serum + 0.1 c.c. complement..No hemolysis
1.0 c.c. sol. B + 0.1 c.c. serum + 0.1 c.c. complement..No hemolysis

(Incubate for one hour at 37.5° C., and add corpuscles and serum.)

Therefore, if 0.1 c.c. of the patient's blood to be tested contained as much as 1-4000 c.c. chloroform, the amount of complement used in the test would be fixed almost entirely. The chloroform would then have to be present in the blood in a dilution of one to 400, and as will be shown later, this is impossible during anesthesia.

3. *Chloroform used in place of antigen, with positive serum.*

0.1 c.c. sol. A+0.1 c.c. serum+0.1 c.c. complement..Complete hemolysis
0.2 c.c. sol. A+0.1 c.c. serum+0.1 c.c. complement..Slight hemolysis
0.4 c.c. sol. A+0.1 c.c. serum+0.1 c.c. complement..No hemolysis
0.6 c.c. sol. A+0.1 c.c. serum+0.1 c.c. complement..No hemolysis
0.8 c.c. sol. A+0.1 c.c. serum+0.1 c.c. complement..No hemolysis

(Incubate at 37.5° C. for one hour, and add corpuscles and serum.)

4.

0.1 c.c. sol. B + 0.2 c.c. serum + 0.1 complement..Slight hemolysis
0.2 c.c. sol. B + 0.2 c.c. serum + 0.1 complement..Slight hemolysis
0.4 c.c. sol. B + 0.2 c.c. serum + 0.1 complement..No hemolysis
0.2 c.c. serum + 0.1 c.c. complement.....Complete hemolysis

Tables 3 and 4 show that chloroform is not antigenic in the sense that it can be used to detect syphilitic antibodies, and that its binding powers for complement are the same whether antibodies are present or not.

The amounts of chloroform used in these tests were none of them large enough to produce hemolytic effects upon the corpuscles.

CONCLUSIONS.

1. Chloroform can bind complement, but to affect appreciably the amount ordinarily used in the Wassermann test (0.1 c.c.), the patient's serum would have to contain in each 0.1 c.c., 1-4000 c.c. of chloroform. That is, chloroform should be present in the serum in the dilution of one to 400. It has been found, however, that when the dilution of chloroform in the blood reaches one to 2,500, death ensues. The positive findings, therefore, cannot be due to the presence in the serum of chloroform alone; other substances must have been introduced, and these are probably antigenic lipoid substances, either formed by the destructive action of the drug upon the liver and other organs, or simply carried from them in solution by the chloroform. Chloroform, it is to be remembered, is particularly destructive to the liver, and that organ is very rich in lipoid substances.

2. In many conditions in which a positive Wassermann test is found at intervals, there may be a large excess of antigenic substances in the blood, resulting from tissue breakdown.

3. The inhibition of phagocytosis following ether narcosis shown by Gram may be due to the inhibiting action of ether on complement, since the few observations made with ether point to its action being the same as that of chloroform.

I have thus shown that while chloroform is anticomplementary in nature, it cannot exist in the blood of an animal in sufficient concentration of itself to produce fixation of complement in the Wassermann test. To determine whether other anticomplementary bodies are formed in the blood during anesthesia, the following experiments were undertaken:

Two dogs were first brought under the influence of ether, after which the anesthesia was continued with chloroform for about forty-five minutes. Blood was obtained from these dogs both at the beginning and end of the anesthetic periods and subjected to a large number of tests, during which several different antigens were used. The serum used was inactivated by heating to 55° C. before use. The results of these tests are as follows:

1. At the beginning of anesthesia the serum showed no hemolytic or anticomplementary power, when used in amounts up to 0.2 c.c.

2. After the period of prolonged anesthesia the serum was not anticomplementary in amounts up to 0.1 c.c., but was decidedly so in amounts between 0.15 and 0.2 c.c. and over. The reaction is not a definite fixation of complement, for while the controls hemolyze promptly, the tubes containg the serum take about three times as long. The resemblance between this sort of a reaction and those obtained by Butler in the serum diagnosis of tuberculosis is striking, for here he lays stress upon reading the tubes early.

3. The results when different antigens were used in making the Wassermann tests with these serums are striking.

A good alcoholic extract antigen gave a negative reaction with the serums in amounts up to 0.1 c.c.

A good acetone insoluble antigen gave negative results with the sera in amounts up to 0.1 c.c.

An alcoholic extract antigen, which was showing

increasing anticomplementary properties, gave these fantastic results a number of times. With 0.1 c.c. of serum it gave a weakly positive reaction, with 0.2 c.c. the result was complete hemolysis in twenty minutes. This paradox was explained by controls in this wise: the good acetone insoluble fraction antigen gave with 0.15 c.c. of serum a negative reaction and with 0.2 c.c. there was the marked delay in hemolysis shown above. Now, when the old alcoholic extract antigen plus the 0.2 c.c. of dog serum were added to the corpuscles, hemolysis occurred in twenty minutes without the addition of either amboceptor or complement. The antigen alone had no hemolytic power, neither did the 0.2 c.c. of serum alone.

4. It is interesting to note that an acetone insoluble fraction antigen, three months old, gave almost as fantastic results as the alcoholic extract antigen, although at one time it was ideal.

These results, I believe, warrant the following conclusions:

1. Anticomplementary bodies are formed in the blood of dogs during chloroform anesthesia, and these can not be removed entirely from the serum by heating it to 55° C. for thirty minutes.

2. It is evident that when antigen, possessing anticomplementary properties in undue amount, is combined with a serum possessing anticomplementary properties, the total of the two may be sufficient to cause more or less fixation of complement in the Wassermann test. The purer the antigen is, therefore, the more strongly a positive Wassermann test points to syphilis.

3. No antigen, however made, is permanent, and the main thing is to use an antigen as strongly antigenic and as weakly anticomplementary as possible.

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1. BUCKMASTER and GARDNER. *Proceedings of the Royal Society*, 1906, 1907. These observers found that during chloroform anesthesia the concentration in the blood was 14 to 27 milligrammes of chloroform in 100 grammes of blood; and if the concentration rose to 40 milligrammes death resulted. 2. EVARTS GRAHAM. *Journal of Infectious Diseases*, March, 1911. BUTLER. *Journal of the American Medical Association*, December 12, 1911.

1605 NORTH SIXTH STREET.

United States Naval Medical Bulletin.—The January number of this Bulletin contains a number of valuable contributions by members of the medical department of the navy. Among them is one by Dr. G. B. Crow on Acid Fast Bacilli in the Circulating Blood of Lepers; another on Venereal Prophylactic Treatment by Dr. R. C. Holcomb and Dr. D. C. Cather; Dr. C. L. Moran has contributed one on the same subject, while Dr. M. W. Baker speaks of the Recent Advance in the Prophylaxis and Treatment of Typhoid Fever. Dr. A. W. Dunbar makes a Plea for More Liberal Nomenclature for the Naval Medical Service. There are three reports from the United States Medical School laboratories and two new devices. Clinical experiences are represented by six notes. A short review is given of the progress in medical science. In short, the *Bulletin* makes a very good showing, and we surely believe that the "medical corps will profit, to the good of the service, out of the experience and observation of the individual."—From Medicoliterary Notes.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXVIII.—What is your course of procedure, when without an assistant, as regards the mother after the completion of labor? (Closed January 15, 1912.)

CXIX.—What drugs, if any, in your experience have you found it advisable to withhold during the menstrual period, and why? (Answers due not later than February 15, 1912.)

CXX.—What are your views on the various substitutes, commercial and other, for mother's milk? (Answers due not later than March 15, 1912.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short, if practicable no one answer to contain more than six hundred words; and our friends are urged to write on one side of the paper only.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to Question CXVII was awarded to Dr. S. Stalberg, of Philadelphia, whose article appeared on page 178.

PRIZE QUESTION CXVII.

BACKACHE IN WOMEN.

(Concluded from page 181.)

Dr. Paul F. Ela, of East Douglas, Mass., notes that—

A woman complaining of backache may be suffering the consequences of a scoliosis, a tuberculous process in the vertebral column, or from a severe strain. The pain may be a localized expression of a generally relaxed and atonic condition following exhausting illness or pregnancy, with or without infection. It may be a rheumatism. The principles of the treatment of these conditions, namely, the correction of deformity, the support of relaxed and weakened structures, and physiological rest by immobilization, have the same importance in backache caused by less serious conditions.

Constitutional disease and errors of function may accompany backache and should be corrected and treated when diagnosticated. In general, tonics and reconstructives are useful, and alkalies, the iodides, and salicylates will help considerably. But internal medication alone will not cure backache.

The patient when asked to locate the pain will indicate the loins or the sacroiliac joints. "Lumbago," as a name for the condition, has always covered both regions, but the physician should, in his own mind at least, differentiate sacroiliac pain.

So far as I know, a pathological diagnosis from an autopsy has never been made in a case of backache or lumbago, but from the character of the pain and from the results of treatment we may infer that the cause of the pain is an anatomical lesion, a rupture of tissue by strain, or a relaxation permitting abnormal position or abnormal motion. In the sacroiliac joints experiment with the cadaver has

shown the possibility of a true sprain, a partial dislocation spontaneously reduced, but attended by injury to the soft tissues.

In analogous conditions elsewhere, in acute cases, massage and manipulation are the most useful means of promptly relieving the pain and securing quick recovery. But I have never had an acute case in a woman.

I have no experience with a static machine nor a vibrator. Hand massage is useful as a preliminary treatment. But I rely on adhesive plaster splints to support and immobilize the painful tissues. The plaster should be in strips, from an inch to an inch and a half wide, according to the contours of the patient. During the application the patient should lie prone on a firm mattress.

In lumbago the plaster strips should be applied diagonally from the ribs on the affected side across the crest of the ilium and the sacrum on the other side, and should be crossed at the most painful spot by strips similarly laid from the ribs and spine to the most convenient bony points of the pelvis on the affected side, forming roughly an X, or rather a series of three or four X's. I lay on the strips nearer the middle line first and overlap the outer edges about one third with the next parallel strips. Then I lay on a third layer from above downward, across the loins, reaching well onto the anterior surface of the body on either side and rather tightly drawn. The curve of the hollow of the back prevents the strips which form the X from adhering to the skin all the way, but the encircling strips bring them into contact. Patients with lumbago tell me that a tight belt or swathe gives relief, and I think that the encircling strips are more important than the others, but I use the first set on the theory that they help to take strain from the lumbar muscles.

In sacroiliac pain, over a similar X on the sacroiliac joint, I employ encircling strips drawn tightly, as if to crowd the ilia against the sacrum. A swathe or roller bandage is applied outside to keep the clothing from sticking to the edges of the adhesive strips and to prevent the strips from slipping on the skin. The dressing should be removed in a week or ten days. If the skin is not irritated the dressing can be reapplied. If the skin will not endure the plaster again, I put on a swathe until the irritation gets better. In most cases only one application is necessary.

Backache accompanying the menses calls for such treatment as the diagnosis may indicate to secure removal of the cause. I have assisted in the cure of some cases by recommending a good oculist, which illustrates how widely we may need to search, and warns us that we cannot discuss all kinds of backache in a single short paper.

The various ptoses of pelvic organs have been regarded as causes of the backache, which usually causes the discovery of the visceral displacement. These deformities should be corrected and the congestions which are found with them relieved by depleting tampons. But, as correction of such conditions does not always relieve the backache, these prolapses and versions may be regarded rather as complications, due to a general relaxed and atonic state of the tissues, which is the true cause of both conditions. The enforced rest in bed and good nursing which accompany convalescence from the severer operations to relieve these displacements and repair lacerations, are also of value in curing backache.

Dr. Louis A. Doroff, of Chelsea, Mass., recalls that—

The symptom of backache in woman is a very frequent one, and practically every woman suffers with this complaint at one time or another. The usual causes in the vast majority of cases can be laid to overwork, heavy lifting, muscular rheumatism, chronic constipation, etc. The usual remedies, such as liniments, anodynes, antirrheumatics, purgatives, etc., failing, and the condition persisting, its significance becomes at once more serious and deserving of a more thorough examination.

Naturally, in the first category, one thinks of uterine disease. By vaginal and bimanual examination any of the following conditions can easily be ascertained:

1. Anteflexion or anteversion—separately or together—of the uterus; 2, retroflexion or retroversion—separately or together—of the uterus; 3, prolapse of the uterus; 4, subinvolution of the uterus—especially following the birth of a child.

In case of anteflexion or anteversion, the proper treatment and most satisfactory is rapid, forcible dilatation with a uterine dilator. If the general practitioner does not feel qualified to carry out this procedure, the case can be referred to a surgeon, or a surgeon may be called into consultation.

Retroflexion and retroversion produce dysmenorrhea in addition to backache. The treatment is either by pessary or operative. Pessaries are of different varieties and usually made of hard rubber. By means of these the uterus is retained in position by raising the posterior fornix and keeping tense the posterior vaginal wall. They are introduced by having the patient in either the knee chest or dorsal position, and the average practitioner is usually able to conduct this treatment himself. If no cure can be accomplished in three or four months, a surgeon should be consulted in regard to operation. There are two principal methods: 1. Ventrofixation, in which the body of the uterus is sutured to the anterior abdominal wall; and, 2, the shortening of the round ligaments (Alexander's).

In prolapsus uteri there may be various degrees. In extreme cases the cervix and greater part of the body of the uterus are found outside the vulva. In less marked cases the cervix is presenting at the vaginal orifice, as soon as the labia are separated. The most satisfactory treatment is usually surgical, because, although the uterus can easily be replaced, as a rule there is great difficulty in retaining it in position by mechanical means, such as pessaries, tampons, etc. The surgeon must be called upon, and he may have to perform perineorrhaphy, anterior colporrhaphy, Alexander's method, or ventrosuspension, separately, or combined according to the severity of the case. There are a variety of stem pessaries in use, but their results are unsatisfactory.

Less frequently, backache is produced by subinvolution of the uterus, which is due to imperfect retrograde changes of fatty degeneration and absorption. Usually chronic endometritis or metritis

accompanies this condition, and the usual treatment consists of douches, iodine applications, depletion of the cervix, and, finally, curettage, each or all being used according to the persistence of the ailment.

Last but not least, we must take into consideration disease of the kidneys. Examination will disclose the presence of albumin and casts in the urine, and then the milk diet and the usual treatment directed toward nephritis should be established.

Dr. H. C. Kincaid, of Heater, W. Va., writes:

"Backache" in a woman nearly always means, when the sole or chief symptom complained of, either pelvic trouble, muscle strain, or both. It is one of the most prominent symptoms in nearly all pelvic disorders; all uterine displacements, except the anterior ones, pelvic tumors of all kinds, chronic oophoritis, pelvic congestion, and a number of the ptoses are accompanied by backache, and it is my practice, except in young girls, or where there is absolutely nothing else in the history to indicate trouble of this kind, to insist on a thorough pelvic examination before attempting to relieve the condition.

In young girls, however, and some older ones, the trouble is not infrequently caused by prolonged muscle strain. Where the patient is on her feet a great part of the time, and wears high heeled shoes (as she does, nine times out of ten), the centre of gravity is shifted, and a compensatory lumbar lordosis is necessitated, which keeps the muscles of that region in a state of continual tension, and the backache follows as a matter of course. The uterus is, as a rule, more or less displaced in these individuals, but ordinarily the discontinuance of high heels and corsets, with perhaps a general tonic, will effect a cure in a comparatively short time.

With those cases, however, who exhibit gross pelvic lesions, great care must be taken to make an exact diagnosis and proper treatment instituted. The general system usually needs toning up, in addition to the local treatment. The lesser degrees of prolapse, and other uterine displacements, when unaccompanied by pelvic inflammation, can generally be relieved by the use of a properly fitting pessary, although very often operative measures are indicated permanently to reposit the pelvic viscera and restore the integrity of the pelvic floor. Ovarian inflammation and pelvic congestion must be treated by local heat, douches, depletion, etc.; tumors must be removed; the abdominal walls must be strengthened, the strain taken from the lumbar muscles, and the patient carefully instructed in the proper care of herself, giving her frankly the reasons for each step.

Correspondence.

LETTER FROM LONDON.

Report of the Royal Commission on Lupus.—X Ray Diagnosis of Pulmonary Tuberculosis.—The Insurance Act.

London, *January 25, 1912.*

The second volume of the appendix to the final report of the Royal Commission on Tuberculosis has just been published. This volume deals principally with lupus vulgaris.

At a meeting of the Medical Society of London, Dr. G. Harrison Orton read a paper on the x ray diagnosis of pulmonary tuberculosis. He said he wished to show how pulmonary tuberculosis even in its very early stages could be demonstrated by the x ray examination. He insisted on the importance of regarding the examination as an additional aid to diagnosis; a method to be used not in place of but in addition to every other method at their disposal. As no one other method taken alone was infallible, neither was the Röntgen method; but there were many instances where its employment would enable a definite opinion to be formed in cases which would otherwise have remained doubtful. In utilizing the x ray method they were bringing into play another and in most of them the most highly developed sense, namely, the sense of sight, and it could not but be to their advantage to be able to control with the eye the findings of the hand and the ear. A careful screen examination with every detail of technique properly carried out by a skilled observer was of the utmost importance, and that must be followed by the skilled interpretation of a satisfactory negative or negatives. Hasty and perfunctory examination and imperfect technique had been and were still responsible for many errors which tended to bring that method into disrepute. He had not time to describe the appearances seen in all the positions employed, but would consider those seen in the posteroanterior and anteroposterior examinations, i. e., when the screen was placed either on the anterior or posterior surface of the chest. The x ray tube was on the opposite side of the chest to the screen in both cases. The appearances seen in those two positions were so similar that the same description would apply to both if he pointed out afterward the slight differences which enabled them to distinguish between the two. What they might call the radioscopic image of the normal chest presented three vertically disposed zones, a median which was dark and corresponded to the shadows cast by the vertebral column, mediastinal contents (including the heart) and the sternum, and two clear lateral zones, which were situated on either side of the median and corresponded to the areas occupied by the lungs. When the screen or plate was placed on the anterior surface of the chest, the lattice work caused by the crossing of the ribs was a very marked feature, which was almost absent when the screen was on the posterior surface, and that was due to the fact that the anterior portions of the ribs were much less dense than the posterior, dense enough to cast a very distinct shadow when the plate was almost in contact with them, but being much less distinct when it was at such a distance from them, as it must needs be when placed on the posterior surface. The heart being nearer the front than the back of the chest, the shadow of that organ was sharper and more distinct when the screen was on the anterior surface. In addition to what they might call these grosser shadows, there were to be seen on either side of the median shadow certain somewhat ill defined shadowy lines, which became less and less evident as they passed from the region of the root of the lung toward the periphery, and were more marked on the right side than on the

left. Omitting very advanced cases, the following were the chief changes found in pulmonary tuberculosis: 1, A dimness and failure of one or both apices to brighten on deep inspiration; 2, the movement of the diaphragm was restricted on the affected side, that restriction being as a rule in the lower part of the excursion; 3, the heart in a large majority of early cases was smaller and more vertically placed in the chest than normal; 4, definite shadows were cast by the diseased portions of the lungs.

The opposition of the medical profession to the Insurance Act continues to increase. The undertaking which the British Medical Association has asked members and other medical practitioners to sign has already had between 26,000 and 27,000 signatures, a sufficient number to make the act a dead letter as far as the medical benefits are concerned. We are now threatened with a whole time medical service if we refuse to listen to the chancellor of the Exchequer. One government organ, the *Observer*, in its last issue, announces that it is enabled to state on excellent information that if the doctors prove refractory, the chancellor will abandon the contributory element in the act and will get money to organize a State medical service by putting sixpence on the income tax on incomes above a certain limit. The *Daily Chronicle* solves the problem in a different manner. According to this journal, should there be anything like an attempt by the doctors to break down the act, the local insurance committees will engage the exclusive services of medical men, for which the act provides ample power.

The Council of the British Medical Association met on Wednesday for the purpose of considering a requisition from a number of members to hold a special meeting. The report of the State Sickness Insurance Committee will be presented to a meeting of the council on January 31st, and will be afterward considered at meetings of the various divisions of the association throughout the country.

A significant change in the attitude of the council is shown by the tone of the leading article on the subject in this week's *British Medical Journal*. They appear now to be taking the views of members that the act as it stands is unworkable.

Therapeutical Notes.

Sodium Salicylate and Iron in Rheumatic Sore Throat.—Dr. H. Drinkwater says in the *Practitioner* for January, 1912, that a large proportion of the patients who suffer from rheumatic sore throat are anemic. When the pharynx is decidedly pale he has found more benefit to result from the employment of sodium salicylate in combination with ferric chloride than from the sodium salt alone, and he has used this combination for fifteen years. The preparation is as follows:

℞ Sodium salicylate, ... ℥j;
Solution ferric chloride, ... ℥ss;
Potassium bicarbonate, ... ℥j;
Water, ... ad ℥viij.
M.

The iron must be mixed with the salicylate before the potassium bicarbonate is added to either of them, otherwise an insoluble ferrous carbonate is formed and carbon dioxide is given off. The sodium salicylate and the potassium bicarbonate should each be dissolved in water before being put in the mixture; then, if the ingredients are introduced in the order given in the prescription, the final result is a clear, claret colored mixture without a trace of deposit or effervescence. The iron and salicylate form a thick, curdy, purple precipitate which dissolves on the addition of the potassium salt. Theoretically, 218 grains of sodium salicylate are equivalent to the iron in one ounce of the solution of ferric chloride, but, practically, not more than one quarter of this amount of iron can be used, otherwise the mixture will effervesce when the bicarbonate is added.

Treatment of Verrucæ.—Mantelin, in *Paris médical* for December 9, 1911, recommends the application of a collodion made up as follows:

℞ Chloral hydrate, }
Acetic acid, ... } ..... āā 6 grammes;
Salicylic acid, }
Ether, ... } ..... āā 4 grammes;
Collodion ..... 15 grammes.
Ft. sec. art.

Local Treatment of Acne.—Gerhard Hahn is credited in *Nouveaux remèdes* for January 8, 1912, with the following treatment for acne vulgaris: The affected region is washed daily with soap, and one of the following solutions applied with a pledget of cotton: Resorcin, 0.1 to 0.5 per cent.; thymol 0.25 per cent.; salicylic acid, 0.25 to 0.5 per cent. Either of the following pomades is then applied:

℞ Resorcin, ... 1 gramme;
Precipitated sulphur, ... 2 grammes;
Green soap, }
Petrolatum, } ..... āā 20 grammes.

Or the following:

℞ Sulphur, ... 2 grammes;
Salicylic acid, ... }
Tincture of benzoin, } ..... āā 1 gramme;
Petrolatum, ... 30 grammes.

These preparations cause a mild degree of local irritation, which should be relieved, after an hour or two, by applying hydrated wool fat, cold cream, or an ointment containing zinc oxide or bismuth.

External Applications for Chronic Rheumatism.—James Edwards, in the *Practitioner* for January, 1912, states that he has found the best preparation for external use to be the following:

℞ Ichthyol, ... ℥i;
Hydrated wool fat, ... ℥ii;
Petrolatum, ... q. s. ad ℥i.
M. et ft. ung.

T. Harvey Thompson, in the same journal, recommends the local application thrice daily of a liniment composed of—

Menthol, ...
Camphor, ...
Oil of turpentine, } ..... āā ℥ss;
Oil of eucalyptus,
Chloroform, ...
Tincture of capsicum, } ..... āā f℥i;
Methyl salicylate, ... }
Liquid paraffin, ... q. s. ad f℥vi.
M

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PNEUMONIA AMONG THE POOR.

Pneumonia with the poor and pneumonia with the rich are two different stories; with the former, bad and insufficient air, food, and light; little, or no intelligent care frequently, and, when sought, not always the best medical advice. Alas, the pity of it! With the well to do, good air, good food, plenty of light, good nursing, and competent medical attention, when required. So far then, well.

With the poor, pneumonia is usually evident when the physician makes his first call. Immediately, he knows the situation. What can he, what should he do? Simply his duty as he may: *alone*, acting the triple rôle for hours, or days, of doctor, nurse, and best of friends. True to-day, happily,—he may often seek instructed help from a nearby settlement, and soon it may be, an experienced head and hand are with him, efficiently seconding his well directed efforts. Can those of doctor, or nurse, change then and there, wretched home conditions? Evidently not. In mental vision the hospital ward looms up; shall the patient be taken there? Think what it means! Great nervous shock to the patient, mental at first, physical soon. Tears and lamentations from most beloved ones, to withstand which calls for the greatest control from an ill brain and a body prey to previous overwork, privations, self sacrifice for those dependent on him.

As a rule, the attack dates from the second, third, fourth, or even fifth day. The best we can do, if transport is determined, is to call an ambulance, put the patient on a stretcher, and drive rapidly through noisy, cold, badly paved streets to the hospital. There, not infrequently, elapse many anxious waiting moments, before the patient is carried or wheeled to a ward bed. The outlook is that of strange faces and stranger surroundings. Will he, can he recover? Sometimes he does, thanks to the house physician and the trained nurse who lavish care, tenderness, knowledge in the most practical way upon him. Again, many die who might recover even in the tenements, were they not moved *too late* from home.

In estimating what is best to do, here, as always, *character* must govern doctor and nurse. By character I mean self sacrifice, altruistic service for another's need. When self is predominant, the best neither can, nor ever will be accomplished. To character, however, must be added common sense, experience, practical knowledge.

These are found as often among relatively unknown practitioners, as among those who are famous. When one seeks aid, especially in pneumonia, beware trusting mere science rather than skill, the fruit of the wisest empiricism. Such wisdom comes solely from lifelong service to others. In it is the highest expression of our noble art.

BEVERLEY ROBINSON.

CHEMOTHERAPEUTICAL EXPERIMENTS ON ANIMALS SUFFERING FROM MALIGNANT TUMORS.

Von Wassermann, von Hansemann, Keysser, and Wassermann have made experiments on mice with chemical preparations, which, when brought into the circulation, attack automatically the tumor cells and destroy them, following the chemotherapeutical theories of Ehrlich; the results of these experiments are published in the *Berliner klinische Wochenschrift* for January 1, 1912. Knowing the principal condition of malignant tumors, that they grow more energetically than the cells of the surrounding tissues, and that they are, therefore, much stronger, it follows that they must absorb more oxygen. Gosio had found that sodium selenate and tellurate were salts whose metal was reduced by living cells and deposited as a black or red residue. The authors used, therefore, these two salts and observed that the metal was deposited inside the cell near the nucleus. This knowledge was then used in experiments with malignant tumor in mice. Sodium selenate and tellurate were injected intravenously into the animals, but only a weak solution

could be used, as otherwise toxic results appeared; but this weak solution did not reach the tumor in a form concentrated enough to affect it, and the experimenters concluded that the chemical combination was partly absorbed by other cells. The next step was to prevent other cells from absorbing the solution. Two hundred new chemical combinations were tried, and finally the experiment was successful with an eosin selenium combination. This is a red powder, very soluble in warm water, and the maximum dose for mice with malignant growth, given intravenously, was 2.5 milligrammes injected in one cubic centimetre of a solution of one in 400. The chemical combination itself is a product of unstable properties, and great difficulties were encountered in obtaining the proper proportions. Very soon after an injection the snout, the claws, the eyelids became intensely red, the discoloration disappearing in twelve hours. Many animals died on the first, second, or third day, and even those which survived this dangerous period easily succumbed during the following days from absorption of the destroyed tumor cells. Even mice which showed after death a disappearance of the tumor had died from this absorption.

The injections were given daily for three days. On the fourth day the palpating finger would find a softening of the tumor. A fourth injection followed on the fifth day, which resulted in a dissolution of the tumor, which appeared as a fluid mass, such as is found in a cyst. Now followed injections on alternating days, until, in severe cases, eight injections had been given. The authors thus succeeded in curing a number of mice of malignant tumors without a reappearance, as the animals remained normal "for months."

MEDICINE IN FICTION.

Medicine has been used or misused by novelists and writers of imagination since fiction and poetry first came into existence. Shakespeare refers frequently to the doctor or leech, but in those days the position of the practitioner of the healing art was lowly and the great poet is not complimentary in his comments. Lesage, in *Gil Blas,* gives a very amusing and, although exaggerated, a probably fairly true account of the practice of medicine in his time. Doctor Sangrado believed in blood letting and in copious draughts of hot water and in a spare vegetarian diet. Rabelais cruelly satirizes the medical profession, and Molière in all his works delighted in making a physician the chief butt of his wit and humor.

Smollet, again, painted in vivid word pictures the type of physician and the manner in which the practice of medicine was conducted in the hard living times in which he wrote. Fielding openly ridiculed doctors, and in fact much of this ridicule was deserved, for medicine was at a low ebb when he wrote. Sir Walter Scott, however, was an exception, in that he preferred to look on the bright side and dwelt rather on the good points of medical men than on their follies and failings.

By more modern novelists neither the medical profession nor its exponents have been treated quite fairly. Many writers have not taken the trouble to become conversant with the manners or methods of medical men, with disease or with treatment. The consequence is that their errors have been both egregious and amusing. In the *Cornhill Magazine* for December, 1911, S. Squire Sprigge discusses the subject. He is of the opinion that, generally speaking, regarded from the artistic standpoint, it is a matter of little moment that a novelist should be absolutely accurate with regard to medical questions; that is, if the story does not hinge on such points and the writer thereof does not seem to lay claim to accurate medical knowledge. On the other hand, when medicine is interwoven in the story, when the relations of the medical profession to the public are presumably expounded in a book, it is very important to all concerned that the statements therein should be correct. As a rule, such statements are nothing of the sort. The members of the medical profession are usually limned as villains of the deepest dye, or as almost impossibly wonderful self denying heroes. Thus the community at large is apt to gather the impression that the physician is not an average member of society. Descriptions of medical life in many novels are to the initiated obviously untrue, the sketches given of hospital life are frequently flagrantly misrepresented, nurses are often characterized as callous, and indeed the entire description is manifestly a travesty of the real thing. This is unfortunate, because it leads an ignorant public astray. Within the scope of an editorial article it would be impossible to deal with the contribution to *Cornhill* at the length its interest deserves, but there are two or three points which should not be passed over. The author draws attention to the fact that in one novel at least the writer is not only accurate in his medical knowledge but is in advance of his age and of the medical profession. Charles Reade, in *Foul Play,* leaves an acknowledged consumptive girl wrecked on a desert isle, where she has to live in the open air, undergo some hardships, and fend for herself. The upshot is that she recovers and lives to a green old age. This story was written long before the modern treatment of tuberculosis was in vogue. Charles Brockden

Brown, of Philadelphia, in 1793, in his novel *Arthur Mervyn,* wrote a remarkably accurate account of the plague epidemic which devastated that city at that period. The French writers, as they are the greatest literary artists of the world, so they are the most realistic and true in their descriptions of disease. It might be well if novelists, when they write on medical affairs, were to be more careful in their presentations of physicians. It is harmful to the profession and the public that medical men should be presented in novels in a false light.

A MODERN PEST HOLE.

Press despatches, received in this city, again draw attention to that modern pest hole Guayaquil, Ecuador. The port and city of that name, gate to that republic, is indescribably filthy. For many decades, yellow fever has been endemic, and when the necessary soil offers—the unacclimated resident—an epidemic results; hence, constant reproduction and propagation.

The first despatch referred to an outbreak of yellow fever on the U. S. S. *Yorktown.* Another despatch reports the deaths of her commander, Captain Bartolette, and of a seaman; still another, the landing of ten men in Guayaquil, all suffering from yellow fever, and that the ship had sailed for a coastwise port. The experience of the U. S. S. *Jamestown,* at Panama, many years ago, is familiar to the student of this pest of tropical and subtropical ports.

When we recall the fact that Guayaquil is the first port of importance south of Panama and that it is in constant touch with that port through many steamships we can realize the grave importance of this news to the United States. Just as Havana has been cleared of yellow fever by the adoption of proper sanitary precautions, so Guayaquil can be converted from a focus for infection into a safe and sanitary port of call. This matter is one so gravely affecting the commerce of the world that it seems quite within the province of the world powers to make the proper sanitation of the city the subject of international communication. If proper representations are made to the authorities of Ecuador by the powers it is highly probable that steps will be taken at once to put the port into a sanitary condition, and it seems to us that it is high time such representations were made.

THE EFFECT OF VARIOUS DRUGS IN EXPELLING HOOKWORMS.

During the past decade the terrible ravages of hookworm disease have been shown clearly to us through reports from the South and from Porto Rico. Several drugs have been used to expel the worms. Burton Nicol, of Natal, gives an interesting statement of his observations on the effect of various drugs in the *Journal of Tropical Medicine and Hygiene* for January 1, 1912. He has used eucalyptus, thymol, pelletierine tannate, betanaphthol, etc. The preliminary report of the Porto Rico Commission, published in 1905, stated that 76.8 per cent. of the total number of parasites present were expelled by one course of thymol treatment, the maximum dose being 61.7 grains, while betanaphthol in forty-five grain doses expelled 72.24 per cent. Nicol found that with a larger dose, ninety grains, over ninety per cent. of the total number of parasites were expelled with one treatment; but he sounds a note of warning against such large doses, and states that the most careful supervision of the patient is absolutely necessary.

Of eucalyptus he remarks that it proved to be a very unsatisfactory drug, as half of the cases required three courses of treatment; and the drug was not well received by the patients, all of whom suffered from nausea and vomiting, while dizziness, syncope, and somnolence appeared in all the cases.

The pelletierine tannate was easy to administer, and even twelve grain doses produced no toxic symptoms, but it also proved to be absolutely harmless to the worm.

Betanaphthol in sixty grain doses gave fairly good results. The first treatment expelled eighty-six per cent. of the parasites present, while on the second, fourteen per cent. were expelled. The ninety grain treatment removed practically all the hookworms at one dose, and the drug did not show any bad effects upon the patient.

We see from this statement that thymol and betanaphol in ninety grain doses were very successful and gave much better results than any of the other drugs. The author states that there is probably very little difference between these two drugs in their anthelmintic power. The constitutional disturbance caused by thymol in such large doses is so great that the treatment cannot be carried out on a large scale, while betanaphthol causes comparatively little disturbance, is effective, easily administered, and costs much less than thymol.

THE STRANGE DISEASE OF BERLIN.

The remarkable attack of acute disease, news of which was promptly cabled to this country at the time of its occurrence, that broke out in a pauper asylum in Berlin, is discussed in the *Frankfurter Zeitung* for January 12th. Speaking of the attack having been attributed to methyl alcohol, this journal points out that many of those known to have drunk that fluid escaped entirely, one individual

after imbibing to the value of four marks or one dollar. The experiments of Wolf-Eisner on rabbits were contradictory; some of the animals simply became intoxicated, others died, while one Roman of a rabbit suffered without symptoms the injection of a quantity corresponding to 100 c.c. in man. Botulism or sausage poisoning, cited as a possible cause, has also been eliminated. *Paris médical* for January 13th scarcely veils its opinion, evidently that of several European physicians, that there has been an actual outbreak of cholera in Berlin. Cholera explains the symptoms to a nicety and a combination of disbelief and shock at the suspicion is sufficient explanation of the speedy suppression of such a diagnosis. To admit that cholera had eluded the ultracircumspect precautions of Germany would be scientific blasphemy.

A PARTICULARLY MEAN SWINDLE.

Throughout the drier part of the country, particularly in the West, there are a number of sanatoria of what might be called a semicharitable nature. These are supported in two ways; by a weekly charge to the patients, insufficient to pay expenses, and—to the extent of the deficit—by liberal donations from wealthy and kind hearted well wishers. The actual cost of keeping a patient at such an institution is about fifteen dollars a week, but the usual charge is only seven dollars. Such sanatoria are in a position to do an immense amount of good in taking care of persons of moderate means without the sacrifice of their self respect, but in practice the accommodations are almost completely filled by patients quite well to do, and even moderately rich. It is not an uncommon thing, we understand, to see phthisical ladies bedecked magnificently with diamonds dining at some such sanatorium, where inquiry discloses that they are paying only the low rates established for the poor. The meanness of thus taking advantage of charity is not mitigated by the fact that influence has been brought to bear in favor of these wealthy women by an influential politician, some donor to the institution, or even the family physician. Leaving to one side the adamantine heart qualities of people who will take advantage of such a situation and to which it is useless to appeal, we may remark that the wrong done to poor patients is great, inasmuch as they are forced into county and State sanatoria, where the conditions are frequently very bad, or into cheap boarding houses, where they are not much better; second, that this state of affairs prevents the establishment of private sanatoria in the proper region, because the patients who might be legitimately expected to fill such institutions are taking shabby advantage of their ability to supplant their poverty stricken fellow consumptives in places rightfully belonging to the latter; and, third—and this statement will appeal, we believe, with great force to those responsible—the state of affairs is becoming notorious, which will quickly dry up the fount of misapplied charity. The doctors who have aided in this mean imposition have, we are sure, been deceived by the patients they have helped, and a word of caution to them will suffice.

ACID FAST BACILLUS IN RAT LEPROSY.

Dr. Henry T. Hollmann, of the Public Health and Marine Hospital Service, notes in the *Public Health Reports* for January 19th that he has succeeded in cultivating in pure culture an acid fast bacillus from a rat suffering from rat leprosy. This pure culture he has inoculated subcutaneously in eight rats and acid fast bacilli were found in all, in the lesions of the skin; in two in the lungs, and in one in the nasal discharge. Three other rats were inoculated intraperitoneally without producing any lesions of the skin or internal organs, but the splenic pulp of two of them contained acid fast bacilli.

AN EDITORIAL APPOINTMENT.

Dr. Ira S. Wile has assumed the editorial management of the *Medical Review of Reviews*, a position which we know he will fill with distinguished ability, and for his success in which he has our most cordial good wishes. Doctor Wile's name is familiar to our readers, owing to his investigations into questions of medical sociology and the feeding of children.

Medical Law.

Some years ago the NEW YORK MEDICAL JOURNAL presented to its readers a series of articles published weekly and extending over a period of about one year which covered nearly the whole field of law as applied to the practice of medicine.

These articles[1] were received by the professions in such a manner as to convince us that they were found to be of real use, serving, as we believe, both as a weapon and a shield, advising the physician as to his rights and the manner of their enforcement and pointing out to him the dangers peculiar to his profession.

While the principles of the law remain in large part unchanged, yet, in their application to new circumstances and conditions, constantly occurring or developing, new questions of interest and value are continually being presented.

With a view to keep our readers informed upon the current decisions affecting the practice of medicine and their relation to the general principles of law governing that subject, we have arranged to publish from time to time notes and memoranda of

[1] Afterward collected and published in book form under the title *The Law in Its Relations to Physicians*, D. Appleton & Co., New York.

the reported cases with such comments as may be calculated further to illustrate the principle or the question involved.

We shall present these cases as illustrating the recent application of the principles under which they come, and in so doing shall preserve, as nearly as practicable, the general scheme of arrangement presented in the articles formerly published by us, that is:

I. The right to practise medicine and surgery.

The matter coming under this head is largely statutory, differing in the several States and subject to frequent changes; we will, therefore, not attempt to present these enactments except where the matter appears to be of such general interest as to justify so doing.

II. Public health regulations.

III. Contract of physician with patient.

IV. Contract of patient with physician.

V. Rights and liabilities of third parties.

VI. Right to compensation.

VII. Recovery of compensation.

VIII. Civil malpractice, including general liability of physician to patient.

IX. Criminal liability.

X. The physician as witness.

XI. Privileged communications.

XII. Miscellaneous regulations and matters.

II. PUBLIC HEALTH REGULATIONS.

In re Allen 131 N. Y. Supp. 1027, the Appellate Division of the Supreme Court has decided that the public health records are not open to public inspection or to inspection of tax payers without the showing of some reason for examining such records and some interest in the matter. In this case it appears that an application to inspect certain records was made by a taxpayer on the behalf of the Bureau of Municipal Research. No reason or explanation was given why the applicant desired the records or what special interest he had, if any, in making the inspection, or what use he expected or intended to make of the information to be obtained. He apparently stood upon his right as a taxpayer to make this inspection. By Sec. 1645 of the charter it is provided in part "All books, accounts, and papers in any departments, shall at all times be open to the inspection of any taxpayer, subject to any reasonable rules and regulations as such department, bureau, or officer may make in regard to the same, in order to secure the safety of such books, accounts, and papers, and the proper use of them by the department, bureau, or officer." The section then provides in case of refusal to permit such inspection that the taxpayer may apply to any justice of the Supreme Court for an order allowing him to make such inspection. In this case the courts holds that notwithstanding the broad language of Sec. 1645 of the charter that the records cannot be inspected without apparent interest and assigned reason by the parties seeking the inspection. The Court says: "It is generally held that even under such statutes, the individual seeking an inspection must show that the information sought is for some legitimate and specific purpose, and that the gratification of mere curiosity or some speculative purpose will not suffice. What will be deemed a sufficient reason for the examination of any specified records must depend in each case upon its own peculiar circumstances."

XI. PRIVILEGED COMMUNICATIONS.

In a recent decision rendered in the case of Howe against Regensberg the Appellate Term of the Supreme Court has announced its decision that dentists are not included in the provisions of Sec. 834 of the Code of Civil Procedure, which provides "that a person duly authorized to practise physic and surgery" shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity and which was necessary to enable him to act in that capacity. Justice Seabury who wrote the opinion of the Court states that the term "surgery" as employed in the statute does not include one engaged in the practice of dentistry, as it is clear from the statutes of this State that the legislature regards the two professions of medicine and dentistry as separate and distinct.

While the reason of Justice Seabury is doubtless sound and is in accord with decisions of the States of Louisiana and Michigan upon statutes more or less similar to our own, yet it appears that the fundamental reason for the extension of the statute rendering the testimony of physicians incompetent, applies equally to that of dentists, and that the statute should be extended so as to include dentists as it was, by the amendment of 1904, extended to include professional or registered nurses.

Under the common law, as it existed in England and in this country, the only parties between whom communications were protected from disclosure in court, were attorney and client. In the course of time experience showed to the legislative bodies of England and most of the States of this country the necessity of extending this provision so as to include communications between clergymen and confessors, physicians and patients, and in our own State, nurses and patients. The fundamental reason for the extension of the provision to the medical profession, is to enable the patient fully to disclose to his physician without fear that such disclosure can be wrung from the physician in the court of law, all of the facts and conditions so as to enable the physician to treat the case with proper knowledge. The courts in recognition of this principle have not only limited the privilege to oral statements made by the patient, but as well to information gained by the physician in the examination of his patient.

It is a matter of common medical knowledge that such examinations necessarily and continually bring to the dentist as well as the surgeon, knowledge of a character equally requiring the protection of the statute in question. This, however, is not a matter for the courts—as the courts must apply the laws as they find them—but for the legislature which it seems might properly extend the privilege to include dentists as well as physicians and nurses.

The question of whether or not a physician, who has been sued for malpractice, will be prevented from testifying in court as to the condition of his patient by the statute rendering professional communications privileged, is one of great importance.

The courts of Indiana have heretofore taken the view that such a suit by a patient waives the privilege; the same view has also been expressed, but not directly held, in this State. The question, however, was squarely raised and decided by the Appellate Division of the Supreme Court in the case of Terier v. Dare, 131 N. Y. Supp. 51, wherein the Court held that the bringing of a suit for malpractice, did constitute a waiver of the statute and permit the physician to show anything he knew as to the condition of the patient.

In this case it appeared from the evidence that the patient had fallen and struck upon his shoulder and was treated for the injury by the physician. The patient sued the physician for malpractice in the treatment of the shoulder, claiming that he had suffered a dislocation, and had not been properly treated for that condition. Upon the trial of the case it appeared from the testimony of the defendant that the patient had previously been treated by the physician for a considerable time before the injury, for a chronic infectious disease, that the physician's theory was that the shoulder was not dislocated but bruised, and that infection from the contagious disease attacked the shoulder joint following the bruise, and that he treated the patient accordingly, and informed him fully as to his condition. The trial judge refused to permit the physician to give evidence as to the nature of the disease for which he had previously treated the patient on the ground that such evidence was a privileged communication, and the defendant was therefore prevented from showing by experts to what extent the condition of the patient at the time of the trial was due to the chronic disease, the nature of which he was prevented from disclosing. The ruling of the trial justice was reversed, the Appellate Court directly holding that by the bringing of the action against his physician the patient waived the privilege accorded to him in the statute and that the physician should have been permitted to testify as to all information obtained in treating the patient which was relevant to the case.

News Items.

Harvey Society Lectures.—The eighth lecture of the series will be delivered at the New York Academy of Medicine this evening, February 3d, by Professor T. W. Richards, of Harvard University, on The Relations of Modern Chemistry to Medicine.

Infectious Diseases in New York.—During the week ending January 27, 1912, the following cases of and deaths from communicable diseases were reported to the Department of Health of the City of New York: Pulmonary tuberculosis, 564 cases, 195 deaths; diphtheria and croup, 272 cases, 26 deaths; measles, 631 cases, 10 deaths; scarlet fever, 274 cases, 8 deaths; smallpox, 4 cases, 1 death; chickenpox, 287 cases, 0 death; typhoid fever, 40 cases, 10 deaths; whooping cough, 60 cases, 3 deaths; cerebrospinal meningitis, 3 cases, 2 deaths.

A New Medical Society in New York.—Physicians of upper Manhattan and the Bronx have organized a new medical society which is called the Northern Medical Society of the City of New York. The following officers have been elected to serve for the first year: Dr. William J. Robinson, president; Dr. A. L. Goldwater, first vice-president; Dr. Alexander Goldman, second vice-president; Dr. H. Schumer, corresponding secretary; Dr. M. Aronson, treasurer. Meetings will be held once a month, and all physicians in good professional standing are eligible for membership.

American Society of Sanitary and Moral Prophylaxis.—A regular meeting of this society will be held on Thursday evening, February 8th, at the New York Academy of Medicine. The president, Dr. Prince A. Morrow, will present a report showing the progress of the movement. Dr. Donald R. Hooker, of Baltimore, will deliver an address in which he will speak of the thorough investigation of vice and its diseases recently conducted in Baltimore. Mr. Wirt W. Hallam, of the Chicago Vice Commission, will speak on the apparent reduction of vice in many of the Western cities through administrative reforms. There will be a general discussion by prominent members of the medical profession and the laity.

Public Hospitals Overcrowded in New York.—The Board of Estimate and Apportionment in New York city has authorized the expenditure of nearly $3,000,000 for improvements in the Department of Public Charities, as well as large additional amounts for new construction work. The urgent need of a large increase in the number of beds in the public hospitals of New York city is pointed out in the annual report of the State Board of Charities, and a rapid increase of facilities at the farm colony on Staten Island is recommended to relieve the overcrowding at the city homes on Blackwell's Island and other points. An inspection of both public and private hospitals in New York showed them to be in a greatly overcrowded condition.

Forbidding the Use of Wood Alcohol.—The Board of Health has adopted a new section of the Sanitary Code prohibiting the sale or use of wood alcohol not only in any food or drink but also against its use by barbers and others in hair tonics, face lotions, and other external applications. The resolution of the Board of Health is, in part, as follows: No person or corporation shall have, sell, or offer for sale any food or drink which contains methyl alcohol (commonly known as wood alcohol) or any preparation or mixture of any kind whatsoever containing the same, intended either for internal or external use by man; nor shall methyl or wood alcohol or any preparation or mixture containing the same be used upon or applied to the person or body of another.

Associated Physicians of Long Island.—The annual meeting of this organization was held on Saturday evening, January 27th, under the presidency of Dr. Frank Overton, of Patchogue, who also acted as toastmaster at the dinner which followed the business meeting. Dr. William B. Brinsmade, of Brooklyn, was elected president to serve for the ensuing year, and other officers were elected as follows: First vice-president, Dr. Samuel Hendrickson, of Jamaica; second vice-president, Dr. James P. Warbasse, of Brooklyn; third vice-president, Dr. Dudley D. Roberts, of Brooklyn; secretary, Dr. James Cole Hancock, of Brooklyn; treasurer, Dr. Charles B. Baer, superintendent of the City Hospital, Blackwell's Island.

The Medical Society of Franklin County, Pa., held its annual meeting in Chambersburg on January 16th and elected the following officers to serve for the ensuing year: President, Dr. Frank N. Emmert, of Chambersburg; vice-presidents, Dr. Guy P. Asper, of Chambersburg, and Dr. A. B. Sollenberger, of Waynesboro; secretary, Dr. John J. Coffman, of Scotland, reelected; assistant secretary, Dr. J. Elmond Kempter, of Chambersburg; treasurer, Dr. Johnston McLanahan, of Chambersburg, reelected. Dr. J. Burns Amberson, of Waynesboro, was elected censor to serve for 1912-1914.

International Congress on Hygiene.—Dr. John S. Fulton, secretary general of Fifteenth International Congress on Hygiene and Demography, which is to meet in Washington, D. C., in September, has received assurances that representatives from twenty-four foreign countries and from practically every State and Territory in the United States will be present. Among the States which have not as yet officially signified their intention to be present are New York, Massachusetts, Pennsylvania, and Ohio. In connection with the congress, and in buildings specially erected for it in Potomac Park, there will be held the greatest public health exhibition ever shown in America. This exhibit will be in charge of Dr. Joseph W. Schereschewsky, of the United States Public Health and Marine Hospital Service. While the dates of the congress itself are from September 23d to 28th, the exhibition will open early in September and will continue for some time after the congress has closed.

Physicians Wanted in State Hospitals for the Insane.—The New York State Civil Service Commission announces that an examination will be held on February 24th, for the position of junior physician, either homeopathic or regular, in the New York State hospitals for the insane. The salary will be $900 a year, with maintenance, increasing $100 each year until a maximum of $1,200 a year is reached. As the commission has experienced some difficulty in securing a sufficient number of eligible persons from among residents of New York State, it has been decided to admit to this examination residents of other States, and arrangements are being made to hold examinations in Boston, Philadelphia, Washington, Cincinnati, Chicago, St. Louis, and St. Paul. The New York State hospital service comprises fifteen State hospitals, the Psychiatric Institute, and two hospitals for the criminal insane. Over 30,000 patients are treated annually in these institutions, and the service presents the best available opportunity for the study of insanity. Any one interested in this examination should write at once to the New York State Civil Service Commission, Albany, N. Y., for application blank and full information.

Meetings of Local Medical Societies to be Held during the Coming Week:

MONDAY, *February 5th.*—Clinical Society of the New York Throat, Nose, and Lung Hospital; German Medical Society of the City of New York; Utica Medical Library Association; Niagara Falls Academy of Medicine; Roswell Park Medical Club, Buffalo; Practitioners' Club, Newark, N. J.; Hartford, Conn., Medical Society.

TUESDAY, *February 6th.*—New York Academy of Medicine (Section in Dermatology); New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Long Island Medical Society; Syracuse Academy of Medicine; Hudson County, N. J., Medical Association (Jersey City); Medical Association of Troy and Vicinity; Bridgeport, Conn., Medical Association.

WEDNESDAY, *February 7th.*—Society of Alumni of Bellevue Hospital; Harlem Medical Association; Elmira Academy of Medicine; Schenectady Academy of Medicine.

THURSDAY, *February 8th.*—New York Academy of Medicine (Section in Pediatrics); Brooklyn Pathological Society; West Side Clinical Society; Blackwell Medical Society of Rochester; Jenkins Medical Association, Yonkers; Buffalo Ophthalmological Club.

FRIDAY, *February 9th.*—New York Academy of Medicine (Section in Otology); New York Society of Dermatology and Genitourinary Surgery; Eastern Medical Society of the City of New York; Society of Ex-Internes of the German Hospital in Brooklyn; Society of Clinical Serology; Society of Alumni of St. Luke's Hospital.

SATURDAY, *February 10th.*—Therapeutic Club, New York.

Pith of Progressive Literature.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

January 27, 1912.

1. W. W. ANDERSON: Medical Ideals for Every Day Doctors.
2. RANDOLPH WINSLOW and IRVING J. SPEAR: Section of Posterior Spinal Nerve Roots for Relief of Gastric Crises and Athetoid and Choreiform Movements.
3. JOSEPH C. BECK: Tonsillectomy with a Single Instrument, the Tonsillectome.
4. TORALD SOLLMANN: Experimental Therapeutics.
5. WILLIAM SALANT: Action of Drugs in Pathological Conditions.
6. C. P. OBERNDORF: Constitutional Inferiority and Its Psychoses.
7. ALEXANDER H. PEACOCK: Suprapubic Drainage Tube.
8. ALFRED C. HAVEN: Lake Forest Hospital for Contagious Diseases.
9. F. F. GUNDRUM: Acute Poliomyelitis in California.
10. ETHAL A. GRAY: Disastrous Results of Delayed Diagnosis in Pulmonary Tuberculosis.
11. W. B. LEWITT and LANGLEY PORTER: Pyloric Obstruction in Infants with Muscular Hypertrophy at the Pylorus.
12. BURRILL B. CROHN: Coleman-Shaffer Diet in Typhoid Fever.
13. FAYETTE W. BIRTCH and THOMAS G. INMAN: Blood Pressure Observations on Patients with Relaxed Abdominal Musculature.
14. JOHN PELHAM BATES: Study of Secondary Anemia in Panama.
15. C. W. COUTANT: Early Recognition of Tuberculosis.
16. C. S. ROCKHILL: Iodine in Smallpox.
17. J. H. SCHRUP: Practical, Easy, and Cheap Method of Incubation.

12. Coleman-Shaffer Diet in Typhoid Fever.—Crohn records his experiences with this diet in thirty reported cases. Coleman and Shaffer, working on protein metabolism in typhoid fever, have suggested a practical form of diet which contains a liberal protein proportion, and a very greatly increased carbohydrate ratio, as well as a moderate increase in the fat content. Their aim is to provide a diet which shall convert a minus to a plus nitrogen balance, prevent loss of weight during the infection, and maintain general nutrition; this to be done by so greatly increasing the carbohydrate and fat proportion of the food as to prevent nitrogen loss. The patients were fed at short intervals (every two hours) during the day, and at longer intervals (every four hours) during the night; the dietary consisted of cocoa, cereals, eggs, broths, bread, butter and whisky. In addition they used lactose (milk sugar) in quantities up to ten to twenty ounces a day. Cream of high fat content and high caloric value was also liberally used. The caloric value of the day's ration as administered by them usually varied between 3,500 and 5,000 units, an occasional patient taking 6,000 calories, or even more, for a short period. The conclusions drawn from the test are as follows: First, the diet is a practical one and is well taken by the patient; second, the nutrition of the patient remains, in all but the most severe cases, unusually good; third, most patients show a slight loss in weight; fourth, the period of convalescence is shortened; fifth, the disease seems to be better tolerated. In the series of thirty cases complications were rare and there were no deaths.

13. Blood Pressure in Patients and Relaxed Abdominal Musculature.—Birtch and Inman recall the fact that systolic blood pressure readings taken while the individual observed is standing vary more or less from readings obtained in the recumbent posture. The results of the authors' experiments are: 1. It may be normal to have a slight systolic fall on standing after lying in healthy individuals who are not undergoing active muscular training; 2, patients with relaxed abdominal musculature and enteroptosis, not showing subjective symptoms, will be found to have at least the diastolic sustained in change of position and it may be assumed that the vasomotor mechanism is competent; 3, patients with relaxed abdominal musculature and enteroptosis with circulatory symptoms will show both a systolic and a diastolic fall on standing after lying; 4, the neuropathic symptoms found in these cases are not due to the malposition of the viscera, nor can they be placed among the neuroses; they are entirely dependent on the cerebral anemia; 5, the circulatory changes, while the cause of the symptoms, are not the primary etiological factors, but are second to the great muscular atony, the cause of which is unknown.

14. Secondary Anemia in Panama.—Bates has made an extensive study of the so called tropical anemia. He finds that it is almost always the result of several causes combined, such as malaria, uncinariasis, and semistarvation. Therefore the term "tropical anemia" is a useful one and it should be revived to include all secondary anemias of the tropics, and malarial cachexia should be abandoned, for it usually directs our effort along the wrong lines of treatment. Moreover, uncomplicated malaria fever tends to establish a relative immunity and does not eventuate in a grave secondary anemia unless semistarvation is present. Uncinariasis may cause a severe secondary anemia, but in most instances lack of good food is largely the contributing cause. Malaria fever and uncinariasis in the same individual, if untreated, always result in a severe secondary anemia, and uncinariasis is the more responsible for the anemia when both infections are present in the same individual. Food poor in quality and insufficient in amount is the most important contributing cause in tropical anemia, and this anemia is usually in direct proportion to the poverty of the people. The splenic enlargement is primarily due to malarial infection, and the ultimate changes in the spleen are probably influenced by various intercurrent infections. Regardless of a history of antecedent malaria, treatment in these tropical anemias should be directed toward the uncinaria no matter how few are present, and to the improvement of the food supply.

16. Iodine in Smallpox.—Rockhill has, during the past year, used a ten per cent. iodine and ninety per cent. glycerin solution, painting it over the pustules two or three times a day. The results are drying of the pustule, the absorption of the toxine, and arrest of destruction of the tissue; therefore, the disfiguring due to pock marks has been prevented. The stay at the hospital has been shortened from twenty-five to thirty days under the old treatment, to from eight to fifteen days. The pustules on the face may be opened with a sterile instrument and touched up with tincture of iodine. Desquamation is frequently completed in from four to six days, except a few pustules on the palms and soles. These may be opened, touched with tincture of iodine, and the patient then discharged. The author has treated eighty-five patients by this method during the past year with 100 per cent. recoveries, and with an average stay in hospital of twelve days. The favorable action of the iodine depends upon its valuable antiseptic properties.

MEDICAL RECORD

January 27, 1912.

1. Eugene Fuller: Sexual Disorders in the Male Clinically Considered.
2. A. E. Garrow and C. B. Keenan: A Latent Hypernephroma with a Solitary Metastasis in the Spine.
3. Carl D. Camp: Pernicious Anemia Causing Spinal Cord Changes and a Mental State Resembling Paresis.
4. Frank C. Yeomans: Diagnosis of Obscure Conditions of the Colon with the Aid of the Röntgen Rays.
5. John Dudley Dunham: A Study of Cardiovascular Disease in Its Relation to Lesions of the Abdominal Viscera.
6. Herman B. Sheffield: Pediatric Memoranda. Bilateral Anophthalmos. Amaurotic Family Idiocy.
7. Milton R. Parker: Chronic Posterior Urethritis, Vesiculitis, and Epididymitis in Men beyond Middle Life.
8. Irving W. Voorhees: Abscess of the Nasal Septum.

1. Sexual Disorders in the Male Clinically Considered.—Fuller, in this paper, makes much of method and cure in diagnosticating genitourinary cases, without which he finds there is always special danger of error. The routine he follows in this connection is: 1. The voluntary recital by the patient of his clinical symptoms; 2, the putting of questions to the patient bearing on the urinary function; 3, the putting of questions bearing on the sexual function; 4, questions relating to general physical and mental conditions, and among these are included those relating to family history. After this comes the physical and special examination. The order here observed is, 1, an external inspection and general examination; 2, observation of the act of urination and of the first portion of urine voided; 3, digital palpation per rectum of the prostate, seminal vesicles, and vesical floor, followed by the voidance of the remaining portion of the urine; 4, urethral examination and examination, if required, of the upper urinary tract. In carrying out this régime, says the author, the genital and the urinary conditions are equally and impartially considered.

2. A Latent Hypernephroma with a Solitary Metastasis in the Spine.—Garrow and Keenan, from the study of a case under their care and others found in the literature of this subject, find that hypernephromata and endotheliomata (i. e., hemangioendotheliomata and lymphangioendotheliomata) do occur in the kidneys as tumors of varying size and malignancy; that peritheliomata cannot be differentiated from hypernephromata by their morphology, and that endotheliomata may present all stages from flattened endothelium to columnar cells, in single or in multiple layers, with lumina invariably present. The site of the tumor, the amount of degeneration, of fatty metamorphosis, of glycogen infiltration, are all points of minor importance. In the tumors of the authors' case the resemblance to adrenal cortex was evident, and the lumina which were present, here and there, were presumably of the nature of lymph spaces. Where blood was present this seemed to be the result of accidental extravasation. The growing edge of the spinal tumor showed a more sarcomatous appearance. The clinical history shows that tumors of this kind may give rise to metastases before they make their presence suspected either by local pain or by hematuria.

3. Pernicious Anemia Causing Spinal Cord Changes and a Pseudoparesis.—The examination of a case reported by Camp pointed to lesions in both the posterior and lateral columns of the spinal cord; the former shown by ataxia, Rombergism, sensory changes, and lost Achilles reflexes, and the latter by spasticity and a positive Babinsky reflex. The positive Babinsky and spasticity would preclude the diagnosis of uncomplicated tabes, as would also the absence of any change in the pupillary reflexes, and the absence of any characteristic crises, lightning pains, and bladder disturbance. If a tabetoparalysis were thought of we would still have to account for the absence of the Argyll Robertson pupil and the negative Wassermann reaction. The negative findings in the cerebrospinal fluid, in this case, are almost conclusively against the diagnosis of paresis or any syphilitic or parasyphilitic disease of the brain or spinal cord. There was no history obtainable of any toxic factor, such as lead or alcohol, as a cause of the spinal cord changes. The author calls attention to many other similar cases showing the points brought out, and quotes in detail cases reported by Marcus and Siemerling.

4. Diagnosis of Obscure Conditions of the Colon with the Aid of Röntgen Rays.—Röntgenology, according to Yeomans, has greatly enriched our knowledge of the physiology and pathology of the digestive canal. In recent years the x ray has been applied in the domain of diagnosis of obscure intestinal lesions, where it is on a par with, and, indeed, often exceeds in value the exploratory laparotomy without incurring the risks of the latter. With a report of seven cases, which are discussed at length and röntgenograms given, the author concludes as follows: 1. Establish the diagnosis of obscure conditions of the colon, if possible, by the routine clinical methods; 2, the trouble and expense should not prevent the use of the Röntgen rays when indicated; 3, their use is without risk to the patient; 4, abnormities in size, position, angulations, and constrictions (tumor or stricture) are made as manifest as at operation; 5, if operation is necessary it is planned in advance and much valuable time and manipulation saved, which lessen shock; 6, they reduce the number of unnecessary (exploratory) operations, and by establishing an early diagnosis enable the surgeon to perform necessary operations at the most favorable time.

7. Chronic Posterior Urethritis, Vesiculitis, and Epididymitis in Men beyond Middle Life.—Parker refers to this pathological sequence in a class of men who are honorably upright, men who have homes and families, and upon whom no suspicion of immorality rests, and from whose history none can be gained. In the author's work these sufferers are divided into three classes according to etiology: The tuberculous, the gonorrheal, and hyperemic classes. The last, in the author's experience, is by far the largest, and it is with this class that the present paper treats. For the relief of these sufferers the author does a vasectomy, following the course of Cheatwood, of Baltimore, who reported ten cases cured. Parker reports eleven cases operated in, with results in every case. He remarks that vasectomy will promptly and permanently cure all of these left over cases. He does not leave these cases now so long unoperated in. The patients are always more than satisfied with the results, and as one side, only, is usually involved, only one vas is operated on; hence the patient is not rendered sterile, and the only objection to the operation is overcome. The reason why vasectomy cures these cases is that a vicious circle is set up; the chronic diseased pro-

cess is conveyed by continuity of tissue along the vas to each of the organs involved. A vasectomy destroys the vicious circle and the case ends in recovery.

LANCET—CLINIC.

January 6, 1912.

1. G. Frank Lydston: The Social Evil.
2. Francis R. Hagner and Homer G. Fuller: Operative Treatment of Gonorrheal Epididymitis, and Remarks on Sixty-three Cases.

January 13, 1912.

3. A. Kendrick Smith: Mechanical Treatment of Intestinal Disease.
4. Frank U. Swing: Accessory Sinuses of the Nose.
5. J. H. Williams: Steam Treatment of Acute Gonorrheal Conjunctivitis.

January 20, 1912.

6. Frederick Gaertner: Cancer: Its Intracellular Pathology Caused by an Autointoxicated Lymph.
7. Benjamin Merrill Ricketts: Surgery of the Pericardium: Pericardiotomy, Pericardectomy, Pericardiorrhaphy.

1. **The Social Evil.**—Lydston, in an article on this subject, says that whatever argument may be brought to bear upon the social evil, nothing can controvert these fundamental propositions: 1. Prostitution has always existed in society in one form or another; 2, its frequency and forms have adapted themselves to the conditions imposed by the customs of each social system; 3, latter day social and economic conditions are favorable to prostitution; 4, prostitution keeps pace with civilization. As this advances prostitution increases. The proportion of prostitutes is greater to-day than formerly; 5, modern industrial enterprises are peculiarly productive of conditions favoring prostitution; 6, prostitution is responsible for a large proportion of the diseases that afflict the race; 7, no universally effective methods of repression or regulation has ever been devised; 8, suppression is an absolute impossibility under present conditions. According to the author the remedies for prostitution comprise everything that will ameliorate the economic conditions of woman, and proper sex education, especially of boys. The dissemination of a knowledge of the venereal diseases will do more to prevent the evils of prostitution than anything that could be mentioned. Every prostitute becomes diseased sooner or later. The instance is rare where a prostitute follows her trade for a year without becoming diseased. Once diseased, she scatters infection right and left. Gonorrhea and syphilis are responsible for more deaths and disability than all the great wars ever known. Our hospitals, asylums for the blind and for the insane, says the author, are full of people who have been shot to pieces in the social war.

3. **Mechanical Treatment of Intestinal Disease.**—Kendrick Smith concludes his consideration of this subject as follows: There are other points of view in the question of intestinal disease and its treatment than the conventional ones, and to the traditional procedure might well be added a careful anatomical examination, not only of the abdominal surface, but of whatever other parts have to do with the support, innervation, and nutrition of the diseased organ. If this examination discloses any structural irregularity, the question of its adjustment immediately presents itself. A consideration of the pathology of the structural defect, its duration, mobility, tenderness, etc., solve for us the problem as to whether or not it is correctable, and whether or not there is any contraindication to the use of proper corrective manipulation. The author does not wish to promulgate the principle that every case can be subjected to indiscriminate manipulation. Sane and scientific procedure, he says, is as necessary here as in the employment of internal medication or in the use of the knife.

6. **Pathology and Etiology of Cancer.**—Gaertner, in 1900, said, "Cancer is a prolific retrogressive disease, a pathological condition, in which the original mother cell takes on an 'acute, progressive, embryonic development,' superinduced by the omnipresence and omnipotence of an unseen cancer element, and its severity, intensity, and prevalency has increased in exact proportion as man has advanced toward civilization, and particularly since man's physical, moral, and psychological standing has dropped and deteriorated from a progressive physiological and psychological advancement and harmony to a retrogressive discord and degeneracy." He now modifies this statement and adds the following: "The human being has brought this terrible condition on himself; it is neither hereditary nor contagious, somewhat infectious as it can be inoculated by transplanting neoplastic cells; recently it was even transmitted by vaccinating a filtrate free of the tumor cells, and still more recently, *I have produced cancer artificially.* This would be absolute conclusive proof that the causative element is due to a chemical toxic excitant, and not to a germ."

BRITISH MEDICAL JOURNAL

January 13, 1912.

1. Thomas Lewis: Evidences of Auricular Fibrillation.
2. Benjamin Moore: Cardiac Effects of Soluble Digitoxin
3. H. Dingle: Cardiac Failure Treated with Cane Sugar.
4. J. M. Clarke and G. Scott-Williamson: Obscure Fever Due to Leptrothrix.
5. W. M. Beaumont: Color Tests.
6. John Rowan: Corneal and Absolute Astigmatism.
7. Leonard Hill: Administration of Oxygen.

1. **Evidences of Auricular Fibrillation.**—Lewis presents an excellent résumé of the work done so far in the study of this condition, and is forced to the conclusion that the condition is a true disease entity. Its most characteristic diagnostic features are to be seen in the tracings taken by the Jacquet polygraph or by the more complicated string galvanometer of Einthoven. They are: 1. The absence of the normal auricular contraction as seen by the absence of the wave in the tracing; 2, the presence of a ventricular beat having its origin in an impulse received from the auricle; 3, special oscillations in the curve, which have been shown to be due to the continual contraction of the various parts of the auricle quite without system or coordination; 4, constancy of this picture from patient to patient in respect of the first three points. The tracings taken from man with this condition can be duplicated by those from dogs in which the auricles are made to fibrillate experimentally. Further, horses are known to be subject to this same heart affection, and Lewis was able to study the condition in a horse whose chest was opened while the animal was yet alive. Here he had optical proof of the state of the auricle. He also notes that when a healthy dog's auricle goes into fibrillation the ventricle doubles or trebles its original rate; the gross irregularity seen in patients presents the same phenomenon. Digitalis owes its remarkable salutary action in slowing such hearts to the fact that it causes heart block, and heart block slows the ven-

tricle in hearts with fibrillating auricles. The spontaneous slowing seen in some patients is likewise due to the same state where the disease affects the conducting mechanism and the rapid and irregular impulses from the auricles are impeded in their progress to the ventricles.

2. Soluble Digitoxin.—Moore has taken up the study of one of the pure principles of digitalis, soluble digitoxin, the principle present in digalen, which preparation he used. The digitoxin was also used in the form of a solution in normal saline to prove the absence of effect of the glycerin used in the original preparation. From experiments upon animals, both intact and on the perfused heart, and from observations on man, he is able to draw the following conclusions: 1. That the method of standardization of digitalis is incorrect, as it presupposes a direct relationship between lethal dose and therapeutical dose, whereas no such relationship need exist where there is a variable content of active substances; 2, that the relation of lethal to therapeutical dose is the factor of safety of a drug; 3, that that active substance which is most advantageous is the one having the highest factor of safety and not the one with the highest toxic action, and that soluble digitoxin possesses this property; 4, that the basis for determining the toxicity of such a drug is the physicochemical one of relative adsorption or combining power of the drug for the blood on the one hand and the cardiac tissue on the other. The ratio of these two is the coefficient of distribution. Although this is fairly constant, it varies somewhat at different concentrations, and if the coefficient of distribution decreases with increasing concentrations, this leads to a higher factor of safety. High coefficient means marked toxicity and usually a low factor of safety and a rapid cumulative action. 5. Soluble digitoxin can be used for intravenous injection owing to its solubility in water. This solubility prevents pain or local reaction such as is seen in the case of alcoholic solutions. The low toxicity as compared to tincture of digitalis renders the intravenous injection safe, while a full therapeutical effect can be obtained. 6. One should aim at a full therapeutical effect with soluble digitoxin and the drug should not be pushed farther. 7. Pure digitalis effect is obtained on perfusion with soluble digitoxin. 8. There is no hemolytic action on the red blood cells, as is the case with digitonin.

4. Obscure Fever with Nervous Symptoms.—Clarke and Scott-Williamson report a case of a rare affection presenting the general symptoms of typhoid fever, but with exaggerated knee jerks and a marked tremor with twitchings of the muscles. The disease was of about the same duration as a prolonged case of typhoid. Widal tests were negative. There was cultivated in pure culture from the blood, urine, and cerebrospinal fluid a leptothrix bacillus. In some of its cultural features this showed great similarity to *Bacillus typhosus,* but did not agglutinate with typhoid serum. This suggests the possibility of there being a leptothrix as a precursor of the typhoid organism. This case is in most characteristics quite similar to the one of Ritchie and McDonald and to the five cases of McDonald.

7. Administration of Oxygen.—Hill believes that the usual method of administering oxygen is quite inefficient as well as being unduly wasteful. The practice of holding a funnel some inches from the face allows the oxygen to diffuse through the air, and Hill has shown that the oxygen content of the alveolar air is but little increased. Through studies on animals he is led to believe that much benefit can be had from the efficient exhibition of oxygen in some cases of pneumonia, etc. These patients would rebel at the apparent restriction to respiration which an ordinary anesthetic mask would seem to cause. As this is the only way that he has been able to give enough oxygen to have the desired beneficial effects he has been led to the use of a modification of the mask which obviates the previous objections. A celluloid face piece is so made that a curtain of soft cloth may be hung from its edges; this confines the oxygen, which is admitted under the celluloid cover and then streams down over the face. There is none of the feeling of restriction to free breathing which is felt with the usual masks, and the oxygen content of the alveolar air can be raised to seventy per cent. The stream should be of sufficient volume to feel comfortably cool as it passes over the face. The results of the administration of this large percentage of oxygen are really phenomenal, and the improvement is immediate.

LANCET.

January 13, 1912.

1. William Cecil Bosanquet: Relation of Tuberculosis to Accident and Injury.
2. Henry Head and Gordon Holmes: Sensory Disturbances from Cerebral Lesions.
3. G. Blacker: Rupture of Uterus.
4. J. W. H. Eyre: Mediterranean Fever in Relation to the Goat Population.
5. B. G. Duhamel: Electric Metallic Colloids.
6. J. S. Hosford and G. B. James: Treatment of Gonorrheal Conjunctivitis.
7. William P. S. Branson: Psychotherapy.

2. Sensory Disturbances from Cerebral Lesions.—Head and Holmes continue their presentation of the results of their studies in sensation, with the consideration of the disturbances of the sensory paths in the optic thalamus. They have made their observations in twenty-four cases of lesion of the thalamus. There is one most striking and quite unique feature of these lesions; a tendency to react excessively to unpleasant stimuli. The prick of a pin, a pressure which is painful, extremes of heat and cold, visceral stimulation such as elicited by compression of the testicle, scraping and roughness, and tickling, all cause markedly unpleasant sensations upon the affected side, though the appreciation of the nature of the individual impression is usually considerably reduced. For instance the prick of a pin is described as being less sharp and less plain than on normal parts, but is very much more distressing and painful. Strangely enough the threshold is a little raised instead of being lowered as would be expected. This applies equally to the other forms of stimulation mentioned above. In addition to this characteristic phenomenon the response to pleasurable stimuli and to emotional states presents an analogous aberration. Music, for example, is often extremely distressing to the affected side and when choreiform movements are present they become exaggerated on the affected side under this distressing influence. Sensation itself undergoes certain alterations in thalamic lesions. There may be a loss in the affected area of the sense of posture and the recognition of passive movement

varying from a scarcely perceptible diminution to total abolition of the sense. Tactile sensibility is frequently diminished. Location of the spot touched is defective in about half the cases. The sense of heat and cold may show all stages of variation up to complete loss. There is no dissociation in these two sensations. Recognition of two points is lessened in acuity. The power of recognition of differing weights may be somewhat altered on the affected half of the body. Appreciation of relative size is often disturbed. Vibration of the tuning fork can usually be recognized, but it may be somewhat different on the affected side. Roughness is but little altered. Finally since thalamic lesions are usually of vascular origin they tend to disturb anatomical areas rather than functional paths. The study will be concluded.

3. Rupture of the Uterus.—Blacker is of the opinion that complete rupture can best be treated by abdominal section and the removal of the uterus with the provision for efficient drainage of the peritoneal cavity.

4. Mediterranean Fever.—Eyre presents most convincing statistics from Malta which would seem to show that Mediterranean fever depends directly upon the size of the goat population and upon the extent to which goat's milk is used. During the time that the milk was prohibited in the military forces the incidence of Malta fever fell to almost nil, while among the peasant population, which was forced to the use of the milk and flesh of the animals through necessity, the incidence of the disease rose noticeably.

6. Treatment of Gonorrheal Conjunctivitis.—Hosford and James believe that the present methods of treating this disease are in great measure to blame for the poor results obtained in adults. They suggest the following as the result of extensive trial. The patient must be confined to bed at once and kept there until the danger has passed. The diet is to be very light and to consist largely of milk. The bowels are to be kept open; aspirin and quinine are to be given. The local treatment is by far the most important and consists in a constant unintermitting irrigation of the eye with warm potassium permanganate solution of the strength of one to 15,000 to one to 20,000 in the early stages. Later boric acid in about two per cent. solution can be substituted. There must be no manipulation of the lids as this is the cause of much harm, through trauma too small to be seen but none the less dangerous. The duration of the irrigation must be about eight days with absolutely no interruption. At the end of this time minor local measures may be resorted to if the conditions call for any further treatment.

PROCEEDINGS OF THE ROYAL SOCIETY.

December 28, 1911.

1. G. A. Buckmaster and L. A. Gardner: Ventilation of the Lung during Chloroform Narcosis.
2. A. H. Caulfeild: Factors in the Interpretation of the Inhibitive and Fixation Serum Reactions in Pulmonary Tuberculosis.
3. A. H. Caulfeild: Preliminary Report upon the Injection of Rabbits with Protein Free (Tuberculo) Antigen and Antigen Serum Mixtures.
4. E. W. Macbride: Studies in Heredity. I.—The Effects of Crossing the Sea Urchins *Echinus esculentus* and *Echinocardium cordatum*.
5. Leonard Hill and Martin Flack: Physiological Influence of Ozone.
6. H. R. Dean: Factors Concerned in Agglutination.

1. Lung Ventilation during Chloroform Narcosis.—Buckmaster and Gardner, investigating this question through the aid of plethysmographical experiments in cats, show clearly that the initial effect of chloroform is to produce a marked diminution in the average depth and generally a slight increase in the frequency of respiration. Subsequently the depth of respiration becomes constant at a lower level. The cessation of respiration, which is an initial danger point in chloroform anesthesia, and may result in death, is the direct effect of deep and rapid respiration prior to anesthesia, and the higher the percentage of the drug administered, the more likely it is to occur. This can be rendered negligible by a low percentage of chloroform, though the authors believe that some trace of an initial danger point is rarely absent. They ascribe the cessation of breathing on administration of chloroform after deep and rapid respiration to the diminished carbon dioxide content of the blood which the latter entails, the chemical stimulus necessary to keep the respiratory centre in activity being thereby reduced. The effect of the anesthetic would be, in addition, to reduce the excitability of the centre to carbon dioxide, so that the quantity of this gas, even after a minute or two of reduced respiration consequent on the administration of the drug, would not be sufficient to maintain respiration, which would accordingly cease. In support of this hypothesis the authors present experiments showing that with a deep and rapid respiration the carbon dioxide content of the blood is much less than with normal lung ventilation. Animals allowed to recover partially from chloroform (to the point when reflexes are well marked and voluntary movements begin), but with their lung ventilation still at a low level, show apparently an increased tolerance to the drug, the initial effects on the respiration, upon resuming the chloroform, being much less marked, even with very high percentages of the drug, than at the first induction of anesthesia. The view having recently been expressed that during chloroform narcosis the blood retains unimpaired up to the time of death its normal capacity of absorbing oxygen, and that if the amount of this gas diminishes in the blood, the decrease is solely due to the slowing of the respiration, the authors undertook to settle this point definitely. Upon measuring the gas content of the blood before and during anesthesia they found the fall in oxygen content during the second stage of anesthesia to be about forty per cent, and in the initial stages often even greater than this. The hemoglobin is thus only partly saturated with oxygen during narcosis, the amount present indicating an oxygen tension in the blood of 45.5 mm., as compared with 99.49 mm. in the normal cat. Further experimentation showed that during narcosis diminished respiration alone does not reduce to any noteworthy extent the oxygen content of the blood. The authors therefore conclude that the diminution of oxygen content is not mainly due to diminished respiration, but to the action of the drug on the red corpuscles. They had already demonstrated and recorded the fact that as much as ninety-seven per cent. of the chloroform in the blood may be associated with the red cells.

2. **Inhibitive and Fixation Serum Reactions.**—Caulfeild enumerates and discusses various conditions which may disturb the results in the reactions of tuberculous serum and which should be adequately controlled if a correct estimate of the specific effect of the antigen serum complex upon complement is to be obtained.

5. **Physiological Influence of Ozone.**—Hill and Flack performed numerous experiments in man and various lower animals, bearing especially upon the effects of ozone inhalation upon the respiratory organs and the activity of the respiratory process itself. They found a concentration as low as one in each million to be irritating to the respiratory tract. Exposure for two hours to a concentration of fifteen to twenty in the million, they conclude, is not without danger to life. The cough and headache produced by ozone, however, give ample warning, and there is no risk from inhaling ozone so long as an outlet for the instinctive escape from its influence is open. The respiratory metabolism is reduced by ozone, in concentrations even less than one part in the million. There is no conclusive evidence of a preliminary stimulation of metabolism preceding the fall. The authors found that exposure for ten minutes to two parts in ten millions of ozone may lower the rectal temperature of rats as much as three degrees. The beneficial effect of ozone obtained by the ozone ventilating systems is to be explained, the authors believe, by its effect on the nervous system. By exciting the olfactory nerves and those of the respiratory tract and skin, it may relieve the monotony of close air, the smell of tube railways, etc. There is no harm in breathing weak concentrations of ozone, such as can be scarcely sensed by a keen sense of smell. Ozone in somewhat higher concentrations (one to the million) may have some value as a therapeutic agent if inhaled for brief periods; by irritating the respiratory tract it may act as a blister or fomentation and bring more blood and tissue lymph to the part.

6. **Factors in Agglutination.**—Dean thinks it probable that an agglutinating serum (antiserum) contains two factors, both of which are necessary to produce agglutination. The one is the specific antibody; the other a nonspecific substance which is possibly serum globulin. The interaction of antigen with antibody produces an aggregation of the molecules of the nonspecific substance which may ultimately result in the formation of a definite turbidity. This process of aggregation of the particles of the nonspecific substance is an essential part of the process of agglutination. It is possible to make a dilution of an antiserum which contains sufficient of the specific antisubstance but not sufficient of the nonspecific substance. The deficiency in the latter can be made up by the addition of a globulin solution obtained from normal serum.

BULLETIN DE L'ACADÉMIE DE MÉDECINE.

December 19, 1911.

1. Mosny and J. Domont: Embolism of the Femoral Artery in a Case of Mitral Stenosis. Arteriotomy. Recovery.
2. V. Vidal: On the Education of Wet Nurses and the Supervision of Nurslings.
3. A. Manquat: A Method of Rhythmical Breathing Tending to Prevent Dyspnea in Hill Climbing or Rapid Walking.

1. **Embolism of the Femoral Artery.**—Mosny and Domont report a case of mitral stenosis in which operation for the removal of a clot in the femoral artery proved successful. The intervention took place six hours after the advent of embolism, the limb being at this time cyanosed, cold in its lower portion, insensitive below the knee, and paralyzed. An incision was made under local anesthesia, and the artery opened for a distance of one centimetre in its upper third, at the point where its pulsations became impalpable. A bifid clot extending into both the superficial and deep femoral trunks was removed and the artery sutured. Repeated hot air applications brought up the temperature of the limb, which by the next morning had become normal in appearance, sensibility, and motility. The author states, in conclusion, that embolism has now to be classed as a surgical as well as a medical affection, provided, however, that only aseptic cases be operated in, that the operation be quickly carried out, that the subject be young and free from general arterial disorder, and that the seat of the embolism be readily accessible. Massage of the involved artery has recently been productive of good results in a few cases, but its range of usefulness is limited because it must be practised within a few minutes after the occurrence of embolism. It has also the disadvantage of obliterating some of the small or intermediate sized arteries, thereby rendering an operation for subsequent gangrene, if it should become necessary, more precarious and uncertain in its results.

3. **Method of Rhythmical Breathing.**—Manquat points out the fact that the reflex act of breathing is normally best adjusted for the resting state or ordinary movements requiring no great effort. In brisk walking or running, however, or in the presence of obstruction at some point in the lesser circulation, the rhythm and frequency of respiration tend to be disturbed as long as the respiratory centres, subject to an excessive functional demand, have not learned how to respond correctly to the unusual excitation. Where the heart is sufficiently strong to compensate for the respiratory disturbances, breathlessness is forestalled, but where it is not, the excessive demands for inspiratory effort and the insufficiency of expiration induce a slowing of the endothoracic circulation, accumulation of carbon dioxide, and additional cardiac fatigue. The method advocated by the author consists in voluntarily adjusting the breathing to the needs of the situation, viz., keeping its rate down within moderate limits (sixteen to twenty-four a minute), increasing its amplitude, and taking special care that the expiratory phase is fully carried out. Expiration in persons at rest occupies approximately twice as much time as inspiration, and this ratio should obtain likewise in periods of physical activity. In order to facilitate maintaining a correct respiratory rhythm, the breathing is to be regulated according to the number of steps taken, expiration, e. g., occupying the time required to walk four successive steps, inspiration two steps, etc. Inspiration, fully carried out, acts somewhat as a powerful pulmonary diastole, drawing blood into the lungs from the right heart, and facilitating the work of the latter; expiration, on the other hand, represents a systolic force which effectually drives the blood into the left ventricle, stimulating the latter to forcible contraction upon

the extra amount it receives. The author has found this procedure effective not only in relieving or preventing breathlessness due to physical exertion in the normal subject, but also in dyspnea, whether occurring on exertion or at rest, in cardiac cases.

PARIS MÉDICAL.

January 6, 1912.

1. Albert Weil: Radiodiagnosis and Electrodiagnosis in 1912.
2. Bergonie and Spéder: Radiodiagnosis of Bursitis of the Shoulder Joint.
3. Kienboch: Radiodiagnosis of Gonorrheal Arthritis.
4. Barjon: Radiodiagnosis of Aortic Aneurysm and Mediastinal Tumors.
5. Desternes: Differential Diagnosis of Bone Tumors.
6. Rafin and Arcelin: Radiographic and Clinical Indications for Pyelotomy.

January 13, 1912.

7. Grimbert: Qualitative Determination of Albumins in the Urine.
8. Dopter: Bacteriological Analysis of Pus.
9. Dorlencourt: Retention of Uric Acid; Pathogenesis and Treatment.
10. Poulard: Examination of the External Eye.

1. Radiodiagnosis in 1912.—Weil, in this issue, which is devoted exclusively to physiotherapy, notes the advances in the science of radiography, listing the machines, including the American, invented during the past year. The best tubes, he says, are of German manufacture. The lungs and pleuræ are now regularly radiographed, tuberculosis and pneumonia being readily recognized, while radiography of the heart and aorta has a brilliant future. Radiography of the liver is indispensable, biliary calculi being seen with ease, while the experienced eye can detect abscesses, cysts, syphilitic lesions, etc. The digestive tract is examined by the aid of bismuth, zirconium oxide, or baryta. Foreign bodies or calcified areas are discernable in the cranium. For fractures, dislocations, tumors, etc., of the extremities, x rays are invaluable. Only the appendix seems to have escaped radiography.

PRESSE MÉDICALE.

January 13, 1912.

1. Gilbert Ballet and Laignel-Lavastine: Diabetes from Atrophic Sclerosis of the Pancreas.
2. Guido Lerda: Ectopic Ileocecal Appendix.
3. Fernand Lévy: The Gasserian Syndrome.

January 17, 1912.

4. Chauffard: Stability and Variation in Species Morbidæ.
5. Pozzi: Carrel's Experiments on Perpetuating Life in Tissues outside the Organism.

1. Diabetes and the Pancreas.—Ballet and Laignel-Lavastine point out that the experiments of von Mering and Minkowski proved that there was a diabetes allied to more or less complete suppression of the pancreas, but, although this is settled as far as the experimental aspect is concerned, the clinical problem is by no means solved. They give details, therefore, of a case of the rare occurrence of diabetes depending on massive sclerous atrophy of the pancreas. The patient was a woman, fifty-eight years old, extremely diabetic, with pulmonary tuberculosis as a complication; she died suddenly of asphyxia following a fit of coughing. The pancreas was found to be reduced in weight to nineteen grammes, the thyroid was adenomatous, the pineal gland rich in chromophile cells and colloid drops, the suprarenals spongiocytotic, the ovaries atrophied; liver and cerebrospinal system were normal.

2. Ectopic Appendix.—Lerda thinks that not sufficient attention has been given to ectopic appendices, and notes that apart from cases of *situs viscerum inversus* and those in which the appendix may have become displaced through inflammation, we may have: 1, An appendix, normal, with adequate mesentery, free in the iliac fossa, in front of, behind, or beside the cecum; 2, ectopic appendix, situated too high with or without retention of the cecum, and drawn up by a too short mesocolon; 3, a dystopic appendix, by abnormal descent of the cecoappendicular portion toward the pelvis or the umbilical region. These abnormities give rise to symptoms of colic, owing simply to their position, and without any accompanying inflammation.

4. Variation in Disease.—Chauffard believes, that, notwithstanding the phenomena of evolution, diseases are almost exactly what they have been as far back as history takes us; our point of view is more enlightened and we know more of pathological conditions and processes, but pathology itself does not change, save, perhaps, as to attenuation or aggravation. Our duty to the individual and to the state is to prevent avoidable disease, and nothing in the stability of disease processes stands in the way of their ultimate complete extinction.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

January 4, 1912.

1. Hermann Riedel: Abdominal Injuries.
2. J. Pal: Toxic Reactions of the Coronary Arteries and Bronchi.
3. Biermann: Röntgenotherapy of Leuchemia.
4. K. Reicher and E. Lenz: Anemia Produced through Adrenalin, the Principal Protection in Röntgen and Radium Therapeutics.
5. Alfred Denker: Bronchoscopically Diagnosticated Tracheobronchial and Pulmonary Syphilis.
6. Claus Schilling: New Immunizing Method against Trypanosomiasis.
7. L. Beltz: Intravenous Use of Pneumococcic Serum.
8. R. Bittrolff and K. Momose: Granulary Tuberculosis Virus.
9. Karl Herxheimer: Industrial Diseases of the Skin.
10. Johan Almkvist: Reasons for the Appearance of Reactions after Salvarsan Injections.
11. Dreuw: Unguenta Adhæsiva.

2. Toxic Reactions of the Coronary Arteries and Bronchi.—Pal remarks that it has been shown that coronary arteries and bronchial musculature are innervated from the vagus and sympathetic. It has been found that the following drugs dilate the coronary arteries: Atropine, adrenalin, suprarenin, caffeine, theobromine, cocaine, amylnitrate; while the following are contractors: Muscarine, pilocarpine, physostigmine, pituitrin. If an artificial spasm of the bronchi was produced by peptonin it was counteracted by the same drugs which dilated the coronary arteries. The author, therefore, comes to the conclusion that there exists a parallelism between the innervation and toxic reaction of the coronary artery which influences the action of the heart and of the bronchi that act as ventilators to the lungs.

3. Röntgenotherapy of Leuchemia.—Biermann refers to the publications by Senn and Bryant and Bangor on the effective treatment of leuchemia and pseudoleuchemia with Röntgen rays. He reports five cases in which he has used the Röntgen rays in these diseases, and thinks that Röntgen ray treatment used in the beginning of the disease will exert a curative influence.

4. Anemia Produced through Adrenalin, the Principal Protection in Röntgen and Radium Therapeutics.—Reicher and Lenz have found that the skin artificially made anemic through adrenalin is more resistant to Röntgen and radium rays than the normal skin; the anemic skin thus produced endures about twice the amount of soft rays for three weeks as the normal skin. It absorbs of the less penetrating x rays less than the normal; therefore, the soft rays will penetrate more easily to

the tissues below the skin and find absorption there.

5. Bronchoscopically Diagnosticated Syphilis.—Denker reports a case in which he was able to diagnosticate luetic changes of the bronchi and in the lungs through bronchoscopical examination. The patient, thirty years of age, had been infected when seventeen years of age with syphilis, and was, according to his statement, treated with potassium iodide. Since the twenty-fourth year he had suffered from asthma, which increased. The examination of the mouth showed old luetic lesions, and bronchoscopy demonstrated ulceration and infiltration of the trachea and the bronchus, while percussion and auscultation of the lungs showed a condition of the tissue similar to that found in phthisis. The Wassermann reaction was positive. The post mortem examination verified the diagnosis.

6. A New Immunizing Method against Trypanosomiasis.—Schilling found that antimony and potassium tartrate in a solution of one to 2,000 kills trypanosomes in about two hours. The form of the protozoon is not changed by the solution, but a dissolution of the nucleus is observed. He describes his method and states that he has been successful with experiments on rats and dogs.

7. Intravenous Use of Pneumococcic Serum.—Beltz advises the use of intravenous injection of large doses of pneumococcic serum in the beginning of pneumonia.

10. The Reasons for the Appearance of Reactions after Salvarsan Injections.—Almkvist states that through the influence of salvarsan reactions will appear of bacterial toxines after the injection of the drug, if such toxines exist in the blood in a quantity large enough to produce such reactions. Such bacteria may be introduced through the distilled water if this is not entirely fresh and through such bacteria as exist in the body from infection with microorganisms.

BERLINER KLINISCHE WOCHENSCHRIFT.

January 1, 1912.

1. K. Bonhoeffer: Differential Diagnosis of Neurasthenia and Endogenetic Depressions.
2. A. von Wassermann, D. von Hausemann, F. Keysser, and M. Wassermann: Chemotherapeutic Experiments on Animals Suffering from Tumors.
3. Max Levy-Dorn: Permanent Cures of Sarcomata through Röntgen Therapeutics.
4. S. Hadda: Culture of Living Body Cells.
5. Claus Schilling: Sleeping Sickness in New Kamerun and Its Eradication.
6. Ludwig Pick: Ganglioma Embryonale Sympathicum.
7. Ridder: Lipuria in Chronic Parenchymatous Nephritis.
8. F. Proell: Röntgenography of the Maxillæ and Teeth

2. Chemotherapeutics in Malignant Tumors of Animals.—See editorial article on page 236.

5. Sleeping Sickness.—Schilling reviews the history and geographical distribution of trypanosomiasis, especially in the German colony of Kamerun. He reminds us that *Glossina palpalis* and *morsitans* transferred trypanosomes in a similar way to anopheles in malaria. He proposes, therefore, the same action against the glossina as against the mosquito. The vast area to be covered in Africa undoubtedly would make such work nearly impossible, and the inspection should therefore be especially carried out upon the roads followed by the traders

7. Lipuria in Chronic Parenchymatous Nephritis.—Ridder reports a case of chronic parenchymatous nephritis in a woman, nineteen years of age, who only half a year ago had been infected with syphilis. The only treatment which the patient was willing to undergo after many other unsuccessful trials consisted in theocin, administered three times daily in doses of 0.3 gramme, partly per os and partly per anum. Four days after the commencement of this treatment the urine showed a great amount of fatty deposits. Instead of theocin, diuretin was administered, upon which the lipuria disappeared.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT

January 2, 1912.

1. Von Herff: Castration through Operation or Röntgen Rays.
2. Zangemeister: Infections of Wounds.
3. De Quervain: Etiology and Treatment of Stenosis and Vaginitis of the Tendon on the Processus Styloideus Radii.
4. Arnsperger: Permanent Cures and Recurrence after Operations for Gallstones.
5. Riedel: Gallstones in Aseptic Gallbladder.
6. Willige and Landsberger: Histological Diagnosis of Diffused Diseases of the Brain through Paracentesis.
7. Adler: Experiments with Mammium Poehl on the Function of the Mammary Gland as an Internal Secreting Organ.
8. Bürker: Examination and Graduation of Sahli's Hematometer and Improvements on the Methods of Counting Erythrocytes and Estimating Hemoglobin.
9. Kochmann: Toxicity of Salvarsan in Intravenous Injection from Experiments on Dogs and Rabbits.
10. Beck: Experimental Investigations with the Neurotoxic Effects of Salvarsan.
11. Zilz: Local Treatment with Salvarsan, Especially in Spirochetal Diseases in the Mouth.
12. Müller: Abortive Treatment with Calomel and Salvarsan and Nerve Recurrences.
13. Von Hoesslin: New Symptom of Aneurysm of the Aorta.
14. Wassermann: Intranasal Therapeutics of Asthma.
15. Thilo: Flatfoot and Clubfoot.
16. Case: Röntgen Stereoscopy of Stomach and Intestines.
17. Stenger: Tumor of the Hypophysis Region Successfully Operated on Intranasally.
18. Burow: Guaiacol Arsenic Therapeutics of Tuberculosis.
19. Finder: Bernhard Frankel.

1. Castration through Operation or Röntgen Rays.—Von Herff reviews from his own experience and from the literature the success achieved from castration through operation and Röntgen rays. He says that objective success would be greater from operation than from Röntgen rays, and the results as far as functions go would be better with operation. In favor of the Röntgen ray is the fact that it does not carry with it the danger of death, which, even if it is minimal, must always be considered in operations. But the Röntgen ray has also dangers which are common to such treatment. The author comes to the conclusion that operation is to be preferred to the Röntgen ray.

3. Etiology and Treatment of Stenosis and Vaginitis of the Thumb.—De Quervain speaks of the painful affection of the tendon of the abductor pollicis longus which causes severe disturbance in the motions of the thumb. This affection is found often in women, partly from overwork, partly from obscure etiological reasons, and shows histologically a thickening of the wall of the sheath of the tendon, without inflammatory alterations. Treatment should consist in acute cases in cold compresses, rest, pressure bandages; in chronic cases in revulsion and the use of heat, while in obstinate cases an operation would be successful which consisted in the division of the tendon sheath.

9, 10, 11. Salvarsan.—Kochmann has made toxicological experiments with arsenic acid and salvarsan. He says that intravenous injections of sodium arsenate in rabbits produce death upon a dose of 4.56 to 5.3 milligrammes, while a salvarsan injection with thirty-four milligrammes of arsenic is a lethal dose. He thinks therefore that salvarsan

has great advantages over arsenic acid and its salts. ——Beck, from his experiments on mice, comes to the conclusion that salvarsan has no toxic effects upon the nerves of the head, especially the acoustic nerve.——Zilz has used salvarsan locally on non-syphilitic abscesses of the gums, tongue, and lips. He found, microscopically, a great number of spirochetes, which disappeared after three days of treatment, resulting in absolute cure. His method consisted in the application of physiological salt solution at body heat, which was followed with a painting with a brush of a ten per cent. watery salvarsan solution, repeated three times a day.

14. **Intranasal Therapeutics of Asthma.**—Wassermann emphasizes the importance of the rhinological treatment of asthma. He introduces into each nostril a cotton pledget which has been saturated with a local anesthetic; he prefers eucaine, cocaine, eumydrin, or alypin. The patient is to retain the pledget for fifteen minutes, when it is to be extracted. This treatment is to be repeated daily for about a fortnight. The author asserts that asthmatics receive great relief from this treatment.

CORRESPONDENZ-BLATT FÜR SCHWEIZER AERZTE.

January 1, 1912.

1. Bruno Bloch: Trichophytosis.
2. Hans Wildbolz: Defloration Pyelitis.

1. **Trichophytosis.**—Bloch reminds us that trichophytosis is due to a certain genus of fungus, especially *Trichophyton tonsurans.* But there exist of this fungus a type for man and a type for the animal; the first is transferred from man to man and the other to man from animals, such as the cow, horse, or sheep. Trichophytosis transferred from animal to man shows itself in a much more severe form, characterized by inflammation, formation of pus, tissue growth, swelling of the glands, and fever. The danger of infection is naturally greater in the human kind which can be differentiated from the animal kind, as in reality it attacks children exclusively. The treatment of human trichophytosis can be successfully carried out only under Röntgen rays.

ARCHIVES OF OPHTHALMOLOGY.

January, 1912.

1. Homer E. Smith: Advantages of a Preliminary Capsulotomy, Especially in Immature Cataracts.
2. Martin Cohen: Noguchi's Cutaneous Luetin Reaction and Its Application in Ophthalmology.
3. Derrick T. Vail: Detailed Report on 358 Cataract Extractions Performed at Jullundur, Punjab, India.
4. George H. Knapp: Mixed Tumor of the Lacrymal Gland.
5. C. Hess: Individual Differences of the Normal Ciliary Body. A Study of Glaucoma.

2. **Noguchi's Cutaneous Luetin Reaction.**—Cohen says that, working on theories borrowed by von Pirquet in the discovery of the cutaneous tuberculin reaction, Noguchi has employed a theoretically analogous method as a test for syphilis. This would naturally have been impossible but for Noguchi's recent discovery that spirochetes can be grown in pure cultures. The test emulsion, which Noguchi has named luetin, is an emulsion or extract of cultivated pure *Spirochætæ pallidæ* which have been killed by heat and then carbolized with one half of one per cent. phenol. The control emulsion consists of the uninoculated culture media, prepared in the same way as the luetin media. The technique is simple; under aseptic precautions a drop of the control emulsion is injected into the skin of the inner side of one arm or forearm; a drop of the luetin emulsion at a corresponding place in the skin of the other arm. Little or no reaction takes place in nonluetic cases, but when the person is syphilitic a series of changes takes place. In from six to twenty-four hours, as a rule, though perhaps not until after eight days, a distinct papule appears surrounded by a bluish red halo. As the papule grows larger the areola fades away. The papule may be circular or elliptical, is from five to twenty millimetres in diameter, and develops in the majority of cases a central area of suppuration, which ruptures a few days later. As the discharge of the seropurulent fluid occurs the contiguous epidermis becomes denuded. Epidermatization now begins and the affected skin becomes hypertrophic. This hypertrophy persists in cases in which the reaction was marked for at least five months. Smears and cultures made from the pus were found to be negative bacteriologically. Microscopical examination of sections of the hypertrophied area showed round cell infiltration. As a rule, there is no reaction at the site of the control inoculation in syphilitic persons, but in a small number of cases changes take place that resemble the positive reaction, except that the skin becomes simply discolored instead of hypertrophic. This pseudoreaction is usually exhibited by persons suffering from tertiary syphilis, and it is thought the peculiar pathological condition of the skin in which there is an increased susceptibility to trauma is present in these cases. Usually there is no constitutional reaction, but in two cases there was malaise on the day following the inoculation, slight elevation of the temperature, and mild gastrointestinal disturbances. Cohen has tried the test in sixty cases. In these the cutaneous reaction corresponded with both clinical evidence and Wassermann test in twenty-eight, with the clinical evidence alone in nine, with the Wassermann test alone in nine, and did not correspond with either the clinical evidence or the Wassermann test in fourteen.

NEW YORK STATE JOURNAL OF MEDICINE.

January, 1912.

1. J. D. Bryant: Indebtedness to the Pioneer Surgeon of the Mississippi Valley.
2. J. E. Blake: X Ray Localization.
3. A. T. Lytle: Splanchnoptosis and Its Relief.
4. W. B. Chase: Thermocautery and Radium in Uterine Cancer.
5. J. A. Macleod: Treatment of Surgical Tuberculosis.
6. N. K. Macleod: Tuberculin in Surgical Tuberculosis.
7. E. B. Probasco: Normal Serum in Hemorrhage.
8. C. F. Burrows: Nasal Diphtheria.
9. H. L. Winter: Etiology of Arterial Sclerosis.
10. L. Coville: Physiology in Schools.
11. L. W. Crigler: Tuberculosis of Chorioid.

2. **X Ray Localization.**—Blake has devised an excellent means of localization of foreign bodies by x ray. It may be carried out without any special apparatus and upon a single plate. The method depends upon the displacement of shadows with relation to a fixed point. One has merely to apply a formula, which Blake has worked out, on the principles of solid geometry, and which he gives along with an explanatory diagram. Certain measurements of the photographed part in position upon the plate will enable one to locate the foreign body with mathematical accuracy both laterally and vertically. One can calculate the depth from either surface to within one sixteenth of an inch. In the case of localizations in the trunk, where one cannot get two

ood impressions on a single plate, two plates may e used if the precautions are taken to use a plate hanger so as not to disturb the position of the pa- ent in the slightest, and if one maintains crossed ires in a fixed position as near the surface of the lates as possible, to give means of comparing the wo plates as though they were one.

CANADIAN LANCET.

December, 1911.

G. S. Ryerson: Heterophoria and Headaches.
D. G. Wishart: Notes on a Trip Abroad.
R. Morrison: Discussion on the Treatment of General Septic Peritonitis.

1. **Heterophoria and Headaches.**—Ryerson as- erts that persistent headache is frequently caused y astigmatism and other refractive errors, but nuscular unbalance plays an important part. Re- raction headache is mostly frontal, uterine head- che bregmatic, and heterophoric headache occipi- al. Other symptoms accompany the heterophoric eadache, reflex or neurotic in character, which nay simulate grave organic diseases. Thus, pain etween the shoulders, nausea and vomiting, dizzi- ess, confusion of vision and mind, and fear in a rowded thoroughfare are common. Use of the yes on moving vehicles—cars, trains—renders hese symptoms acute. Restlessness is marked, specially in children. Stevens and others claim vith good foundation that migraine, chorea, and pilepsy result from heterophoria. Ryerson cites case of epilepsy he cured by correction of a myo- ia of four degrees, with heterophoria right of six egrees. Correction of faulty refraction alone may ure a heterophoria if both are coexistent. If not, ry wearing a prism singly, or a spherical glass and prism of five degrees, for some time. If no re- ief follows, partial tenotomy must be done. Par- ial tenotomy is recommended in all cases of hyper- horia or exophoria of three degrees or upward, ut operation should be tried only when other means ave been found unavailing.

REVUE DE CHIRURGIE.

December, 1911.

E. Vincent and M. Vincent: On Echinococcic Pachypleuritis and the Treatment of Hydatid Cysts of the Pleura.
L. Clément: On the Treatment of Wounds of the Lung. A Statistical Study.
Corrado Canestro: Momburg's Method of Hemostasis and the Suprarenal Capsules.
B. Guibé: On the Lesions of the Axillary Vessels Complicating Shoulder Luxations.
C. Monod and J. Vanverts: The Conservative Treatment of Aneurysms and Hematomas.

1. **Echinococcic Pachypleuritis.**—E. Vincent nd M. Vincent consider in detail the pathology of leural echinococcosis, report two cases, and discuss he treatment of this condition. True pleural hy- latid cysts, they emphasize, are not to be con- ounded with cysts situated in the subpleural ellular tissues, which are to be classed rather s lung cysts. There are two forms of true leural hydatids: 1. Those floating in hydatid luid which has escaped into the pleural cavity fter rupture of a neighboring cyst. 2. Those n direct contact with the serous surface, the membrane of the mother cyst being spread over he wall of the pleural cavity and molding itself nto it. It is considered probable by the authors hat the second of these forms may be either pri- nary or secondary in origin. A peculiar fact con- cerning cysts of the pleura is that they are usually single. The cyst applies itself to the entire inner surface of the pleura and the lung is compressed and pushed back on its pedicle. A pachypleuritis resembling that due to tuberculous or other infection is produced, even though the contents of the cyst are sterile. As a result of the thickening of the visceral pleura the lung is kept from expanding; its parenchyma is, however, often but little altered and recovers its permeability when liberated from the thickened pleura. The treatment of pleural echinococcosis is therefore exclusively surgical and should be instituted as soon as the diagnosis has been reached. The two indications in operating are to evacuate completely the pleural cavity and to remove any restraint to lung expansion due to pleural thickening. The first object is attained by thoracotomy, with resection of a rib; the second, by lung decortication, with large osteoplastic flap where possible, or, if not possible, by linear discission, together with extensive resection of the ribs and thickened parietal pleura. Usually the operation should be performed in two stages—first thoracotomy, then decortication.

2. **Wounds of the Lung.**—Clément presents a study of fifty-three cases, twenty-two of which were caused by cutting or pointed instruments, twenty-one by firearms, and the remaining ten by crushing forces, without penetration of the thoracic wall. He lays stress on the fact that the signs resulting from altered pulmonary function bore no relation to the extent and gravity of the lesion present. In three cases at least, no functional disturbance was noted, although a large amount of blood had entered the pleural cavity. Shock in several other cases was but very slight, and seemed to the writer to be, in general, less frequent in wounds of the thorax than it is in the abdominal wounds. Hemoptysis was very often the only early sign of lung involvement; in no case was it very profuse. In some instances it was entirely absent, notwithstanding evident lung involvement, as shown by other signs. Hemothorax, either of early or late appearance, occurred in thirty-three cases. In the majority of instances the blood extended only four fingerbreadths above the base of the lung; in one case it extended within two fingerbreadths of the spine of the scapula. In two cases the hemorrhage was delayed, owing, in the author's opinion, to instinctive apnea, which immobilized the lung. Primary pneumothorax was noted in two cases, late pneumothorax in one case, and subcutaneous emphysema in seven cases. In the entire series there was but one death attributable to the lung injury; in this instance the patient died on the fifth day from a sudden recurrence of hemorrhage. Operative intervention in the series was limited to fourteen cases, in two of which thoracotomy was performed and in twelve, paracentesis. The former measure proved useless in one case, but little blood being evacuated and local infection and bronchopneumonia developing subsequently. Paracentesis was always performed late—six days after the injury on an average—but the author advises that it be done earlier and repeated if required, as it seemed to hasten the resorption of the extravasated blood and appeared advantageous also in avoiding suppuration through removal of the readily infected fluid present. The

final conclusion is reached that no operative treatment save paracentesis is indicated in the great majority of cases of lung injury, exception being made for the occasional cases with dangerous, continued hemorrhage and perhaps for certain others (as recommended by Quénu) in which the bulk of the extravasation is so great as to compress the heart and mediastinum.

3. **Momburg's Method.**—Canestro, after pointing out the fact that the use of Momburg's method has in some cases been followed by sudden death, not explainable on the basis of preexisting cardiovascular defects, describes experiments which he performed to ascertain the effect of the ligature on the suprarenal capsules and determine whether changes induced in these glands could be held responsible for the occasional lethal result. Dogs, rabbits, guineapigs, and white rats were used. An elastic ligature was placed around the abdomen, tightened until the femoral pulse disappeared, and allowed to remain for a period varying from a few minutes to two hours. The adrenals were then removed, stained, sectioned, and examined. In many instances morbid changes were found, ranging from mere hyperemia to hemorrhagic extravasations, with more or less marked alterations in the adrenal cells themselves and even, in a few instances, foci of necrosis. The higher up on the abdomen the ligature was placed, the greater the tendency to adrenal changes. Ligation very low down sometimes produced no marked changes in the adrenals, even when prolonged. The amount of epinephrin in suprarenals taken from the experimental animals was found almost always to be diminished as compared with control animals. In a case of death after Momburg's procedure reported by Gross and Binet, the adrenal cortex showed yellowish areas of fatty degeneration. The author concludes that the changes caused in the adrenals by Momburg's method are not so serious as to account alone for a rapid lethal ending. In some few serious cases, however, and especially where there are preexisting adrenal lesions causing insufficient function on their part, the advent of a very acute or even fatal hypoadrenia is to be feared.

REVUE MÉDICALE DE LA SUISSE ROMANDE.

December, 1911.

1. Mermod: Is Removal of the Tonsils Advisable and How Should It Be Performed?
2. C. Dubois: X Ray Treatment of Uterine Fibromyoma.
3. Tecon: Pulmonary Tuberculosis "Without Bacilli."
4. A. Zabczynska: Amyloid Degeneration of the Gallbladder.
5. E. Lévy: A Case of Acute Puerperal Psychosis during Labor.

1. **Removal of the Tonsils.**—Mermod reviews the theories that have been advanced concerning the functions of the tonsils and discusses the indications for various operative methods. No experimental proof, he says, has been advanced of the usefulness of the tonsils in defending the organism against bacterial invasion. It must be admitted rather that they represent a weak point in the line of defence, as shown by the frequent infection with diphtheria, syphilis, and probably scarlatina occurring in this situation, the effects of treatment of the tonsils in the prevention of recurring attacks of acute articular rheumatism, septichemia, and even appendicitis occurring as a sequel of tonsillar inflammation, and the now well recognized possibility of tuberculous infection through the tonsils. Enlargement of the tonsils, far from being an indication of increased function, is but the result of a chronic inflammatory degenerative process, leading to an increased vulnerability of the tissues. In respect of treatment, the writer advocates partial ablation of the tonsils, down to the faucial pillars, in the hypertrophic cases, and the use of the galvanocautery in cases of recurring anginal or phlegmonous disturbance. In children the danger of hemorrhage from tonsillotomy should not be exaggerated; due care has, of course, to be taken not to cut into the pillars or operate in a period of local inflammation, and to exclude hemophilia. In adults the danger of hemorrhage is greater, though when it occurs it is more easily controlled. Morcellation, especially in favor in the tonsillar treatment of acute rheumatism, may also be attended with hemorrhage. Discission may give excellent results, but too often the cheesy plugs form again notwithstanding the fact that the crypts have been laid open. In tonsils showing little or no enlargement, but subject to frequent inflammation, the author uses a narrow, pointed cautery, slightly curved at the end in order to pass behind the anterior pillar without touching it. Each tonsil is cauterized in five or six places; one to three sittings may be required, according to the size of the surface to be treated. A local reactive inflammation takes place, especially in the circumtonsillar tissues, which the author considers beneficial. Local anesthesia by painting with fifteen per cent. cocaine or, in the more sensitive cases, by injecting one per cent. cocaine at the four poles of the tonsil, is sufficient. The author believes, from thirty years' experience, that the objections which have been raised against the galvanocautery on the score of cyst formation with subsequent deep suppuration are unwarranted. The cauterization is easily performed, does not warrant the name of operation, is never followed by hemorrhage, and yields a permanent cure.

2. **X Ray Treatment of Uterine Fibromyoma.**—Dubois discusses the history, technique, efficacy, and indications of this measure. He submits the patient to four exposures—from each side and from the abdominal and perineal aspects—at each series of sittings, and allows sixteen days to elapse between successive series. The superficial tissues are protected by an aluminum shield, one to three millimetres thick, and where unusually well developed are compressed in order to avoid nonpenetration of the rays to the fibroma. The diminution in volume of the tumor begins before menstruation ceases as a result of ovarian atrophy, but is greatly accelerated after the artificial menopause has occurred, viz., after from two to six months of treatment. Improvement in the patient's general condition sometimes appears even before any local change is noted. Among the local effects, disappearance of pain is first noted, followed more or less closely by that of hemorrhage. The older the patient, i. e., the closer she is to the natural menopause, the more easily hemorrhage yields. On the other hand, the older the fibrous tumor itself, the more resistant it is to the rays. In some of the author's cases the tumor did not seem to be influenced at all, though the symptoms had been relieved and the general

ndition greatly bettered. The writer thinks it is yet too early to express a definite opinion concerning the value of the procedure. Nearly all the ses treated by him were sent by gynecologists who ould have operated had not the general condition the patients been precarious. The duration of ray treatment required in a given case cannot be ated in advance; nor can a routine technique be scribed. The patient may be promised an improvement in her general condition with probable sappearance of symptoms, without unpleasant nsequence to herself except pigmentation of the domen, perhaps lasting pubic alopecia, and steril-

3. **Tuberculosis "without Bacilli."** — Tecon ports twelve cases presenting all the symptoms d signs characteristic of lung tuberculosis, but owing no tubercle bacilli in the sputum during e entire period of observation. The only other usual feature was the relative mildness and farable trend of the cases, notwithstanding the exsive pulmonary lesions. There was no evidence syphilis except in one instance. After discussing e several hypotheses available for explaining the sence of bacilli from the sputum—deep foci with enuated or dead bacilli supplying toxines which ve rise to tuberculous lesions at a distance; insufiency of present laboratory methods; exhaustion the reparative power of the lung tissue by the iginal infection—the author reports four other ses, strikingly similar clinically to the first series, which tubercle bacilli were found in the sputum r a short period only, soon disappearing. In conuding he expresses the opinion that only in exceptional instances are bacilli in the sputum not to be und by the ordinary methods; in most cases clinlly tuberculous (barring the syphilitic) repeated aminations of the sputum at short intervals will veal the bacillus, even if only for a very short riod.

4. **Amyloid Gallbladder.**—Zabczynska studied elve cases in which this lesion was present as part a general amyloid condition. In eleven instances e primary affection was pulmonary tuberculosis; one, syphilis in association with chronic nephritis. ter describing the pathology of the condition, oss and minute, the author points out the fact t although amyloid degeneration of the gallbladr is not mentioned in the literature it is of very equent occurrence, being observed in 91.6 per nt. of cases of generalized amyloidosis. The pross involves all the layers constituting the gallbladr wall except the serosa, showing a special predition for the muscular and mucous layers. The stic, hepatic, and common bileducts are involved less degree. A certain parallelism exists between e amount of degeneration present in the liver and odenum, on the one hand, and the gallbladder, on e other. No relationship could be discovered beeen amyloid change in the gallbladder and the rmation of gallstones.

Herpes in the Throat of Nervous People.—A vere sore feeling in the throat is frequently comined of by nervous individuals, according to the *nerican Journal of Surgery*. Close inspection will ow numerous fine white spots surrounded by a red ola—herpes.

Proceedings of Societies.

SOUTHERN MEDICAL ASSOCIATION.

Fifth Annual Meeting, Held at Hattiesburg, Mississippi, November 14, 15 and 16, 1911.

The President, Dr. ISADORE DYER, of New Orleans, in the Chair.

(*Concluded from page 206.*)

Dr. JOHN L. JELKS, of Memphis, understood the essayist to have said that the Klebs-Loeffler bacillus was not responsible for sore throat; that it was a follicular tonsillitis which, in many instances, was streptococcic, and he used diphtheria antitoxine to cure that kind of throat. It occurred to him, it would be more reasonable and scientific to give some streptococcic vaccine, and that was his plan of treating streptococcic infections, and if the colon bacilli were infecting the patient, he would use a colon bacillus bacterine.

Dr. WILLIAM KRAUSS, of Memphis, said we sometimes had diphtheria bacillus carriers that kept up infection for weeks and months, and it seemed utterly impossible to eradicate the infection. It had been found that the application of a pure culture of streptococcus aureus would destroy those diphtheria bacilli in the throats of these patients, and it was the only thing that had been found to do so.

Doctor HARPER, in closing, stated that many practitioners did not get results in cases of diphtheria because they did not use large enough doses of antitoxine.

Intubation.—Dr. JOSEPH J. WALLER, of Oliver Springs, Tenn., said the three most common types of disease demanding intubation were the severe cases of acute laryngitis, laryngeal diphtheria, and membraneous croup. This operation had many advantages over tracheotomy. While possibly it might be more difficult and required greater skill for its proper performance, it was not a cutting operation. It was quickly done and was safe.

Dr. W. W. HARPER, of Selma, said he would rather be able to do intubation than to do a Cæsarean section, for one could oftentimes get competent assistance in performing Cæsarean section, whereas the country doctor was by himself, in a place where he could not get help, and if he was competent to perform intubation he would save many lives.

Value of the Clinical Laboratory in Diagnosis.—Dr. E. S. SLEDGE, of Mobile, drew the following conclusions: 1. Laboratory methods were invaluable in diagnosis, were a great aid in prognosis, and in the intelligent observation of the course of the disease. 2. The source and interpretation of the results were of extreme importance. 3. Results were to be considered only as symptoms with the other clinical manifestations of the case. 4. Every physician should do as much laboratory work as is compatible with his time and equipment. For the more advanced work, many laboratories were at the disposal of the physician at moderate fees, and provision was made for the transportation of specimens. 5. Every physician should strive to avoid laxness in the employment of laboratory informa-

tion when occupied by a busy practice and avoid the human tendency to take chances.

Acute Poliomyelitis.—Dr. B. L. Wyman, of Birmingham, gave the history of epidemics of this disease in the United States.

Dr. E. M. Mason, of Birmingham, said the virus of poliomyelitis occurred most abundantly in the central nervous system, but had also been found in certain lymphatic glands, and in the nasopharyngeal mucosa. In both man and monkeys one attack of poliomyelitis, even the abortive form, protected against subsequent infection. As to the pathology, the virus became implanted not only upon the leptomeninges throughout the central nervous system, but especially in the region of the spinal cord and medulla, where it sets up infiltrative changes that were most marked in the circumvascular lymph spaces of the arteries entering the nervous tissues. There was a diminution in the total leucocyte count, with a relative lymphocytosis.

Dr. Louis Leroy, of Memphis, said they had had acute poliomyelitis on the reportable list of the State Board of Health of Tennessee for some time in anticipation of some outbreaks or epidemics within that State. Up to the present time, they had reported only a few scattering isolated cases, but not enough to warrant the name of epidemic at any point. Personally, he had seen only half a dozen cases within the last six years in Tennessee. Those cases started with the ordinary symptoms of an infection, with no one definite symptom that he could recall to mind. The cases had all been in children. After detailing the symptoms manifested by these cases, the speaker said that improvement generally began in a couple of weeks after the disease had practically subsided and continued probably under medication, massage, and general treatment for possibly a year. He had seen no marked improvement occur after that length of time.

Dr. W. G. Somerville, of Memphis, stated that in some epidemics of anterior poliomyelitis there were cases of the cerebral type in which coma came on and lasted for several days, and the patients died or recovered with infantile paralysis. In this type the upper neuron was affected and the patient got spastic paralysis. Some of the cases could not be diagnosticated until the paralysis came on, unless there was an epidemic of the disease. The child had fever, convulsions, vomiting, and it was only when the paralysis came on that one was able to make a diagnosis unless he was looking for the disease. It was possible, however, in the early stages, before the paralysis came on, to make a diagnosis by examining the cerebrospinal fluid, as had been pointed out by Flexner.

Dr. Willis C. Campbell, of Memphis, said the orthopedic treatment of infantile paralysis was very important. There might be a slight weakness of the extremities to a total paralysis of the four extremities. More frequently there was paralysis of both lower extremities. A patient frequently recovered good use of one extremity, while the other remained more or less disabled. Orthopedic treatment should begin as soon as the diagnosis was made. There was nothing that would probably give better results in these cases than to begin treatment at an early period and thus prevent deformity from taking place.

Symposium on Pellagra.—Dr. J. S. Turbeville, of Century, Fla., discussed the symptom-complex called pellagra. He defined the disease, gave its history and geographic distribution, and discussed its prevalence in the United States.

Etiology of Pellagra.—Dr. John L. Jelks, of Memphis, drew the following conclusions: Pellagra was not a new disease, nor a disease in fact, but a series of symptoms, a complex, the result of parasitic infection in the gut, with consequent abrasions, inroads, as it were, and either absorption of or the conveyance of toxine developing bacteria or the toxines themselves into the blood or the central nervous system, the force of which seemed mostly spent upon the cervical and dorsal portions of the cord. The ameba seemed to be capable of conveying these toxines or toxine developing bacteria, and probably was the chief immediate host. Some form of ameba had been found in the author's cases, and usually many of these organisms had lost much of the hyaloplasm, were immotile, or almost so, and contained many dark particles, a condition not so frequently found as in pellagrins, therefore believed to be significant. He had never observed the degree of prevalence of this morphological alteration in other cases, as in those of advanced pellagra with skin and nervous symptoms.

Pellagra in Tennessee.—Dr. J. A. Albright, of Nashville, read a paper on this subject in which he presented the conclusions of a commission appointed by the State Board of Health to investigate the number of cases of the disease throughout the State. This commission was composed of Dr. William Krauss, chairman, Dr. Byrd L. Rhea, and Dr. J. C. Brookes. These conclusions were: 1. The data gathered in the field showed that first cases, as a rule, sprang up in the most remote places. While some of these had been imported from other States, quite as many gave no history of exposure to any person or place infected with pellagra. 2. The disease had appeared almost simultaneously at widely different points, not in any way related to each other, either as to avenue of infection, or as to similarity of local conditions. 3. The epidemic of pellagra in the United States had appeared in disregard of all laws of epidemiology. There had been no route of travel or sequence of development characteristic of infectious diseases. 4. While first cases might appear in disregard of any system or regularity, a large number of cases had aparently become foci for the development of secondary cases. 5. Such secondary appearance failed to sustain either view of the etiology of the disease to the exclusion of the other. Such persons might partake of infected or poisonous food, contract the disease through the bite of an insect, or become contaminated in some other way. 6. In some counties there was as yet no evidence of secondary cases, for in one instance the first case appeared seven years before, and this patient was now living on the bank of a stream. 7. Approximately ninety-seven per cent. of cases admitted the use of corn meal in some form, and, while many were tempted to mislead, there seemed to be authentic cases of abstention from corn in all its forms. No case was

eported of the complete absence of corn meal from ne premises for a term of years. 8. The prodromal tage, or period of incubation, seemed to vary reatly, but was apparently quite long. The devel- pment of the disease appeared in all cases to be radual. While diagnostic symptoms might ap- ear spontaneously, they must follow a progressive isease of the spinal cord. 9. A large proportion f cases appeared in the wake of or in the course f some other disease. 10. While this was a dis- ase of poverty and bad hygiene, many cases had ppeared in the well to do families with good hy- ienic surroundings. 11. Arsenic, especially the rylarsonates, appeared to have a specific curative ffect when begun early and persisted in. 12. Fail- re to seek medical relief, and especially the per- stence in bad hygiene and food, usually resulted death or insanity, sooner or later. 13. The nelioration or disappearance of symptoms in cold eather suggested a strong climatic influence upon ie course of the disease. 14. Pellagra appeared be a gradually developing, cumulative intoxica- on of the central nervous system, of indefinite rodromal stage, of seasonal periodicity, the symp- ms of which might appear suddenly during the ring, summer, or early autumn. 15. There was proof of its immediate transmission from person person, though it might be a house infection. 16. s phenomena could be explained on grounds other an infectiousness, and they appeared to favor the pothesis of food transmission. The theory of in- ct transmission did not fit the early isolated cases frequently found. 17. It was possible that od cereals, and especially corn meal, served as hicles of transmission, and that the infection isted in granaries and elevators, and that the ob- acles to its transmission in this way were great ough to account for the relatively few cases of e disease. 18. Since this possibility had not been finitely disproved it was imperative that there be nitary supervision of grain distribution. 19. It as imperative, too, that the public be instructed hygienic living with special reference to house reening, sanitary privies, properly cooked, whole- me food, eaten as soon as prepared, and that edical advice be sought on the appearance of the rliest suspicious symptoms. 20. We needed in- itutions for the care, treatment, and study of llagrins.

Prognosis of Pellagra.—Dr. C. C. Bass, of New rleans, said that of all the patients with pellagra saw in New Orleans in 1909, over fifty per cent. ed during the year. Of ninety-six patients seen is year, 1911, only four had died, and with the ming of cold weather none of those now under servation would be expected to die. This changed ndition, though due partially to the milder type disease prevailing in the section around New rleans, was due chiefly to the fact that mild cases ere now recognized; whereas formerly only the vere and frequently hopeless cases were recog- zed. How long must a patient be free om attacks before he was safe from a return? is observation would lead him to answer that if attack could be avoided for twelve months or nger, there was little danger of a return of the sease, provided all corn food had been avoided during the time, and that it was never resumed. Another guide to the prognosis in a given case was the condition of the reflexes. Whenever the knee jerks were exaggerated, as they were in all moder- ate and early cases, indicating irritation of nerve tissue, it was always possible for the patient to re- cover. In Italy and Roumania, where pellagra had been recognized for a long time, and the medical profession was therefore familiar with it, the mor- tality was considerably less than ten per cent. for all cases. The type of pellagra seen in New Orleans, and coming chiefly from Louisiana and Mississippi, had a mortality not exceeding five per cent. for all cases.

Skin Manifestations of Pellagra with Refer- ence to Their Importance from a Diagnostic Standpoint.—Dr. H. E. Menage, of New Orleans, stated, 1, that the skin eruption of pellagra was not always a late or terminal manifestation, but might be a very early one; 2, we should be willing to have a diagnosis made of pellagra on the skin lesions and in the absence of the symptom complex, because if an early diagnosis was made, therapeutic meas- sures might be instituted and thereby save the patient the burden of proving his own diagnosis, which he surely would do if left untreated; 3, the aberrant forms of skin lesions might be and were often due to accidental and incidental causes and were not inherent in the initial erythema itself.

Treatment of Pellagra.—Dr. Louis Leroy, of Memphis, said that in the early stages he had found more uniform benefit from the administration of soamin hypodermically, starting with one grain doses every other day, and increasing up to three or more grains to the dose until from seventy-five to a hundred grains had been given, when a period of rest for two weeks was given, followed by another course of the drug, if necessary. He had used atoxyl in the same manner, but he had not had a chance to compare the two drugs critically. He had also used sodium cacodylate, but soamin was preferable. His observation of salvarsan in pel- lagra was such as to discourage its use, but he ad- mitted that he had not had the chance to administer it according to the method recently recommended by Martin, who reported some good results in giving fractional doses of the drug intravenously, repeated at intervals of from a day or so. For internal ad- ministration, he believed he had had more satis- factory results from Donovan's solution than from Fowler's solution, although both had, at times, been very satisfactory.

Dr. Charles W. Stiles, of Washington, D. C., knew of no fewer than ten or twelve species of ameba reported as parasitic in the human being. When a report was made that amebiasis was very prevalent in a given district, it did not mean any- thing unless there accompanied that report a de- finite statement as to which particular kind of ameba was present. It was not strange that investi- gators of pellagra had recently associated amebiasis with pellagra. It so happened that he had recently examined a large number of Southerners for infec- tion with ameba, and he found that the statistics of infection had not been exaggerated. But an im- portant point to remember was that the common amebiasis which we had in the Southern States was

of the nonpathogenic form. He was not able to agree with Doctor Jelks that the mass of amebic infections in the South had any particular significance to pellagra.

Dr. J. T. Searcy, of Tuscaloosa, Ala., said the cause of pellagra was still an open question, and its treatment related principally to the symptoms. The peculiarity about pellagra was that the toxines which arose affected the psychic centre more than any other disease. Patients got psychic symptoms in pellagra more than they did from malaria, from hookworm disease, from typhoid fever, or from any other systemic disease; consequently pellagrins drifted into the insane hospitals.

Dr. H. E. Menage, of New Orleans, said that quinine as a therapeutic agent in the treatment of pellagra had not been mentioned. We were indebted to Dr. Isadore Dyer for the suggestion to use quinine in treating cases of pellagra. Cases had been treated with this drug with gratifying results.

Dr. J. A. Hayne, of Columbia, S. C., said they had 2,100 cases of pellagra under observation and treatment in that State. Of this number, a large proportion were females. So far as the corn theory was concerned, they had gone so far as to forbid the exportation of corn that showed over thirty per cent. total acidity, and they did not allow that corn to be used. He had seen one case of pellagra in a nursing infant, and whether the toxines were carried through the mother's milk or not, he did not know. The infant did not eat corn meal or corn bread. He had seen patients with pellagra who had had nothing to do with corn in any form.

Dr. Charles R. Craig, of Washington, D. C., stated that as far back as 1905 he published researches on the examination of the stools of over one thousand men in the city hospital of San Francisco, and fifty per cent. of them showed *Amœba coli*. These men were from all parts of the United States. Merely finding the ameba in the stools did not mean anything. We ought to find out what species we were dealing with, and whether they were of the pathogenic or nonpathogenic variety. With reference to the occurrence of pellagra in connection with amebic dysentery, at the Presidio they had over 2,000 soldiers who had come back from the Philippines, and of the number of cases of amebic dysentery admitted to the hospital, there was no evidence in any of these cases of skin lesions being particularly common in amebic dysentery. He had made autopsies in over 300 cases, but none of them showed pellagra.

Dr. William Krauss, of Memphis, said, in regard to nursing infants and pellagra, that in his experience in the field he saw one case in a nursing infant at the age of twelve months, which had contracted the disease at six months and was getting its nourishment from a healthy mother. In another case the mother had pellagra, and was nursing her baby at the time he saw her. At his request, nursing at the breast was discontinued, and although the mother had for five weeks suffered from a virulent form of pellagra, and during four of these five weeks she had nursed her infant, the infant was in perfect health; so that with respect to the transmission of any poison or toxine through the mother's milk, we had no proof here in either case.

Dr. J. G. Donald, of Hattiesburg, Miss., asked whether the profession had reached a point in knowledge of the symptomatology of this disease that they could diagnosticate it before the development of the skin lesions. Early diagnosis had been insisted upon, but how early could the practitioner make the diagnosis by the condition of the alimentary organs and the nervous symptoms which accompanied the disease?

Dr. H. M. Folkes, of Biloxi, Miss., had seen and treated fifteen cases of pellagra, and of this number four had terminated fatally. As to the etiology, the preponderance of evidence pointed to the corn theory. The other eleven patients he had treated recovered. Pellagra was not necessarily as fatal a disease as one had been led to believe.

Dr. Louis Kohlheim, of Saltillo, Miss., stated that he had had experience with eleven cases of pellagra. The disease was characterized by the manifestation of nervous symptoms, gastrointestinal disturbances, and by skin lesions, and from his limited observation either one of these manifestations might be the first to appear.

General Treatment of Syphilis.—Dr. A. F. Toole and Dr. Walter F. Scott, of Birmingham, advocated an intense, cooperative plan of employing the strongest resolvents and antisyphilitic drugs, the iodides when needful, to afford full play for the other two, mercury by intramuscular injection for a short but reasonable time, and salvarsan intravenously in repeated doses until the serum reaction indicated a cure of the disease.

Eye Lesions and Salvarsan.—Dr. J. Coleman O'Gwynn, of Mobile, said that only the severer grades of optic diseases might be considered as contraindications to the administration of salvarsan. The marked tendency toward relapses demanded the combining of mercurial and iodide therapy with salvarsan in the treatment of ocular syphilis. The routine examination of the eyes of patients before salvarsan administration was desirable to furnish further data as to the effect of salvarsan on ocular conditions.

Salvarsan in the Treatment of Syphilis.—Dr. Edgar G. Ballenger and Dr. Omar F. Elder, of Atlanta, Ga., stated that in their experience no symptoms had occurred that prevented patients from taking the full amount of salvarsan indicated, nor had the later effects of the treatment at any time seemed to be serious. An effort had always been made to regulate the dose to suit the physical condition and weight of the patient. The freedom from trouble so far experienced was probably due to careful physical examinations of all patients and a regulation of the dose to suit the condition and weight of each individual. They had also insisted that all patients drink freely of plain water and lithia water the day of the treatment and for two weeks afterward, in order to dilute well the salvarsan as it was eliminated, and thus prevent irritation of the kidneys. They had given salvarsan 415 times.

Election of Officers.—The following officers were elected for the ensuing year: President, Dr.

J. M. Jackson, of Miami, Fla.; first vice-president, Dr. Frank A. Jones, of Memphis, Tenn.; second vice-president, Dr. D. J. Williams, of Ellisville, Miss.; secretary-treasurer, Dr. Seale Harris, of Mobile, Ala., reelected.

Jacksonville, Fla., was selected as the place for holding the meeting in 1912.

Letters to the Editor.

IS THERE SUCH A THING AS "ACUTE INDIGESTION" AS A CAUSE OF DEATH?

DETROIT, *January 22, 1912.*

To the Editor:

Your editorial article on acute indigestion as a cause of death I have just read, and when I saw in the daily paper the story of Evans's death, I asked some friends whether they had ever known anybody to die of acute indigestion. No one had, nor have I; nor have I read of any cases in *medical* journals. The only place you read of this is in the lay press, and I always read between the lines.

I can picture to myself the ulcerated gallbladder, and the gallstones, and the duodenal ulcer, which certainly ruptured, and which produced shock or acute infection, or both, with death within six to twenty-four hours.

In my experience, the acute indigestion which we hear about means gallbladder or duodenal disease, which has generally existed for a long time without correct diagnosis. If any one knows of any case, I wish that he would report it.

J. H. CARSTENS, M. D.

THE OPERATING TABLE AGAIN.

NEW YORK, *January 30, 1912.*

To the Editor:

It is hardly worth while to bother about priority unless the matter concerns credit for the discovery of some new principle. The assumption of Doctor Bainbridge, however, in your issue of January 13, 1912, that he invented the divided foot end of an operating table, falling back upon this "improvement" as the final mark of originality in the construction of his table, is so obviously inaccurate that it cannot be permitted to pass without notice.

The double foot piece is an ancient device. I, for one, have it on a table which I imported from Berlin twenty-three years ago, and it was old then. I incorporated it as one of the features of a hospital operating table which was made for me in 1903 for use in Mount Sinai Hospital.

HOWARD LILIENTHAL, M. D.

New Inventions.

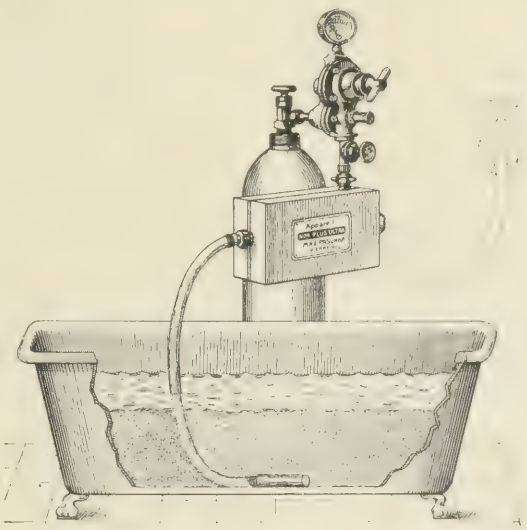
CARBON DIOXIDE BATH APPARATUS.

(Nauheim Bath.)

BY DR. EDWARD PASCHKA,
Vienna, Austria.

A new invention is brought before the public i. e. an apparatus for the preparation of the carbonic acid bath (Nauheim bath). It is superior to all others in its simplicity and comparative cheapness and permits the practical use of these baths in the best way. This apparatus, named by its inventor *Non Plus Ultra,* can be attached in any bath room.

The mixing apparatus, which is in a metal box, is connected by a rubber hose with the water supply and through a reduction valve with the cylinder of carbonic acid gas, and finally by a rubber hose which conducts the impregnated water to the tub. The working of the apparatus is as follows: At first the valve of the tank is opened and the gas comes to the reduction valve by means of which it is possible to regulate the pressure from one to ten atmospheres, just as the water pressure requires. By opening the reduction valve the gas is admitted to the mixing apparatus, and at the same time it is necessary to open the valve of the water supply. By a certain contrivance in the mixer the water is being atomized and in this state meets the inflowing gas which passes through a long thin tube with very fine holes; at this time the gas is already beginning to be absorbed by the water. The process of absorbing is further con-



ducted within the mixer by a system of pipes which are filled with aluminum shavings. By this resistance and sharpness of the shavings the mixture of water and gas is compelled to unite in the strongest way and then runs, fully saturated, through a rubber hose into the tub.

The union of water and gas is so complete that after one hour the loss of gas from the water is imperceptible and after twenty-four hours there is still a certain quantity of gas in it.

From a tank of twenty pounds (price $1.50) it is possible to get from twenty to twenty-two carbonated baths.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Lehrbuch klinischer Untersuchungsmethoden. Für Studierende und Aerzte. Von Dr. med THEODOR BRUGSCH, Universitätsprofessor, Assistent der II. Mediz. Universitäts-Klinik in Berlin, und Dr. med. ALFR. SCHITTEN-

HELM, a. o. Professor der klinischen Propädeutik und Geschichte der Medizin in Erlangen. Zweite, erweiterte Auflage. Mit 341 Textabbildungen, 9 schwarzen und 2 farbigen Tafeln. Berlin und Wien: Urban & Schwarzenberg, 1911. (Through Rebman Company, New York.) Pp. xv-712. (Price, $4.25.)

Three years after the appearance of the first edition of this textbook on methods of clinical examinations, a second edition has become necessary. The first edition we reviewed in our pages for December 19, 1908. The present volume shows many changes. In fact, there are few chapters which have not been entirely rewritten, although the general arrangement of the book has remained the same. The aim of the authors to make it a manual for students and physicians has been more fully carried out than in the former issue, in fact, the contents have been greatly condensed, so that it treats at present of the technique of general examinations. The authors promise, in their preface, to publish soon a second volume which will take up the technique of the special methods of examinations. We find that the book contains fifteen chapters, beginning with a description of the general examination of the patient, his own statements, his appearance, the external condition of his body, etc. This is followed by percussion, auscultation, manual and instrumental examination of the heart and the bloodvessels, examinations of the organs of respiration. Examinations of fluids obtained by paracentesis and puncture and the use of Röntgen rays are mentioned next. Then follows the physical diagnosis of the heart, vessels, and lungs, of the apparatus of digestion, of the genitourinary apparatus, and the technique of examinations of the blood. Chapter fourteen contains a treatise on infection and immunity, while in chapter fifteen the authors speak of the nervous system.

Infections of the Hand. A Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hand, and Forearm. By ALLEN B. KANAVEL, M. D., Assistant Professor of Surgery, Northwestern University Medical School; Attending Surgeon, Wesley and Postgraduate Hospitals, Chicago. Illustrated with 133 Engravings. Philadelphia and New York: Lea & Febiger, 1912. Pp. xiii-447. (Price, $3.75.)

Dr. Allen B. Kanavel has had the novel and ingenious idea of composing a volume solely on the acute and chronic suppurative processes in the fingers, hand, and forearm, and their surgical treatment, and has carried out the idea in excellent form, having in mind for his audience the general practitioner. Owing to the complex and unique structure of the hand, many problems arise in its surgical consideration that do not present themselves elsewhere in the body, while practical and cosmetic results are of the highest importance in the treatment of this indispensable member. For the purposes of the work, the author undertook an exhaustive series of studies of the anatomy of the parts by means of sections of the freshly frozen hand of the cadaver and injections into the various sheaths of plaster of Paris, glycerin, and water. By this means he was able to supplement our imperfect knowledge with most important discoveries as to the routes taken by pus, etc. X ray pictures were also taken of hands injected with red lead. Operative and subsequent treatment is carefully dealt with, and the result is a work which should become speedily indispensable to the practitioner, especially in factory towns. The book is easily readable in its handsome dress of clear twelve point type.

Ueber Neurorezidive nach Salvarsan- und nach Quecksilber-Behandlung. Ein Beitrag zur Lehre von der Frühsyphilis des Gehirns. Von Dr. J. BENARIO. Mit einem Vorwort von Wirkl. GEHEIMENRAT P. EHRLICH. Mit 1 Tafel und 5 Figuren im Text. München: J. F. Lehmanns Verlag, 1911. Pp. 195.

The author wishes to demonstrate in his book that nervous recurrence of syphilis after salvarsan does not exist. He cites the literature and says that, beside the statistics which speak against such an occurrence, there are some points which should be taken into consideration; and these are: The long interval between the injection and the nervous manifestation. The pathological process itself which shows the character of an inflammation while all other arsenic preparations produce primary atrophic processes. The circumstance that no nonluetic case treated with salvarsan has shown such neurotic recurrence. These recurrences have not appeared in syphilitic diseases of the brain, treated with salvarsan. And, finally that these recurrences, where they appeared, were cured with salvarsan, and did not occur where energetic specific treatment was or had been given, either with mercury or with salvarsan.

The book is an interesting addition to our large literature on salvarsan.

Diseases of the Stomach. A Textbook for Practitioners and Students. By MAX EINHORN, M. D., Professor of Clinical Medicine at the New York Postgraduate Medical School and Hospital; Visiting Physician to the German Hospital. Fifth Revised Edition. New York: William Wood & Co., 1911. Pp. xvi-531. (Price, $3.50.)

Einhorn's *Textbook on Diseases of the Stomach* is so well known since its first appearance in 1896 that a lengthy review is unnecessary. While the plan of the book itself has remained the same, the text of the fifth edition has received a thorough revision and several additions have been made. The chapter on radiography has been enlarged and other important changes have been made. The author speaks in the first chapter of the anatomy and physiology of the stomach, in chapter two on methods of examination, in chapter three on diet. Chapters four to thirteen contain the local treatment of the stomach, the treatment of organic diseases with constant lesions, the treatment of functional diseases with variable lesions, the treatment of abnormal conditions, and the treatment of nervous affections of the stomach. The condition of the stomach in diseases of other organs is to be found in chapter fourteen.

The author has taken a leading part in the treatment of stomach troubles and his methods are well known, although not subscribed to by all members of the profession.

Textbook of Meat Hygiene. With Special Consideration of Ante Mortem and Post Mortem Inspection of Food Producing Animals. By RICHARD EDELMANN, Ph. D., Medical Counsellor; Royal State Veterinarian of Saxony; Professor at the Royal Veterinary High School in Dresden. Authorized Translation Revised for America, by JOHN R. MOHLER, A. M., V. M. D., Chief of Pathological Division, United States Bureau of Animal Industry, and ADOLPH EICHHORN, D. V. S., Senior Bacteriologist, Pathological Division, United States Bureau of Animal Industry. With One Hundred and Fifty-two Illustrations and Five Colored Plates. Philadelphia and New York: Lea & Febiger, 1911. Pp. vi-375.

To point out all the excellences of this work would be like writing its table of contents. The book reflects the vast amount of excellent scientific work that has been done in this subject. One cannot help wondering, however, whether the administrative control of our meat supply is carried out with anything approaching the detail here described. The book should be in the hands of all physicians interested in this phase of public health science, and will be absolutely indispensable to those dealing directly with the meat hygiene. The book is well printed, and the cuts and colored plates are well shown and very well executed.

Miscellany.

A Square Peg in a Round Hole.—Under this caption the *Evening Mail*, of New York, in its issue for January 23, 1912, enrolls under the same banner as the NEW YORK MEDICAL JOURNAL, recognizing that better than creating a brand new department with unknown possibilities in the way of offices and officers, would be the placing of public sanitary questions under the wonderfully efficient Public Health and Marine Hospital Service. Says the *Evening Mail:*

The work of Dr. Wiley, in serving the public health, has nothing to do with agriculture. The duties devolved upon him by the pure food law had to do with the public health, not with production of crops. The solution of the present situation, again made acute by the report of the House committee vindicating Wiley, may be found in

ransferring the bureau of chemistry to the public health ervice, an organization devoted exclusively to the work f protecting the people from sickness. This would be a tep toward the unification and coordination of the public ealth activities of the government, which are now scat-ered through five executive departments. The demand or a Federal department of health will have to be met, ither by the creation of a new executive department, or y union in the public health service, and the enlargement f its powers and facilities for preventing disease.

Deaths of Physicians in 1911.—During 1911 here were reported the deaths of 2,145 physicians n the United States and the Dominion of Canada, emarks the *Journal of the American Medical Association* for January 6, 1912. Reckoning on a onservative estimate of 140,000 physicians, this is quivalent to an annual death rate of 15.32 per ,000. For the nine previous years the death rates vere as follows: 1910, 16.96; 1909, 16.26; 1908, 7.39; 1907, 16.01; 1906, 17.2; 1905, 16.36; 1904, 7.14; 1903, 13.73, and 1902, 14.74. The average nnual mortality for the period from 1902 to 1911 nclusive was therefore 16.11 per 1,000. The age t death varied from 23 to 99, with an average of 9 years, 10 months, and 5 days. The general verage age since 1904 is 59 years, 7 months, and days. The number of years of practice varied rom one to 76, the average being 32 years, 10 nonths, and 9 days. The general average for the ast eight years is 31 years, 5 months, and 23 days. The chief death causes in the order named were erebral hemorrhage, "heart disease," senility, pneu-nonia, external causes, and nephritis.

Metchnikoff Never a Medical Student.—The *Sun* for December 17, 1911, summarizing from the *ndependent*, points out that Elie Metchnikoff, suc-essor of Pasteur, although the foremost of medical nen, was neither born a Frenchman nor trained as physician. Like Pasteur, he entered the realm of nedicine by crossing the frontier of another science. Pasteur was a chemist, an inorganic chemist at hat, and was running down the cause of asym-netry in crystals when he found himself over in he field of biology. He had been engaged in sepa-ating the leftward skewed crystals of tartaric acid rom those that skewed to the right by picking them ut of the mixture by hand. He discovered that e could throw the burden of selection off on an gency whose time was less valuable, namely, the east plant, which has an appetite for one kind of rystals, but disdains the other. This led him to he germ theory of life and of disease and enabled im to save millions annually to the farmer and tock raiser and unnumbered human lives. Metch-ikoff's experience was similar. He was a zoolo-ist, less interested in man than in the invertebrates, evoting his time to the study of the minuter forms f life on the barren steppes of Russia and in Medi-erranean waters. It was in Italy at Messina in 882 that he made the discovery which led him to ame as one of the benefactors of the human race. He was investigating the digestion of marine inver-ebrates when he got the clue to the protective ac-ion of the blood in the higher animals and man, nd in 1884 he outlined his theory of inflammation. This was, in short, that the congestion of the blood t a wound was due to the efforts of the leucocytes r white blood cells to overpower the invading mi-crobes. The value of this discovery was recog-nized immediately by the two foremost authorities in biology, Virchow, the German, who had discov-ered the leucocytes, and Pasteur, the Frenchman, who had discovered the microbes. Metchnikoff had now found the missing link which brought these two discoveries together and showed their mean-ing. In 1888 Metchnikoff was called to the Pasteur Institute, and in 1895 became its director. Like Agassiz, he has "no time to get rich." At his home in the suburbs of Paris he sets an example of the plain living he advocates, supplementing the meagre salary given him at the institute by the income of a small estate in Russia. The $20,000 he received from the Nobel Foundation he devoted entirely to the furtherance of his researches in longevity. M. Metchnikoff had given the best possible proof that he has no personal aversion to women who enter his profession, for he married in 1875 as his second wife a Russian bacteriologist of distinction. He dedicated to her his first volume of *Optimistic Studies,* and in it he cites her experiments on the growth of microbe free tadpoles.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending January 26, 1912:

CHOLERA—FOREIGN: *Austria-Hungary,* Dec. 3-23, 23 cases, 2 deaths; *Bulgaria,* Nov. 22, 2 cases, 2 deaths; *India,* Nov. 19-Dec. 16, 80 cases, 187 deaths; *Indo-China,* Nov. 20-Dec. 3, 30 cases, 25 deaths; *Italy,* Dec. 17-24, 30 cases, 14 deaths; *Roumania,* Nov. 24-Dec. 13, 2 cases, 3 deaths; *Siam,* Nov. 5-Dec. 2, 149 deaths; *Tripoli,* Oct. 25-Nov. 10, present; *Tunis Regency,* Dec. 8-21, 156 cases, 161 deaths; *Turkey in Asia,* Nov. 16-Dec. 26, 220 cases, 195 deaths.

YELLOW FEVER—FOREIGN: *Brazil,* Dec. 19-23, 1 death.

PLAGUE—FOREIGN: *Brazil,* Dec. 24-30, 5 cases, 1 death; *Chile,* Dec. 10-23, 6 cases, 1 death; *China* (Hong Kong), Dec. 9-16, 1 case, 1 death; *Egypt,* Oct. 5-Dec. 27, 26 cases, 23 deaths; *India,* Nov. 19-Dec. 16, 5 cases, 20 deaths; *Indo-China,* Nov. 17-Dec. 3, 1 case, 1 death; *Mauritius,* Nov. 17-23, 7 cases, 3 deaths; *Natal* (Durban), Jan. 17, 1 death; *Siam,* Nov. 4-Dec. 2, 2 deaths; *Straits Settlements,* Nov. 26-Dec. 2, 5 cases, 5 deaths.

SMALLPOX—UNITED STATES: *California,* Dec. 1-31, 34 cases, 3 deaths; *Louisiana,* Jan. 7-13, 3 cases; *Michigan,* Dec. 1-31, 69 cases; *South Dakota,* Dec. 1-31, 10 cases; *Tennessee,* Jan. 7-13, 1 case; *Washington,* Nov. 1-30, 57 cases; *Wisconsin,* Dec. 1-31, 86 cases.

SMALLPOX—FOREIGN: *Arabia,* Dec. 12-18, 1 death; *Brazil,* Nov. 16-30, 67 deaths; *Canada,* Dec. 1-Jan. 13, 58 cases, 2 deaths; *Chile,* Dec. 10-23, 9 cases, 1 death; *China,* Dec. 3-16, present; *Egypt,* Dec. 10-16, 1 case; *France* (Paris), Dec. 17-31, 17 cases, 2 deaths; *Gibraltar,* Dec. 24-31, 4 cases; *India,* Nov. 26-Dec. 16, 5 cases, 6 deaths; *Indo-China,* Nov. 20-Dec. 3, 13 cases; *Italy,* Dec. 24-30, 323 cases, 91 deaths; *Japan,* Dec. 17-23, 1 case; *Malta,* Dec. 24-30, 2 cases; *Mexico,* Nov. 26-Jan. 8, 147 cases, 9 deaths; *Portugal* (Lisbon), Dec. 24-30, 7 cases; *Russia,* Nov. 5-Dec. 23, 185 deaths; *Spain,* Nov. 1-Dec. 30, 10 cases, 46 deaths; *Turkey in Europe,* Dec. 25-31, 5 deaths; *Venezuela,* Nov. 1-Dec. 31, 11 cases.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the week ending January 24, 1912:

Anderson, J. F., Passed Assistant Surgeon. Detailed to represent the Service at the meeting of the National Committe on Milk Standards to be held under the auspices of the New York Milk Committee in New York, N. Y., on January 25 to 27, 1912. **Ashford,** F. A., Passed Assistant Surgeon. Leave of absence for one month from December 27, 1911, amended to read "twenty days from December 27, 1911, on account of sickness." **Banks,** C. E., Surgeon. Granted seven days' leave of absence from January 24, 1912. **Collins,** G. L., Passed Assistant Surgeon. Granted seven days' leave of absence from January 15, 1912, on account of sickness.

Cumming, H. S., Surgeon. Granted two days' leave of absence from January 17, 1912. **Ebersole,** R. E., Passed Assistant Surgeon. Relieved from duty at the Marine Hospital, San Francisco, and directed to proceed to Pensacola, Fla., and assume temporary command of the Quarantine Service at that port. **Gahn,** Henry, Pharmacist. Granted two days' leave of absence, January 12th and 13th, under paragraph 210, Service Regulations. **Goldberger,** J., Passed Assistant Surgeon. Granted ten days' leave of absence en route to rejoin station. **Goldsborough,** H. W., Acting Assistant Surgeon. Granted four days' leave of absence, from January 10, 1912. **Kolb,** L., Assistant Surgeon. Granted four days' leave of absence from January 10, 1912, under paragraph 191, Service Regulations. **Roberts,** Norman, Passed Assistant Surgeon. Granted one day's leave of absence, January 17, 1912, under paragraph 191, Service Regulations. **Schuster,** B. L., Acting Assistant Surgeon. Leave of absence for nine days from January 4th, without pay, amended to read "six days from January 4th without pay." **Stimson,** A. M., Passed Assistant Surgeon. Granted three days' leave of absence from January 13th, under paragraph 191, Service Regulations. **Von Ezdorf,** R. H., Passed Assistant Surgeon. Directed to proceed via Austin to Dallas, Texas, to investigate an outbreak of cerebrospinal meningitis.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending January 27, 1912:

Betts, Charles A., First Lieutenant, Medical Reserve Corps. Upon expiration of leave of absence, ordered to Fort William H. Harrison, Mont., for temporary duty. **Crampton,** L. W., Colonel, Medical Corps. Leave extended seven days. **Davidson,** Wilson T., Major, Medical Corps. Relieved from duty at Fort McIntosh, Texas, and ordered to Fort Bliss, Texas, for duty. **Dickenson,** Clarence F., First Lieutenant, Medical Reserve Corps. Upon abandonment of Fort Duchesne, Utah, will proceed to Whipple Barracks, Arizona, for duty. **Gandy,** Charles M., Lieutenant Colonel, Medical Corps. Relieved from duty in the Philippines Division and will repair to Washington, D. C., and report to the Surgeon General of the Army for duty in his office. **Garcia,** Leon C., Lieutenant, Medical Corps. Relieved from treatment at the Letterman General Hospital, San Francisco, Cal., and ordered to return to the Philippine Islands. **Grubbs,** R. B., Major, Medical Corps. Ordered to duty with the troops from Fort Bliss, Texas, to Fort Benjamin Harrison, Ind.; relieved from duty at Fort Bliss, Texas, and ordered to Fort Baker, Cal., for duty. **Ireland,** M. W., Lieutenant Colonel, Medical Corps. Relieved from duty in the office of the surgeon general of the Army and ordered to proceed to San Francisco, Cal., and report to the Commanding General, Western Division, for temporary duty, and on August 5th to sail for the Philippine Islands for duty; granted four months' leave of absence to take effect after arrival at San Francisco. **Koerper,** C. E., Major, Medical Corps. Leave of absence extended twenty days. **Mills,** R. W., First Lieutenant, Medical Reserve Corps. Ordered to duty with Company K, Third Cavalry, from Fort Sam Houston to Fort Clark, then to proceed to Rio Grande, Texas, for duty. **Owen,** Leartus J., Captain, Medical Corps. Returned from duty with troops at Rio Grande, Texas, and ordered to return to Fort Benjamin Harrison, Ind. **Stuckey,** Harrison W., First Lieutenant, Medical Reserve Corps. Granted two months' leave of absence.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending January 27, 1912:

Bacon, Sankey, Passed Assistant Surgeon. Detached from the naval disciplinary barracks, Port Royal, S. C., and ordered to the *Baltimore*. **Baker,** M. C., Passed Assistant Surgeon. Detached from the Naval Hospital, Mare Island, Cal., on February 5th, and ordered to the *Colorado*. **Brown,** H. L., Passed Assistant Surgeon. Detached from the *Baltimore* and ordered to the Naval Hospital, Norfolk, Va. **Diehl,** Oliver, Medical Director. Detached from the Naval Hospital, Newport, R. I., and ordered to the navy recruiting station, Philadelphia, Pa. **Hayes,** Oscar, Acting Assistant Surgeon. Detached from the marine recruiting station, Denver, Colo., and ordered to the marine recruiting station, St. Paul, Minn. **Hayward,** A. B., Passed Assistant Surgeon. Detached from the *South Dakota* and ordered to the *Maryland*. **Mink,** O. J., Passed Assistant Surgeon. Detached from the *West Virginia* and ordered to the naval station, Guam. **Nash,** F. S., Medical Inspector. Detached from the navy recruiting station, Philadelphia, and ordered to the Naval Hospital, Newport, R. I. **Rose,** M. E., Acting Assistant Surgeon. Ordered to the marine recruiting station, Buffalo, N. Y. **Stone,** E. P., Medical Inspector. Ordered to the marine recruiting station, Denver, Colo. **Stoops,** R. E., Passed Assistant Surgeon. Ordered to the naval disciplinary barracks, Port Royal, Colo. **Valz,** E. V., passed Assistant Surgeon. Detached from the Naval Hospital, Mare Island, Cal., on February 5th, and ordered to the *South Dakota*.

Births, Marriages, and Deaths.

Died.

Allen.—In Chicago, on Saturday, January 20th, Dr. Erhan Allen, aged forty-three years. **Anderson.**—In Englewood, Ill., on Sunday, January 21st, Dr. Horace G. Anderson, aged fifty-two years. **Ashley.**—In Utica, N. Y., on Monday, January 22d, Dr. Theodore J. Ashley, aged seventy-five years. **Blackman.**—In Brooklyn, on Saturday, January 20th, Dr. Monroe E. Blackman, aged sixty-three years. **Burgheim.**—In New York, on Thursday, January 25th, Dr. Leopold Burgheim, aged sixty-eight years. **Chapman.**—In Dover Plains, N. Y., on Monday, January 15th, Dr. George B. Chapman, aged seventy-two years. **Dandurand.**—In Watertown, N. Y., on Friday, January 19th, Dr. Siegfried Dandurand, aged fifty-two years. **Dickson.**—In Bovina Centre, N. Y., on Tuesday, January 16th, Dr. Gilbert J. Dickson, aged fifty-five years. **Drake.**—In Prairieton, Ind., on Friday, January 19th, Dr. Thomas G. Drake, aged seventy-six years. **Ellis.**—In Midland, Texas, on Saturday, January 20th, Dr. N. H. Ellis, aged fifty-four years. **Fornias.**—In Philadelphia, on Monday, January 22d, Dr. Edward F. Fornias, aged sixty-nine years. **Frank.**—In North Yakima, Wash., on Saturday, January 20th, Dr. Phillips Frank, aged sixty-eight years. **Gantt.**—In Millersville, Md., on Saturday, January 20th, Dr. Harry B. Gantt, aged fifty-four years. **Greenway.**—In Hot Springs, Ark., on Saturday, January 20th, Dr. G. C. Greenway, aged seventy-one years. **Hensley.**—In Huntsville, Ala., on Thursday, January 11th, Dr. William T. Hensley, aged sixty years. **Hershey.**—In Nebraska City, Neb., on Tuesday, January 16th, Dr. David W. Hershey, aged eighty-one years. **Hickey.**—In Philadelphia, on Friday, January 26th, Dr. James Samuel Hickey, aged fifty-six years. **Hitzrot.**—In Pittsburgh, Pa., on Sunday, January 21st, Dr. Carl H. Hitzrot, aged fifty-seven years. **Johnson.**—In Rochester, N. Y., on Friday, January 26th, Dr. Walter W. Johnson, aged fifty-three years. **Kingsley.**—In Rome, N. Y., on Friday, January 26th, Dr. Willey J. P. Kingsley, aged eighty-seven years. **Latham.**—In Weatherly, Pa., on Wednesday, January 24th, Dr. Peter H. Latham, aged sixty-two years. **McDowell.**—In Baltimore, on Wednesday, January 24th, Dr. Charles C. McDowell, aged sixty years. **Schiele.**—In Cincinnati, on Tuesday, January 23d, Dr. C. F. Schiele, aged thirty-eight years. **Short.**—In New York, on Thursday, January 25th, Dr. Samuel Short, aged thirty-nine years. **Smith.**—In Rogers, Texas, on Monday, January 15th, Dr. Isaac S. Smith. **Starkweather.**—In Evanston, Ill., on Monday, January 22d, Dr. Ralph E. Starkweather, aged seventy years. **Stucky.**—In Gosport, Ind., on Wednesday, January 17th, Dr. J. M. Stucky, aged eighty-six years. **Swift.**—In Chicago, on Friday, January 19th, Dr. Brown Fred Swift, aged forty-two years. **Watkins.**—In Cincinnati, on Sunday, January 21st, Dr. Lyman Watkins, of Blanchester, Ohio, aged fifty-nine years.

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LCOHOL A MENACE TO THE SOLDIER: AND THE PRIVILEGES OF THE POST EXCHANGE.*

Y LOUIS LIVINGSTON SEAMAN, M. D., LL. B., A. B., F. R. G. S., F. R. S. A.,
New York,
Late Major and Surgeon, U. S. V.

I am asked to speak to you on alcohol—a menace to the soldier (for it certainly is a menace)—nd the privileges of the Post Exchange, or as it popularly called in the army parlance, the canteen. You are already familiar with the terms alcohol—chemically pure—and wood alcohol—fusel l, which contains many poisonous ethyls, etc., so e will lose no time in defining them. But there so much misunderstanding regarding the term ost exchange, or canteen, that an explanation of it in order.

In the early days of the American army drunkenss was very common, and the sick list and death ate from alcoholism were alarming. As stated by e Reverend S. B. Dexter, secretary of the Ministrial Commission of Investigation at Port Sheridan: "It was a time when pay day meant absence om the post of almost half the command; when en were robbed by dive keepers on all sides, and hen they were imprisoned in the guard house by e score for drunkenness. Liquor saloons were in undance at the gates of every post; vile liquors, nd sometimes vile drugs, were given out ver the bar, and all the abominations annexed to ich places were put in the pathway of the young en of the army."

It was, indeed, the harvest day of the dive keepers. Conditions were so monstrous and revolting at reform became imperative, and with this purse in view of the ablest and sanest officers of the rmy suggested the establishment of the post exhange or canteen, which was adopted in the service 1890. This institution was really a soldier's club cated within the reservation or post, and combined e features of a reading and recreation room, and cooperative store and restaurant. Its purpose was furnish the troops, at reasonable prices, the artiles of ordinary use, wear, and consumption not pplied by the Government, and to afford them eans of rational recreation and amusement which, if denied, they would seek outside the limits of camp. Had it originally been named the Soldier's Club you probably would never have heard of its existence, or of the campaign that resulted in its abolition. Thrusting it into contempt and ignominy by calling it a canteen was as unfair and illogical as would be the calling of any club on Fifth avenue a dramshop or a groggery. It was under military supervision, where drunkenness was never tolerated, but where many articles not obtainable at the company's mess were brought within the soldier's reach, and the monotony of camp cookery was agreeably interrupted. Its *privileges* consisted in the fact that the men were permitted to buy a glass or two of light beer—never whiskey, rum, or stronger drink, and the soldier's purchases were limited to one fifth of his pay, or $3 a month. This permission, as all medical authorities, and I think you also, will admit, satisfied the gastric cravings of hearty men and decreased their desire for stronger drink. Treating, one of the most vicious customs of our country, was never permitted, gambling was forbidden, and the canteen was always closed on Sunday.

Alcohol, I may here say, in the army as well as *out* of it, is often the connecting link between health and disease—between decency and degradation. It was to reduce to its minimum this influence that the soldier's club or canteen was established. Captain E. L. Munson, one of the ablest surgeons of the army, in an official report states that the amount of sickness resulting directly or indirectly from intoxicants diminished fifty per cent. during the first six months following its introduction. Such was its origin and such its beneficent results. Ten years ago it was abolished.

Let us hear the testimony of a few witnesses, masters of military administration, on the results that have followed. It may be supposed that these gentlemen are as familiar with the needs of the army and have its welfare as deeply at heart, and are as well qualified to govern it as the whiskey dealers and others through whose influence the change was brought about.

The present commanding officer of the army, General Leonard Wood—himself a physician of high standing—says: "The effect of the abolition of the canteen has been almost unqualifiedly bad."

General Corbin, who commanded the army in 1902, says: "It would seem unnecessary to argue to a fairminded person the superiority of a system which provides a mild alcoholic beverage at reasonable cost in moderate quantities, under strict military control, to one which results in luring the

*Reported at the request of and read before the Public Health ducation Committee of the Medical Society of the County of New rk at the New York Academy of Medicine, January 18, 1912.

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soldier away from his barracks to neighboring dives where his body and soul are poisoned by vile liquors, with the accompanying vice of harlotry, and where his money is taken from him by gamblers and thieves."

In 1903, General Young, then in command, stated: "Reports from officers of all grades exhibit practically unanimity of opinion as to the evil effects of this restriction, in increased drunkenness, *loathsome diseases contracted* by men while under the influence of a bad or drugged liquor, in increased desertions from drunkenness from the same cause, the men, while in a drugged condition, being robbed by their associates of both sexes, and for this reason reluctant to return to their posts."

In 1904-5, General Chaffee, than whom no more sane, conservative, and experienced officer ever served, rising as he did through merit from the ranks to the position of commander in chief of the army, says in his report: "Desertions can be in large part attributed to the malign influence of saloons and brothels situated near the reservations, seducing enlisted men from the paths of decency. The canteen provided places of amusement and social intercourse where men could get light refreshments under restraining, decent, and orderly influences. If men are unable to get a glass of beer in a decent and orderly manner in the garrison they will resort to the vile brothels which cluster around the borders of the reservations, where they drink all manner of alcoholic beverages, and often sink into debauchery and ruin. I think it beyond question that permission to sell beer in the post exchange would drive out of business at least two thirds of the lower resorts in the vicinity of the posts."

In 1905, while commanding the Department of the East, General Frederic D. Grant reported: "It is my belief that fully seventy-five per cent. of the court martials were due to the use of bad liquor dispensed to our soldiers by persons who conduct dens of vice in the vicinity of military posts. These depraved creatures and lewd women use every device in their power to induce the soldiers to patronize their brothels, where those who yield to temptation are frequently drugged and robbed. It is distressing that the prosperity of the keepers of vile resorts is due to the activity of good and worthy, though misguided citizens who have succeeded in abolishing the canteen in the army. With the establishment of the canteen, which was the soldiers' club, the influence of these demoralizing resorts near army posts would be greatly reduced and many of them would disappear."

In 1906, he said: "After another year's study I am convinced that I *underestimated* the proportion. I now believe that no less than *ninety* per cent. of all the troubles that occur in the army are due to the use of liquor." General Grant's *opinions* may have changed, but the *facts* remain the same.

I was with the American troops stationed at Peking during the Boxer war when an inspection showed over fifty per cent. of all hospital patients were suffering from venereal diseases. This alarming factor in connection with the subject of the canteen is the most momentous that menaces the health of the army to-day. Venereal disease always claims a large proportion of patients in a military hospital, but since the abolition of the canteen the percentage of these cases has doubled. When those instrumental in bringing about this change realize that the result has produced a large proportion of this enormous increase of wretchedness I believe they will take a *broader view,* and work as earnestly for its restoration as they once did for its abolition.

The curse of the army is the groggeries and the brothels that flourish near the outskirts of the posts where alcohol is dispensed, and the frightfully high percentage of venereal diseases resulting from and depending upon it; its increase has been almost in constant ratio since the abolition of the canteen. In Porto Rico I once saw fifty-seven of the ninety-three patients in a military hospital suffering from this disease alone. Personal observation of the hospitals in Cuba during and since the Spanish-American war, in China during the Boxer insurrection, in the Philippines and other places where our troops were stationed, confirms the view that since the abolition of the canteen the percentage of these cases has enormously increased.

In 1889, prior to the introduction of the canteen, the admission to hospitals for venereal diseases was 84.66 in a thousand. In 1893, after the canteen was established, it was reduced to seventy-three in a thousand. In 1901 the canteen was abolished, and the following year, in an address before the United States Association of Military Surgeons, I pointed out in no uncertain language the danger to the army from the great increase of venereal diseases likely to follow and Congress was memorialized to restore it, but nothing was done by the Government. Nine years later the admissions from venereal diseases increased to over 200 in a thousand, and *at last* some of the departments at Washington awakened from their Rip Van Winkle lethargy to a realization of this startling condition.

Last year, the surgeon general in his report said: "The venereal terror has come to outweigh in proportion any sanitary question which now confronts the army, and neither our national optimism nor the Anglo-Saxon disposition to ignore a subject which is offensive to public prudery can longer excuse a frank and honest confrontation of the problem."

In 1910 there were 14,640 hospital admissions from this cause alone, or about twenty per cent.—or fifteen regiments—or one fifth of the total enlisted strength of the army. This in *one* year. These figures are out of all proportion to those which obtain in European armies, in all of which canteens are maintained. In the British army the admissions from venereal diseases are 7.6 per cent.; in the Hungarian army, 4.5; in the French, 3.5; in the Prussian, 1.9; in the Bavarian, 1.5; in the United States, 19.7.

Do not imagine for a moment that I am here as an advocate of alcohol. As resident surgeon, or chief of the medical staff, for eight years of Ward's or Blackwell's Islands, I witnessed in my daily inspections of hospitals, prisons, alms houses, and asylums scenes which no modern Hogarth could depict. It is no metaphor to attribute the moribund,

peless, repulsive, excrescent population of those titutions to the parentage of strong drink—for nkenness and debauchery are inseparable, and me, poverty, and pestilence are their progeny. rsonally, almost a total abstainer, I would, if pos-le, have alcohol eliminated as a product from face of the earth. Personally, too, I would lish wars, as well as armies, and therefore the essity for canteens—but unfortunately this is a personal matter. Of course, the canteen is an ideal institution. Its most ardent advocates nkly admit that the total abolition of intoxicants the army, as in the world at large, is a desider-m devoutly to be wished. But recognizing the possibility of this ideal, the most distinguished cers of the army devised the soldiers' club or teen as its nearest approach.

When it was maintained the men drank less, were rounded by better influences, and returned to ir reading rooms or their quarters sober and con-ted. When it was abolished they procured their uor away from their posts and left the rum shop the brothel. When those who influenced Con-ss to abolish the canteen realize that they have ntributed more than any other cause to the pro-ction of this enormous increase of wretchedness our army; and made many a husband, father, or er, the victim of a degrading disease and a focus infection for its spread after the expiration of term of enlistment, it is hoped they will cease erfering with institutions about which they are hopelessly ignorant. Well may the poor soldier nark, "Deliver me from my friends and I will e care of my enemies."

Listen to what Dr. Prince A. Morrow, president the Society of Sanitary and Moral Prophylaxis, s regarding the prevalence of these diseases and ir significance as a danger to public health: "In nt of prevalence they vastly overshadow all ier infectious diseases, both acute and chronic mbined. It is a conservative estimate that fully e eighth of all human disease and suffering comes m this source. Moreover, the incidence of these eases falls most heavily upon the young during most active and productive period of life. Of many men who contract venereal disease a large portion carry this infection into the family. Un-tunately, these diseases are markedly accentuated virulence and danger to the wife and mother in filling the function for which marriage was in-uted. There is abundance of statistical evidence show that eighty per cent. of the deaths from lammatory disease peculiar to women, seventy-e per cent. of all special surgical operations per-rmed on women, and over sixty per cent. of the rk done by specialists in diseases of women are result of gonococcus infections. Many are con-nned to lifelong invalidism. Every year in this untry thousands of pure young women are in-ted in the relation of marriage, their concep-nal capacity destroyed, the aspirations which cen- in motherhood and children swept away, all the ly office of maternity desecrated by the bringing rth of tainted, diseased, or dead children, and the men themselves often ruined, or condemned to utilation of their maternal organs to save their es.

"The effects of these diseases introduced into marriage are not measured alone by the dangers to the life and health of the mother, but are still further manifest in their danger to the offspring. Fully eighty per cent. of the ophthalmia which blots out the eyes of babies, and twenty to twenty-five per cent. of all blindness, is caused by this infection. Syphilis (which I may say is especially prevalent in our tropical possessions) is the only disease which is transmitted to the offspring in full virulence. Its effect upon the product of conception is simply murderous. Sixty to eighty per cent. of all infected children die before being born, or come into the world with the mark of death upon them. Those that finally survive—one in four or five—are the subjects of degenerative changes or organic defects which may be transmitted to the third gen-ration."

Thus you see that, just as in actual war from which the soldier may return *on* his shield instead of bearing it, in the final analysis of this question the women of the country are the chief sufferers.

Nor has this meddlesome interference with legislation ceased its diabolical work even with this frightful record. Grave as it is, there is still another, a new evil, almost unheard of prior to the abolition of the canteen, which has fastened its fangs upon many of the unfortunates of the army. As stated before, when deprived of stimulants in one way men will obtain them in another. I have it on no less authority than that of the present surgeon general of the United States Army that the use of opium and cocaine has increased to alarming proportions in the service. It is very difficult to prevent the introduction of contraband stimulants of this character, because they are so easily smuggled by the peddler or by the soldier when on pass. But numerous instances of the effect of these deleterious drugs are being reported. And thus the evil spreads. The avowed *purpose* in abolishing the canteen was "to increase the efficiency of the military establishment." Its *effect* has been to increase intemperance, disease, and desertion. It has embittered the men and driven them to the very excesses sought to be abolished. You cannot legislate men to be virtuous or to be total abstainers, but you can by judicious handling promote chastity and temperance.

The crowning glory of medicine lies in the prevention of disease, not in its cure. The demands of military discipline require the solider to surrender for the good of the State much of his individual liberty and many of the privileges enjoyed by other citizens. It is asked by the leading physicians of America whether it is wise further to restrict these privileges by legislation in a way which not only does *not contribute to* military discipline, but which *impairs* it. Soldiers are required by the special conditions of military life to give up their home life and the moral protection of marriage, and to live a life of enforced celibacy. Is it wise to *diminish* the attractions of their club, and *increase* the moral and physical risks of their environment, by an act of Congress? The law as it now stands is little less than a process of tragedy. Soldiers, who are the guardians of the country's honor, are driven to crime and debauchery and disease by the way

makers of the land. The alternate will come—but the tragedy is here. How long it will remain depends, as Mr. Bartholdt says, upon the amount of hypocrisy and cowardice there is in Congress. Every intelligent man in Congress and out of it knows perfectly well that the abolition of the canteen was a blow at temperance, a direct incentive to drunkenness, and a flagrant cause of spreading disease. We therefore ask for its restoration in the name of public morality, public health, and because, First, it was an institution where soldiers could pass their leisure in wholesome surroundings under military discipline, where whiskey was never sold and intemperance never tolerated; where relief could be found for the men from the monotony of camp life, and, as a glass of beer and sandwiches could be purchased, the gastric craving for stronger drink was satisfied, so that many men who before enlistment were hard drinkers became through this discipline temperate.

Second, because its abolition has proved a wretched failure. Instead of reducing intemperance, the law has increased drunkenness, immorality, insubordination, and desertion.

Third, because its absence has driven the soldier to seek recreation outside of the limits of camp—in those curses of the army, the rum shop and brothel, found near every post, and which flourish on the earnings or the weaknesses of enlisted men. Crime and debauchery thrive in these dives, where the soldier, led by his desire for amusement, is the victim. The establishment of the canteen did away with the majority of these disgraceful resorts. Since its abolition they have reappeared, and were never so flourishing as to-day.

Fourth, because its reestablishment will reduce the shocking percentage of venereal disease—the greatest menace to the health of the army.

Fifth, because those best qualified to render a fair verdict—the medical and line officers of the army, the members of the leading medical associations of the country, the wives of officers and enlisted men—indeed, all who have the honor of the army at heart—stand almost as a unit for the repeal of the present act and for the restoration of the canteen.

Sixth, because the chief financial supporters of the present law are whiskey dealers, whose interests are enormously benefited through its enforcement.

A bill for the repeal of the law is now before Congress—introduced by the Hon. Richard Bartholdt. And I appeal to each and every woman who honors her country and its defenders to join in a concerted movement, or organization, to assist in this purpose; also to request the member of the House of Representatives and the senator representing the district in which she resides to use his influence for its passage. Such action would place the responsibility for the morale and discipline of the army in the hands of those properly delegated to administer its affairs. And Congress would thereby right a serious wrong, and to some extent restore its own dignity which has so yielded to the clamor of ignorant fanaticism, for in the killing of a mouse they resurrected a monster.

247 Fifth Avenue.

CANCER OF THE RECTUM AND LOWER SIGMOID, WITH THE REPORT OF AN UNIQUE CASE.*

By Miles F. Porter, A.M., M.D.,
Fort Wayne,
Surgeon to Hope Hospital; Professor of Surgery, Indiana University School of Medicine.

According to Stierlin (1) one in every 300 deaths is due to cancer of the rectum, and three and one half per cent. of all cancer deaths. Abbe (2) says that three fourths of all intestinal tumors are cancer of the rectum. Cancer of the rectum is twice as frequent in males as in females. In cancer of the rectum and sigmoid, as in cancer elsewhere, success in treatment depends largely on an early recognition of the trouble. Unfortunately, "early recognition" of cancer of the rectum or sigmoid is practically unheard of.

Martin (3) says that most cases of malignant disease of the rectum are beyond the pale of justifiable surgery when first seen by him. Chal-

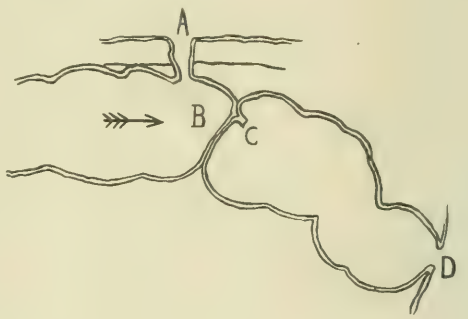


Fig. 1.—Schematic illustration of the probable way in which Nature reestablished the continuity of the gut in the case of Mrs. Y. A. *A*, artificial anus; *B*, elbow of gut produced by fecal current which would naturally be directed as indicated by arrow, and thereby produce pressure absorption at *B*, which is opposite *C*, the closed end of the anal segment of the gut.

ier (4) found but sixty per cent. of the cases in his clinic suitable for operation, and cites the statistics from other clinics showing the percentage of such cases to vary from nineteen to eighty-one per cent. According to Kocher, cancer of the rectum is at first symptomless. Most cases are of two to three years' duration when they first present themselves to him for treatment. He says stenosis and ulcer cause the first symptoms.

A fuller appreciation of the frequency of cancer of the rectum and sigmoid will lead to a larger percentage of timely diagnoses. Horts's (5) investigations seem to show that, in the absence of infection, a raised antitryptic blood content is of value in deciding a doubtful opinion as to the presence of malignant disease, and especially in distinguishing between innocent and malignant neoplasms. I know of no other investigator who either corroborates or rejects Horts's findings. The reports as to the value of hemolysis in the diagnosis of cancer are at variance. Ottenberg and Epstein (6) say that the hemolytic reaction cannot be relied upon as an aid in the diagnosis of cancer, while Kelling (7), as the result of a large experience, regards it as positive.

*Read at the twenty-fourth annual session of the Southern Surgical and Gynecological Association, Washington, D. C., December 12, 13, and 14, 1911.

It would seem that further research is necessary before we can speak positively of the value of the blood tests in the diagnosis of cancer. Less stress is laid upon the so called cancer age now than formerly. Cancer not infrequently affects the young, and this seems to apply with especial force to cancer of the hollow viscera of the abdomen.

I have in mind now especially the reports of cases of malignant disease involving the appendix and rectum. Of 115 cases of cancer of the rectum at the Rostock clinic four occurred in patients between fourteen and seventeen years of age.

The necessity of thorough examination of all patients complaining even in the slightest degree of rectal symptoms should be urged upon the general practitioner, because it is he who sees these patients at a time when operation promises the most satisfying results.

I am constrained to believe that surgeons also are somewhat derelict in this matter of thorough rectal examinations. Pewsner (9) advises the routine use of the sigmoidoscope by the physician. Constipation, tenesmus, false impulses to defecate, dilatation of the ampulla, and the relaxation of the anus are frequent symptoms of rectal cancer. Digital examination of the rectum would better be made with the patient standing. With the patient in this position one can often reach lesions that would be out of reach with the patient lying down. Examinations under ether are not infrequently necessary, and in not a few cases exploratory laparotomy, as recommended by Allis in 1895, should be done.

Every rectal neoplasm should be regarded as malignant until it is proved to be innocent. In this connection it should be remembered that benign and malignant neoplasms may coexist, and that benign tumors may become malignant. Tuttle (10) says that papilloma and adenoma may be transformed into carcinoma, and he also emphasizes the well known fact that the most accessible portion of a given neoplasm may show no signs of malignancy, while other portions may be characteristically malignant. Cancer of the rectum or sigmoid rarely if ever develops from ulcer, fistula, or stricture. It is important to remember, however, that cancers of this region are peculiarly prone to infection. Not infrequently nonmalignant tumors are removed under the impression that they are malignant, and palliative operations are done for supposed malignant conditions which subsequent events prove to be nonmalignant.

Cures following colostomy for supposed malignant disease may be explained on the ground of mistaken diagnosis. McCosh (11) reports a case in which he excised a growth under the impression that it was malignant and made an abdominal anus. Later the growth was found to be benign and the ends of the gut were united. Brewer (12) reports a case in which on opening the abdomen a supposed inoperable cancer of the sigmoid was found. A colostomy was done and the patient improved so much that at her request the colostomy was closed. At the second laparotomy the sigmoid was found to be normal in appearance. Brewer regarded the condition of the sigmoid in this case as due to syphilis. Stimson (13) at the same meeting reported a similar case, in which the mass was in the transverse colon. At the autopsy, three years later, no trace of growth was found.



FIG. 2.—Lower four and a half inches of rectum including anus excised for cancer. The crosses mark the outer limits of the growth, which has raised margins with excavated centre. The mucocutaneous anal border is below. Note the wide margin of health tissue around the growth.

CASE I. December 12, 1907, I operated, at Hope Hospital, upon Mrs. Y., who was referred to me by Doctor Ely, of Plymouth, Indiana. The patient had been having fecal vomiting for forty-eight hours when she was admitted. On opening the abdomen there was found what was taken to be an inoperable carcinoma of the lower sigmoid. The gut was divided well above the disease, the lower segment closed and dropped, and the upper end anchored in the wound, establishing an inguinal anus. The patient was discharged from the hospital nineteen days after the operation.

Some months later I saw the patient at her home. She seemed to be in good health, but was anxious to have the artificial anus closed. I explained to her why this could not or should not be done. The

artificial anus at this time seemed quite small, due to cicatricial contraction. Later this contraction increased until it became very difficult for the bowel to empty itself and the patient suffered severely at times on this account. During one of these attacks of pain there occurred a stool via the natural anus, which was followed by relief. Shortly after this Doctor Ely wrote me that the artificial anus had completely closed and the patient was well.

During a subsequent visit to Plymouth, Doctor Ely had the patient come to his office, where I examined her. She seemed in perfect health. No trace could be found of her former trouble. A small scar marked the site of the former artificial anus. On September 30, 1911 (three years and nine months after the operation), Doctor Ely reports the patient to be still in good health.[1] It is well to add that Dr. B. P. Weaver assisted in the operation described, the ether being given by Dr. J. H. Gilpin, and that Doctor Ely, together with the usual nursing staff, witnessed the operation.

Owing to the extraordinary character of this case you will pardon me if I digress for a moment

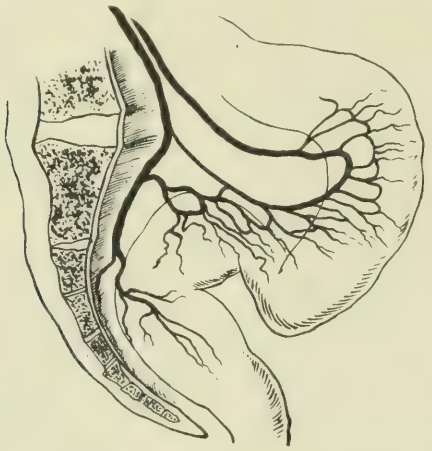


FIG. 3.—Taken from Hartman's article, *Annals of Surgery*, 1, pp. 1091 to 1909, showing the arterial circulation of the rectum with the common hemorrhoidal trunk and the anastomosis loop.

to explain my theory as to how nature reestablished the continuity of the gut. The upper segment of the gut had a long free mesentery and was therefore movable. The lower end was fixed by adhesions and was quite large and firm from growth of new tissue. It acted therefore as a sort of buttress against which the fecal current forced the upper segment. Naturally, adhesions formed where the two segments came into contact and as the result of a combined process, perhaps of pressure, absorption, and ulceration, the continuity was established, and in a short time thereafter the artificial anus was permanently closed. A reference to the illustration (Fig. 1) will make my explanation clear.

These cases are related to emphasize the fact that the diagnosis of carcinoma of the rectum and pelvic colon is often difficult and sometimes impossible without the aid of the microscope.

The practical lessons which such cases teach are: 1. That operative relief should be offered to all patients supposed to be suffering with cancer of the rectum and sigmoid, no matter how desperate they seem. 2. That radical operations should not be undertaken except upon positive microscopic evidence.

Both Doctor McCosh's patient and mine might have been saved much risk and inconvenience by a microscopic examination made at the time of operation. It goes without saying that surgery offers the only hope of cure in cancer of the rectum and sigmoid. Some failures to secure permanent cures may be accounted for because of the desire on the part of surgeons to avoid opening the peritoneal cavity and some because of a desire to save the anal sphincter. Of these two causes of failure the latter is the more productive.

Surgeons are losing their fear of opening the cavity of the peritoneum, but that it still exists to a harmful degree in relation to operations for cancer of the rectum is my firm conviction. Opening of the peritoneum *per se* adds no material risk, if properly done, to the operation but *per contra*, by increasing the mobility of the gut, it offers an additional security against insufficient removal of tissue on the one hand, and too much tension with its frequent dire results, on the other. Surgeons not infrequently take great pains to save the sphincter, only to find that after all it is relatively useless. Hartwell (14) says that good sphincters are the exception even when they are "saved," and that substitutes are better. Wollfler's (15) explanation of this fact is probably the correct one. He thinks the inefficiency of these "preserved" sphincters is due to disturbed innervation and consequent diminution of the reflex excitability of the mucosa. Leirman, Lilienthal, and others have reported good results, with Gersuny's method of treating the gut.

That particular method of operating should be chosen which is best adapted to the case in hand rather than to attempt to apply to all or even most cases a technique to which one may be partial. The Kraske sacral operation I have abandoned and the Quenu method, in which the internal iliacs are ligated, I have never used, because I have a feeling that the risk which this operation entails is greater than are the benefits it offers. I think with Hartwell that inguinal colostomy should be looked upon with less disfavor. An artificial anus properly made is not such a source of discomfort as is generally believed; certainly it results in infinitely less than do many cases of rectal cancer. Moreover, what may seem to be an inoperable condition at the time the artificial anus is made may later on prove to be quite favorable for radical surgery. Then, again, we must remember in this connection the element of human fallibility as illustrated in the cases of McCosh, Brewer, Stimson, and in my own case referred to in an earlier part of this paper.

Where the growth is so situated as to warrant the preservation of the anal end of the rectum I have found Noble's instrument of the greatest value in assisting in the approximation of the two ends of the gut. With the aid of this instrument one can make the approximation secure and with reasonable speed in cases in which without some such aid it would be difficult or even impossible. When the growth is situated near the anus, and especially if it be of the squamous cell variety, the excision should include a wide area of skin around the anus.

[1] The case was, in my opinion, one of diverticulitis. The patient received no antisyphilitic treatment. The diagnosis of tuberculosis could not be established.

It is well to bear in mind that the inguinal glands are quite as apt to be involved as are the circumrectal glands in cancers near the anus. In growths thus situated it is well to begin the operation by sewing the anal opening tightly shut with strong silk or gut, leaving a long loop of thread with which to handle the gut in the further progress of the operation. After the gut is dissected loose and brought down, two clamps are placed well above the growth and the gut is amputated between the clamps. This technique removes the danger of disseminating the cancer cells and the danger of infection from the bowel secretion. In women a vertical incision in the posterior wall of the vagina gives the operator more room and makes it possible to remove more of the gut in women than it is feasible to remove by the perineal route in men. Fig. 2 shows four and one half inches of the rectum recently removed from a woman by this technique.

I have a firm conviction that the abdominal and the combined operations will be more frequently used in high growths as we become better acquainted with their advantages. The abdominal opening, with the patient in the Trendelenburg position, allows one to get a clear view of the pelvis and to judge accurately of the extent of the lymphatic invasion and of the invasion of contiguous structures; permits preliminary ligation of vessels, thus giving one a relatively bloodless operative field; it makes a safe anastomosis possible in cases wherein it would be impossible from below; and, in cases in which the growth is situated lower, it permits of the loosening of the rectum down to the anus; it permits the ligation of the common hemorrhoidal trunk above the anastomotic loop, thus allowing the gut to be brought down to skin of the perineum without danger of gangrene, as pointed out by Hartman (16), of Paris, and others. The accompanying illustration (Fig. 3) is taken from Hartman's article and shows the arterial circulation of the rectum as determined from injections made in his laboratory.[2] Hartman in his paper reports four recent abdominopelvic operations, with one death and three cures. He points out the fact that the death, which was due to hemorrhage, might have been avoided had both ends of the artery been ligated.

As yet the death rate from the abdominal and combined operations is relatively high, but there can be little doubt but that it will rapidly be lowered as experience grows. Joseph A. Blake (17) reports twelve consecutive combined operations without a death. This is the most favorable experience with which I am acquainted and is certainly encouraging. Certainly we must not accept as final the verdict of Abbe (18) when he says: "At best, the victims of rectal cancer must be satisfied with a long extension of life, a reduced operative mortality, and the relatively slight discomfort of an inguinal anus."

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[2]C. B. Davis, in an article in the *Annals of Surgery* for October, 1910, p. 529, says that this anastomotic loop is sometimes absent and in such cases advises that the operation be terminated with a permanent colostomy.

207 WEST WAYNE STREET.

AN ATYPICAL CASE OF HYPERTHYROIDISM.

Report of a Case of Hyperthyroidism Complicated by Chronic Appendicitis, Retroversion of the Uterus, and a Bilateral Cervical Tear.

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and B. M. Rosebro, M. D.,
Richmond,
Instructor in Medicine, Medical College of Virginia; Instructor and Clinical Assistant in Pediatrics, University College of Medicine.

Mrs. F., aged thirty-eight years, married, previous history negative except for malaria, and indigestion from which she had suffered for the past ten years; and nervousness, which had increased during the past three years. She first noticed a lump in her neck about four years before, but as it was small and caused her no discomfort, slight attention was paid to it. Her chief complaint was indigestion, pain in the abdomen, and a bearing down in the pelvis. She had been excedingly nervous, had frequent "sick headaches," and felt great muscular weakness. Physical examination showed a slightly enlarged thyroid gland, the enlargement being confined to the right side; palpable liver; abdomen slightly tympanitic; bilateral cervical laceration; retroversion of the uterus; increased reflex at the knee and ankle; presence in the urine of indican, acetone, and phosphates; slight secondary anemia. Temperature 97° F.; pulse 82, regular and of good volume; respiration 20. The fact that the patient up to the time of her first menstrual period in the hospital did not present typical symptoms of hyperthyroidism led me to believe that the chief cause of her trouble lay in the abdomen and pelvis.

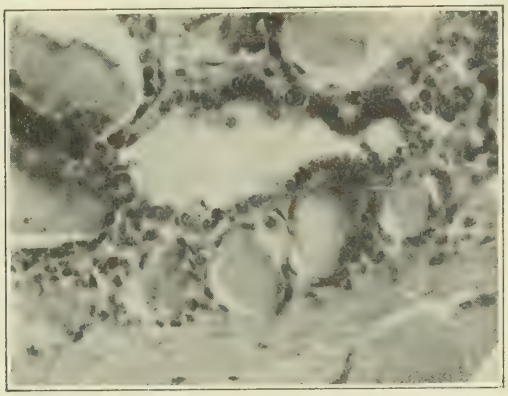
At her first mentsrual period after she came in the hospital, she became extremely nervous, pulse rate increased, varying between 100 and 110, and a tremor was present in both arms. This condition passed off in four or five days. At the time of operation, performed by Doctor Horsley for the correction of her pelvic and abdominal lesions, she again presented the same symptoms; her pulse remaining persistently high for twelve or fourteen days, although she had no symptoms indicating inflammatory condition or shock. Her nervousness during this period was extreme and the tremor marked. At her next menstrual period the same symptoms were present. Accompanying each of these periods of thyroid activity the gland was tense. On account of her age and the fact that she would be compelled on return home to do considerable work, we decided to remove the hypertrophied portion of the gland, in spite of the fact that the toxemia from the gland did not persist and that we believed the gland to be in a transitional stage. Her improvement after the operation was continuous and marked.

COMMENT BY DOCTOR HORSLEY.

The clinical and medical features of this case have been gone over by Doctor Rosebro and need no elaboration. To sum up the situation, the patient was one whose past history pointed to considerable worry and mental stress for the last few

*Case exhibited and report read before the Richmond Academy of Medicine and Surgery, [illegible] 1911; [illegible] by Dr. B. M. Rosebro.

years. This is a great factor in the etiology of exophthalmic goitre. When she first came under my observation the nervous symptoms were so prominent that I thought it was a medical case. Doctor Rosebro treated her very skillfully along medical lines, but as improvement was not marked, we concluded to correct the pathological conditions in the pelvis to see what effect this would have. The cervix was repaired, the uterus sutured in its proper position by the Gilliam operation, and the appendix, which was found quite adherent, was removed. Some improvement resulted, but the nervousness and occasional attacks of tachycardia were not materially affected and the thyroid gland was at least as large and as tense as it was before operation. The idea in operating was to remove as far as possible the disturbances that might be caused by the diseased condition of the uterus or the appendix, and so, by lessening their nervous influence, put the thyroid on less strain and consequently in better condition to return to its normal state. The operation on the thyroid was done just eleven days ago, and the wound, as you see, has



Section from thyroid magnified 275 diameters. Central acinus shows absorbable colloid, abundant epithelium, and some folding in of walls of the acinus. While acini with stainable colloid and scanty epithelium are frequently met with in these sections, those showing the characteristics of the central acinus in the photomicrograph are too abundant to be accounted for by a mere compensatory hypertrophy and seem to correspond histologically with the clinical picture of the early stages of hyperthyroidism.

healed entirely except at one point where a tube was placed, from which a small amount of serum now drains. In the course of time this scar will be very inconspicuous. As the right lobe of the thyriod contained the chief enlargement, this lobe and the isthmus of the thyroid were removed. The technique followed was the usual one of such operations and presented no difficulty. The entire operation, including ligation of the vessels and suturing of the skin, was finished in thirty minutes and the patient left the table in good condition.

The pathology of exophthalmic goitre is of much interest. Doctor Wilson, of the Mayos' clinic, has probably done more toward clearing up the pathology of exophthalmic goitre than any one since the first descriptions of the disease. He and his associates have not only exposed the ancient fallacy that there is no connection between simple goitre and exophthalmic goitre, but they have shown that one of these diseases is frequently associated with the other, or rather that one gradually merges into the other. Sometimes the simple goitre becomes an exophthalmic goitre, and again an exophthalmic goitre may merge into a simple goitre by degeneration of its cells. The clinical symptoms of a goitre, whether it be simple or exophthalmic, correspond quite closely with the histological structures. Enlargement of a simple goitre is usually due either to a cyst or to a diffuse collection of colloid material which is easily stained and difficult to absorb. The clinical conditions that occur may be one of the following three things, depending upon the behavior of the goitre. First, there may be an hypertrophy of the normal structures of the thyroid that are unaffected by the enlargement. This may fully compensate for that portion of the thyroid that has been thrown out of commission, and, consequently, no clinical symptoms will occur. Second, an attempt at hypertrophy will more than compensate for that portion of the goitre that has been affected by the accumulation of colloids, or by the formation of a cyst, and an excess of thyroid secretion will be produced, causing hyperthyroidism with its attendant symptoms. Third, the compensatory hypertrophy may not occur, and so much of the thyroid tissue will be affected by the goitre that not enough thyroid secretion will be produced and myxedema results.

In the case under consideration, there has probably been a slight enlargement of the thyroid gland for four years, and the extra demand made upon the thyroid on account of the worry and nervous strain has caused an abnormal hypertrophy in order, not only to overcome the small diffuse goitre, but to meet the demands of the nervous strain. This is shown in the microscopical section before you. One of the acini can be seen in the middle of the microscopic field from which the colloid material has disappeared, showing that it is readily absorbed. This acinus is lined with epithelium, in some places two layers thick, and at points these layers project into the lumen. In this way more epithelial cells are formed, and consequently more of the thyroid secretion is produced. At the same time, the character of the secretion is thinner and more readily absorbable. The histological picture of a simple goitre is that of a swollen acinus filled with stainable colloid and lined with flat, atrophied epithelium in single layers. Sometimes the epithelium has practically disappeared. The presence of symptoms of hyperthyroidism corresponds directly to the amount of epithelial cells that can be found in the thyroid. The more epithelial cells the more thyroid secretion is produced and the more marked the symptoms of hyperthyroidism. If the thyroid cells are small in amount, there are no symptoms of hyperthyroidism, or if the epithelial cells are exceedingly deficient, there are symptoms of myxedema. The histological picture of the condition of this thyroid tallies quite closely with the clinical symptoms, and from a microscopic section of the thyroid the symptoms of the patient can usually be described, provided the sections are from typical portions of the enlarged thyroid (Wilson).

NOTE.

Recent letters (November 25, 1911) from both the patient and her physician indicate marked im-

provement. A letter from her physician, Dr. E. R. Turnbull, of Lawrenceville, Virginia, under date of November 23, 1911, says that he had seen her on the date of his letter, that she was looking well, and has gained in weight. He writes that she feels well, with the exception of spells of headache and vomiting, which come on every two or three weeks. Her pulse rate is 72, and her digestion is good except when she has the headache. She suffers no pain, and is doing her work. There is no enlargement in the neck.

421 West Grace Street.

A CASE OF PURPURA HÆMORRHAGICA.*

By J. M. Wallfield,
New York.

Purpura has many names; it is called morbus maculosus Werlhofii, Henoch's purpura, peliosis rheumatica Schonleinii.

Dr. J. H. Pratt (1) systematized the different symptoms of the disease and classified them according to their severity. His subdivision of idiopathic purpura is considered the best. As the case which is to be reported passed from one stage to the other almost in the same order as Doctor Pratt arranged them, it seems to be quite in place to mention his classification. Purpura simplex, simple purpura with arthritis, or purpura rheumatica, purpura abdominalis, or Henoch's purpura, purpura hæmorrhagica. There is purpura fulminans, which the case in question did not have. This kind of purpura usually ends fatally.

M. Litten (2) remarks: "We never know, however, whether the disease will continue in this form or develop into the more severe form of purpura hæmorrhagica."

George S. was brought by his mother to the office on April 14, 1911. She stated that the boy fell on his right forearm and complained of pain and swelling. The boy is seven and a half years old, was born in Russia, and came to this country about four years ago. The family history showed that there was rheumatism in both parents. The mother was suffering with rheumatism of both legs for the last three years. The father was confined to bed for six weeks with articular rheumatism a year ago. One sister died during an attack of scarlet fever. Three more sisters were well.

George was the fifth and last child born in the family. His birth was normal. At the age of four months he contracted a cold and coughed for three weeks. Mother thought it was the whooping cough. At the age of two years he had fever for two weeks and passed milklike urine. At six and a half years he contracted measles and was sick for three weeks. He coughed and had fever. Since then he had been bright and playful. He complained occasionally of pain in the abdomen, but was not confined to bed on account of this pain.

Present status. The boy looked thin, pale with a yellowish tint, eyes dull, tongue coated, but moist; apex beat visible. A swelling on right forearm extended from elbow joint to about middle of outer surface of forearm; another visible swelling in left popliteal space. He refused to stand on his legs on account of weakness in both knees. There were seen dark brown spots on both forearms, on both thighs and legs, and a few scattered spots on back between the scapulæ. Some spots were darker, others brighter in color. They were irregular in shape, differed in size, from a split pea to one half inch in diameter. These spots were not elevated above the surface of the skin and did not disappear on pressure.

The skin was dry; muscles were flabby. There was hyperesthesia of the abdominal region, chiefly around umbilicus and right side of abdomen; reflexes normal; heart sounds clear with an accentuated second sound; some moist râles posteriorly. The abdomen was markedly tympanitic. The edge of the liver projected about two fingers below border of ribs; spleen not palpable. Height two feet, ten inches; weight forty-seven and a half pounds. Pulse 110, respirations 24, temperature 101° F.



Fig. 1.—Purpura hæmorrhagica.

The mother thought the spots appeared about two days before, though she was not positive, as she did not pay attention to the spots on the body

The diagnosis of purpura simplex was made and the child was ordered to be kept in bed. A diet of milk and water, cereals, and strained orange juice was ordered. Aromatic cascara internally and olive oil externally were prescribed.

April 17th. Patient complained of pain in both knees and ankles. Purpuric spots increased in number.

The diagnosis was changed to purpura rheumatica.

April 19th. Patient vomited after breakfast. The vomitus contained streaks of red blood. As the patient bled from the nose the previous day it was difficult to say where the blood came from. On the same day he started to complain of severe abdominal pain, chiefly around navel. Pain was radiating toward right iliac fossa. The diagnosis was again changed to purpura abdominalis or Henoch's purpura. During the night patient was delirious.

April 20th. Codeine was administered and patient became quiet; to avoid, if possible, vomiting, no other medication by mouth was administered for the last two days. The bowels did not move and the distention of abdomen

*Read before the Williamsburgh Medical Society, November 13, 1911.

was marked. A soap and water enema was given very cautiously and a dark brown fluid returned.

April 21st. Patient passed some liquid feces with blood. The diagnosis of purpura hæmorrhagica was made. Pain in abdomen less severe. The pain in the joints was felt on moving only; patient very restless and nauseated.

The following ten days patient was alternately better and worse, but there were no hemorrhages.

Temperature ranged from 99° to 102.5° F. Urine contained some albumin.

May 1st. Spots were getting pale; patient was quiet and felt hungry. Mother gave him a soft boiled egg.

May 2d. The boy vomited, the pain in the abdomen recurred, and blood appeared in the passage. The vomitus did not contain blood.

May 5th. Patient felt well since the day before. The father gave him an orange, which the boy ate with the pulp.

May 6th. Severe pain in the abdomen which lasted twenty-four hours.

From May 7th, the improvement went on without interruption.

May 16th. Doctor Kerr photographed the legs and thighs where the purpuric spots were still to be seen. The rest of the body was clear. The heart was found normal.

May 18th. The mother brought the boy to the office. She was in great distress, but not the boy. Both his buttocks were of a rich scarlet color in one continuous mass.



FIG. 2.—Purpura hæmorrhagica.

Not a speck of normal skin could be found on the gluteal regions. Owing to the cloudy weather the lesion was not photographed. Within forty-eight hours the parts cleared up and resumed a normal color.

On June 10th, the boy was well. He lost during the sickness about two pounds in weight. During convalescence strychnine, iron, and quinine were given to him. The diet was gradually increased.

The points of interest in this case are:

1. The gradual development from one form to another.

2. The pain was always localized on the right side of the abdomen, simulating an appendicular attack.

3. The history of rheumatism in both parents.

4. Two severe relapses on slight changes in diet during improvement. Doctor Hecker (3), of Munich, came to the conclusion that one case of Henoch's disease was due to errors in diet and alcoholism. His patient was a boy, ten years old, a son of a restaurant keeper.

5. The uncertainty of the prognosis, though it looked a mild case at the start. Professor Starr (4) says: "Prognosis is always grave." Doctor Hecker (5) warns us to be cautious on account of the grave condition and impending nephritis.

6. The swelling in the popliteal space. Doctor Pratt (6) says that no case of bleeding into the joints in purpura has been found in recent literature.

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4101 TWELFTH AVENUE, BROOKLYN.

THE SALVATION OF THE CONSUMPTIVE.

BY C. P. WERTENBAKER, M. D.,
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In the fight against tuberculosis it has become evident that the great mass of the poorer classes suffering from the disease are not being reached effectively. In order to produce comprehensive and lasting results something more than is now being done must be accomplished. It is undoubtedly true that the campaign of education, and the various activities of the antituberculosis associations, sanatoriums, dispensaries, camps, visiting nurses, "class methods," etc., are doing an immense amount of good, not only for tuberculosis, but for general sanitation as well, yet with all this activity, and the widespread interest that is taken in the work by all classes of society, the tuberculosis problem has barely been scratched on the surface.

That this is true need not be wondered at, for the problem is so vast, and in its ramifications touches nearly every phase of our business, social and private life, that progress must be made slowly. With a wider experience we are learning to adapt our methods to the necessities as they arise, and are bringing more effective measures to the work.

One of the great obstacles in the path of eradicating tuberculosis is that the largest number of consumptives is among a class of people who depend upon their daily labor for their bread. Many of these people, either from poverty, environment, or the necessities of their labor, or from stupidity, carelessness, or indifference, are unable to put into practice those principles of sanitation that are necessary to protect themselves and others from the disease. The "unteachable" consumptive forms a

large class, but it is small when compared with that formed by the "unable" consumptive. Let the reason be what it may, the fact remains that a large number of consumptives do not take the necessary precautions to prevent the spread of the disease, and until some means is devised to care for this class of cases, it is useless to hope to solve the tuberculosis problem.

One of the chief difficulties in the way of effective work is that there are not enough places to receive the consumptives who wish to go to them. Every sanatorium that gives free treatment is not only crowded to the limits of its capacity, but has a long waiting list of applicants. The number of consumptives is so large and the cost of their care and treatment has up to the present time been so great that it has been impracticable to provide adequate facilities for them.

The only practical way in which this great army of invalids can receive the necessary care is for each community to provide for its own cases. This is attacking the problem in detail, and consequently with probability of success. However, in order to do this it will be necessary to provide for some means whereby the cost of this work shall be kept at a figure that will be in the reach of every community. It is proposed to show here how this can be done.

THE PLAN.

1. The establishment of farm sanatoriums where tuberculous patients can receive care and treatment; these farms to be conducted on modern scientific principles under the direction of a practical, trained agriculturist, with the view of operating the farm as a business enterprise, the products being applied to the support of the patients. The farm is to be operated by a regularly employed force of *healthy* farm laborers and not by patients. The expenses for the care and treatment of the patients, exclusive of food which is to be supplied by the farm, should be defrayed by the city or town.

2. The farm should be located near the territory from which the patients are to be drawn, preferably on the line of a trolley or railroad, within easy distance of the city or town, for convenience of access, and to enable patients to have visits from their family and friends.

3. Suitable buildings for sheltering the patients should be provided. The medical care and treatment of the patients should be under the direction of a physician who should reside on the farm, or make daily visits to it. Cities and towns having a health department could operate the farm sanatorium as an adjunct to the health department, at little or no increased cost.

4. Patients can be allowed to do such work as may be permitted by the physician in charge. This may be duties in connection with the institution or farm, or work that has been especially provided for them.

5. For all such regularly assigned work *each patient should be paid a specified price,* the amount earned being credited to him, and he should be allowed to draw the money at his pleasure. The scale of prices paid patients would have to be determined by circumstances, but a tentative basis of ten cents an hour, or at that rate for piece work, is suggested.

6. This plan can be carried on in connection with the agricultural experiment stations now in operation in many States, and farms connected with almshouses and other institutions can be adapted to it, as well as at a regularly constituted farm sanatorium.

SOME OF THE ADVANTAGES OF THE PLAN.

1. It provides a place convenient to the homes of the patients to which they can be removed, and receive care and treatment under the best obtainable conditions at a minimum cost.

2. The location of the farm conveniently to the homes of the patients will permit visits from their families and friends, thus keeping them in touch with their home life. This is a very important feature in inducing patients to go to the farm, and in keeping them contented while there. One of the reasons why patients object to going to an institution is that they are usually removed from familiar associations, and placed among strangers in unfamiliar surroundings. If patients can feel that they are still in touch with their friends, who can reach them quickly in case they should be seriously ill, they will feel less hesitancy about leaving home. Furthermore, if the patient can occasionally visit his home and take a meal with his family, this will relieve the monotony of life on the farm and satisfy the longing to revisit old haunts, and he will return to the farm better satisfied to remain, and in better condition to be benefited by treatment.

3. The advantage to the community in the removal of a tuberculous patient to a place where he ceases to be a factor in the spread of the disease is so apparent as to need no discussion. The advantage to the patient is equally great and obvious.

4. The fact that the farm can be made to supply food for the patients permits the use of all available funds for their care and treatment, thus greatly reducing the cost, which in other forms of sanatoriums is often almost prohibitive. The farm method will also permit the transfer to it of an entire family, as in the case of a tuberculous mother with several small children from whom she cannot well be separated, thus solving what has often proved a knotty problem, what to do with the children if the mother goes to an institution. In a tent or shack on a farm sanatorium they can still have a mother's care, and grow strong and well under improved surroundings.

5. Particular attention is invited to that feature of the plan which provides that patients should be paid for the work done by them; this is most important, and will contribute largely to its success. As the idea is somewhat unusual it may be well to examine it more closely.

It must be remembered that the first object in view is to get the tuberculous patient away from the centres of population, in order to remove a focus of infection that is spreading the disease to many innocent victims, each of whom infects others, and the chain becomes interminable. It would be economy both of money and of lives, to pay each consumptive one hundred dollars or more, if thereby we could be assured that he would never infect any other person. Could this be done the

end of the fight against tuberculosis would be in sight, and the money forthcoming. Unfortunately no such solution of the problem is possible. We can, however, reduce the dangers of spreading the infection to a minimum if we can remove the patient from association with the general public, and induce him to adopt the necessary measures. In the absence of legal authority to handle tuberculosis as is done with smallpox or other acute infectious diseases, and in the present state of public sentiment on the subject, it is impracticable to remove a tuberculous patient from his home, except with the consent of the patient and his friends. In order to obtain this consent (and this is especially true of the working classes) it is often necessary to provide some attraction in the way of earning money while undergoing treatment, to induce the patient even to consider the question of giving up work and going to an institution.

The one thing that has been most deeply impressed upon the individual who has to labor with his hands for his daily bread is the necessity for earning money. He has seen too many instances of what happens to laboring people who have no money, and not even the fear of death itself would prevent his attempting to work, rather than be left without some income with which to help his family and himself.

There is another point to be considered which is in itself a most important reason for paying patients for their work. This point is rather more subtle, and it is seldom that it will be acknowledged as a reason for not going to a charitable institution, but it is not the less potent on that account. It is that the working classes are extremely sensitive to the opinions of their associates. So long as a workman can "hold his job" and get his pay envelope at the end of the week, he can hold up his head among his fellows, but when he can no longer do this, and cannot earn his daily or weekly stipend, he feels that his fellow workmen look on him as "down and out," and if in addition to this he has to accept help from a charitable institution, the blow to his pride is most severe. He feels that he is a pauper.

In order to make these farms, or any other institution, attractive to the very class we are so anxious to reach, it is necessary to cater to these two most powerful influences in their lives. If a workingman can feel, in going to one of these farms, that he does so for his health, with no sacrifice to his pride, that he is merely borrowing this help from the city, and that he can repay it when he has recovered his health if he wishes to do so, he would doubtless take advantage of the opportunity offered.

If, in addition to this, he can feel that he can earn something, no matter how little, so that he will not be entirely without money, one of the chief obstacles in keeping him from the farm will be removed. Once on the farm and accustomed to its routine, with occasional visits from his family and friends, there should be but little trouble in keeping him there.

It is well known that the enforced idleness in the treatment of certain stages of consumption has a tendency to demoralize the patient, and encourages continued idleness after he improves. This phase of the tuberculosis problem has given grave concern to those interested in it. It would seem that the inducement of earning money would lead the patient to desire such employment, and if this employment is withheld until the patient is fit to work, it is probable that he will look forward with great interest to the time when he would be well enough to work, and would do all in his power to hasten his recovery, in order to enter the class of patients who are earning money.

Thus an object to be gained is set before each patient, the attainment of which must depend upon his condition. He has therefore an incentive, not only to improve, but also to go to work, thus correcting the tendency to become a confirmed idler. As each new goal is reached it marks an era in his progress, and stimulates him to further attainments. It gives him an object in life, which is always necessary to the best results. With such results it is evident that the money spent in paying patients for their work is the best investment that a city can make.

6. Assuming that a patient has been successfully treated and the disease has been arrested or cured, *what is to become of him?* The sanatorium authorities tell us it is a comparatively easy task to arrest the disease if the patient can be treated in the earlier stages, but it is exceedingly difficult to prevent a relapse if the patient goes back to his old environment and habits. Here again these farms will demonstrate their utility. When these patients have regained their strength they will be able to do farm work, and from the recovered patients the farm force can be recruited.

Should the sanatorium farm have no place for him, there are other farms where his services would be welcomed. There is usually a position for the man or woman who is willing to do farm work. It is the one occupation that is not overcrowded.

Thus it will be seen that farm sanatoriums would benefit a community in several ways. Not only would they remove the consumptive patient from the city where he is a menace to his fellows, and give him a chance to recover his health, but they would also help to recruit the farming class, and to this extent relieve the overcrowding in the cities and towns. This is being urged as necessary by sociologists, sanitarians, and others. The slogan of to-day is "Back to the farm," and these farm sanatoriums offer an opportunity to every community to inaugurate the movement among its own people, and divert to them a class that can be most benefited by such a life, and whose absence from the crowded city will be conducive to the health of those who remain.

CAN FARM SANATORIA BE MADE SUCCESSFUL?

The first question to be decided in regard to the establishment of a farm sanatorium, is whether or not it can be made a success to the extent of supplying food for the patients. It is believed that each community can answer this question for itself, and usually in the affirmative. If there are farms in the neighborhood that are successful, it would seem that the sanatorium farm should succeed if the same methods were applied.

We are told by scientific agriculturalists that with modern methods of intensive farming, a small plot

of ground can be made to yield a good living for a small family. The magazines and papers are filled with accounts of what can be raised on an acre of land. The older countries of Europe, where land is scarce, have shown us what can be done with a little land. Has the time not come for us to learn the lesson? Is it not practicable that this method of intensive farming can be adapted to the solving of the tuberculosis problem?

When a farm sanatorium is established the agricultural department of the State and the United States could be called on to show how it can be made to produce enough to feed the patients sent to it. This puts the matter "up to" the agricultural departments, and it may be safely assumed that they will welcome the opportunity to "make good," and will utilize the farm to demonstrate the best methods of agriculture to the farmers in that section of country. This would insure the success of the farm, and provide food for the patients.

Within the past few years the tendency toward the farm sanatorium has become more marked, both in this country and abroad, and while as yet most of these efforts are in an embryonic stage, enough has been accomplished to show, with greater experience, and better methods of intensive farming, these farms can be made successful.

The attempt is made here to combine in one plan the best methods and features now in use, with others that seem desirable, and in addition to take into consideration the human aspect of the work, the thoughts, feelings, and wishes of the patients themselves. It is an attempt to reach the man or woman as an individual, rather than as a "case," and to offer a practical solution for the question of cost in caring for the consumptive.

Among the institutions that have taken up the farm idea may be noted the Eudowood Sanatorium near Baltimore. This institution, conducted largely by private charity, consists of three units, adjacent to each other, operated independently, but under one executive head; a sanatorium for recent cases, a hospital for advanced cases, and a farm colony.

The farm contains about 150 acres of arable land, and has been in operation something over two years. The land was much depleted, and it needed time and hard work to bring it to a state of fertility. It is operated by expatients, most of whom were artizans with no previous experience with farm work. One was a shoemaker, one a potter, one a blacksmith, four were tailors, and two were indoor workers. All of these have recovered or arrested cases of consumption, had been patients of the institution, and were selected for this work because a return to their old work or environment would probably have brought on a return of the disease. Operating the farm with these men under many difficulties, and with very limited means, it cleared $1,251.77 net profits during the second year, and expected to do better the third.

If this farm colony, operating under many disadvantages, could make a clear profit of over twelve hundred dollars in one year, it would seem a foregone conclusion that a farm operated by a regular force of healthy farm laborers, under the direction of a trained agriculturalist, using intensive farming methods should obtain far better results.

AN OPPORTUNITY FOR THE PHILANTHROPIC.

Farm sanatoriums offer a golden opportunity for the philanthropist, who like Abou Ben Adhem loves his fellow men, and wishes to benefit them.

In order to furnish accurate information to communities that may wish to start a farm sanatorium, as to the cost of establishing and operating such an institution, it is desirable to operate a number of these farms in various parts of the United States, to demonstrate that they are practicable, and their benefit to the community. Such farms would not only be object lessons in the economical handling of consumption that would be of untold value, but they would also become demonstration farms for the best methods of agriculture.

The man or woman who is seeking a means to do the greatest good to fellow men will find in the farm sanatorium an outlet for their best efforts.

It is believed, when the benefits of the farm sanatorium become better known, that each city and town will see the advantages of it for their own protection, and to aid the consumptive.

The local philanthropist wishing to perpetuate his or her name in the community, will find in the farm sanatorium an opportunity for a memorial gift that will go far to saving the lives of many persons who would otherwise die of consumption. In so doing he would realize that he has contributed to the solution of the most important health problem that confronts the world to-day—the salvation of the consumptive.

VACCINE THERAPY IN DISEASES OF THE EAR, NOSE, AND THROAT.*

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The reports of McDonald (1), Weston and Kolmer (2), Conners (4), Christie (7), and Jacobs (8) all show beyond question that the use of vaccines was instrumental in the cure of three times as many cases of otitis media in the space of thirty days as was experienced without their use. As the number of cases cited runs into nearly 200, and as parallel cases are used in comparison, but few will be given in corroboration by the writer. Moreover, these were the product of the more virulent infections, such as scarlatina, influenza, typhoid fever, and diphtheria; so the test was severe, and the conclusions were justified. These cases were chiefly the acute and subacute infections, but in the chronic conditions the reports of otologists and bacteriologists are not so favorable as to cure, though they agree that amelioration of the symptoms does occur. While but few cases of this type will be given here, yet an attempt will be made to do so in such a way that the uses and limitations of vaccines in cases of this character will be clearly defined, and in a somewhat more hopeful light than has been the experience of most observers. Naturally a chronic affection is not so amenable to treatment as an acute disorder, whatever be the site of

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the lesion, especially when neglect has caused partial destruction of the parts involved, such as the ossicles, the septum, the tonsillar pillars, or the cartilages of the larynx.

The prerequisite to trustworthy effects and good results in the method of treatment advocated here is perfection of technique in culture and preparation of the vaccine. Thus, many fail to cure because they fail to isolate the causative organism, or securing it, they destroy the efficiency of the vaccine in the process of preparation. It must be borne in mind always that a vaccine is a very delicate substance, and easily destroyed by a few degrees of heat in excess of that required to secure sterilization. However, the preparation of vaccine is essentially a task for the bacteriologist and never to be attempted by the clinician; likewise, the latter should have control of the case under treatment, with consultation concerning the dose and intervals, should the case seem to require differentiation in these two respects. While it has not been shown conclusively that the use of an inert vaccine or an unusually large dose of an active one has worked permanent mischief to a patient, yet obviously such procedures are to be vigilantly guarded against, as the unfavorable reports resulting from the lack of progress of such a case would deter others from employing this therapy, and thus deprive patients of the enjoyment of the benefits of a quickened convalescence, not forgetting the setback which the study and experimentation of this subject would receive.

In all chronic affections falling within the domain of the otologist and laryngologist, which have suffered neglect or resisted intelligent treatment, it is no easy matter to secure the causative organism (largely due to reinfection on top of the basic trouble, and the fastening on decayed tissues by saprophytes) and repeated reculturing is often necessary before it would be fair to assume failure on the part of vaccines to effect a cure.

Writers on the subject differ so widely, and their proper determination is so difficult that the opsonic index and the much discussed "negative phase" have been disregarded in the writer's work. The local and general reaction, the temperature, and the patient's metabolism have been the sole guide to the size and frequency of the doses, which are as follows, taking the adult as a standard:

Staphylococcus albus and aureus,	250 millions
Streptococcus pyogenes,	25 millions
Bacillus of proteus type,	30 millions
Bacillus pseudodiphtheriæ,	40 millions
Bacillus pyocyaneus,	60 millions
Bacillus Friedlander encapsulatus,	75 millions

Injections were repeated at intervals of from four to seven days, and increased one third, depending on the reactions; thus, one patient received at the writer's hands twenty-five millions streptococcic vaccine in the afternoon, and this was repeated at 9 o'clock the next morning. Again, another received 250 millions staphylococcic vaccine, which was not repeated for three weeks, when 400 were given. The opportunity and necessity for the exercise of judgment, and close watch over the effect of treatment are always present. It has been urged by some that the injection be given as nearly as possible and conveniently to the site of the lesion, but the author has tried this in the skin posterior to the sternomastoid muscle, and between the scapulæ without any effect superior to that obtained by the routine use of the forearm for the reception of the vaccine. An all glass tuberculin syringe, holding one cubic centimetre graduated into 100 parts, boiled with its needle before use and allowed to cool, is employed, and the needle is driven into the subcutaneous tissue as far as the hilt, after the skin has been painted a deep mahogany color with tincture of iodine. It seems of interest to state here that in over 150 injections no infection from the needle has been observed. The local reaction is always somewhat painful in first doses for several days, and the zone of inflammatory reaction and swelling marked, but in subsequent doses both these effects become negligible, despite the gradually increasing doses.

THROAT CASES.

In these, attention is directed to the localizing and limiting of infection, peculiarly the effect and province of vaccine. This is essentially conservative and complementary to nature, which strives everywhere to hem infection in and keep it a local condition, familiar in the formation of sequestra, adenitis, and the resistance offered the typhoid organism by Peyer's patches.

Case I. A physician had had sore throat on numerous occasions due to occluded tonsillar crypts, and, presuming this again to be his condition, sought relief in the writer's office for pain in the throat, radiating into the ear of that side, of three days' duration. Upon examination, the right tonsil was seen to be swollen, dark red, and presenting one pouting crypt, which in the process of being curetted yielded much detritus and some pus. The resulting cavity was wiped out with fifty per cent argyrol. At this time the edema of the pillars and uvula was marked, and the patient said such had been the case for two days. A gargle of Dobell's solution having effected no apparent improvement during the next two days, he returned showing a throat of unchanged appearance, save now three crypts presented with gaping yellow orifices, but devoid of content, though deeply probed. He was sent to bed with a temperature of 99.2° F. and received 40 millions of a stock preparation of streptococcic vaccine at 2 p. m. Late that night and the next morning large quantities of thick pus were discharged from the crypt first affected, which had the day before given up nothing upon very careful and deep exploration. The relief was great and immediate, though the edema lingered in lessening degree for twelve hours after the injection. At no time, even four hours before the discharge of pus, was there any fluctuation, or any local manifestation of it; nor was there any septic temperature, which got no higher than 101° F., and this rise over the original fever of 100° F. the day before was due to the reaction of the injection.

Case II. Another physician, who had been suffering for a week with what he supposed to be a parenchymatous amygdalitis, and was exhausted in mind and body, after using all the routine measures with which he was as a laryngologist perfectly familiar, asked that the writer to take charge of his case. The tonsils when first examined revealed the brawny, dark red appearance so suggestive of streptococcic infection, and were much enlarged in the anteroposterior direction, though not projecting unduly toward the uvula. No crypts were seen, nor was there any fluctuation or bulging in the supratonsillar region. Twenty-five millions of a stock streptococcic vaccine were injected at 6 p. m., and in five hours his temperature fell from 101.2° to 98.8° F., accompanied by a copious discharge of pus from the tonsils, with immediate relief of all unpleasant and painful symptoms. Later in the night he relapsed into his former condition, and was given the next morning at nine 40 millions. The writer returned in six hours, and was present when the second reaction occurred, which was

so remarkable as to justify a somewhat detailed description. The patient was trying to talk and succeeding only in that full mouthed way considered characteristic of periamygdalar abscess (which had been the diagnosis suggested some days before by another attendant), when he suddenly motioned to the nurse for a pus basin into which he expectorated thick, heavy pus, and at once spoke in a normal voice, and swallowed a glassful of water, as he said, without agony for the first time in a week, save the brief respite of the night before. His convalescence was uninterrupted.

CASE III. A muscular man, by trade a bartender, had had great pain in his throat four days and been unable to swallow anything at all for the preceding two days. He was weak, in a cold, clammy sweat, and evidently in great misery. His temperature was only 99.2° F., though the left tonsil had every appearance of periamygdalar infection, save fluctuation, but a deep and searching incision, followed by careful and extensive probing, released no pus. The patient was not relieved in any way by the bloodletting, and was later given 25 millions stock streptococcic vaccine and put to bed, thoroughly prostrated and suffering greatly. Twelve hours later his temperature, which had mounted steadily to 101° F., during the night, fell to normal, and he was able to swallow solids and talk naturally and without pain. No pus ever escaped from the wound or from any part of either tonsil.

EAR CASES.

Where there is caries of any part of the auditory tract, vaccines can effect no permanent good; where the discharge originates from the soft parts, their use can be of service, if the causative organism is isolated and secured. Herein is briefly stated the province and limitation of vaccine therapy in chronic suppurative otitis media, and in sinuses following operation on the mastoid.

The limiting of the spread of infection was observed as one of the effects of vaccines in throat cases; so here, where the infections are more prone to linger, and the elaborated toxines to become absorbed, is exhibited more prominently the striking effect on metabolism. Bruce (18) invited attention to the remarkable effects of vaccine therapy in building up the physique of patients suffering from chronic mania, in whom lack of nutrition is so often a prominent symptom. The same corrective tendency is to be found in the treatment of chronic middle ear disease. However, this is not to be accounted for solely by the cessation of the suppurative process, as metabolic changes are slow ordinarily after the local lesion ceases to poison. In long suppuration of the middle ear, and in stubborn sinuses following the various mastoid operations, there is encountered often a septic condition, almost a cachexia, in a patient, whose anemia, depleted vitality, and loss of appetite are familiar to all otologists. The speedy correction of this untoward state and the cessation of the pus formation are, under vaccine ministration, the results of one and the same process, so brilliantly exploited by Ehrlich in his side chain theory (22). In brief, the receptors previously having in health the function of uniting with a food molecule and assimilating it, under disease conditions unite with a molecule of toxine, thus shutting off that much nutrition from the body. Naturally when the toxines are numerous, numerous receptors are preempted by them, and the metabolism of the body suffers proportionate detriment. Thus in destroying these toxines, the vaccine renders available for food assimilation receptors heretofore occupied with toxine assimilation. The apparent effect of vaccine therapy on metabolism seems to bear out this theory.

CASE IV. A young woman of excellent general condition desired treatment for a bilateral suppurative otitis media of two months' duration. She had had similar attacks in the previous four or five years, but in none had the discharge been so profuse, or the mastoid pain and deafness so prominent. The left mastoid was found to be very sensitive on pressure over the antrum, and the right canal nearly filled by a long, soft polyp, which was removed with the curette from its attachment to the drum. Cultures from this point yielded a pure growth of staphylococcus aureus, of which 250 millions autogenous vaccine were injected into the forearm. The usual cleansing irrigations were ordered for home use, and the discharge ceased on the eighth day after the administration of the vaccine. A precautionary dose of 400 millions was given later. The deafness was relieved completely by six inflations of the Eustachian tube.

CASE V. A woman, of neurotic tendency and fair health, had attempted to treat herself for a discharging ear by home remedies, conspicuous among which was a free use of cold cream in the canal, which required nearly an hour's diligent work in its removal with curette and irrigation, so hard and impacted had the mixture with desquamated epithelium and pus become. All drainage had ceased from the day on which the canal had been filled with the cold cream, two weeks before. The cultures having shown a pure growth of *Staphylococcus albus,* 250 millions autogenous vaccine resulted in cessation of the discharge in ten days, during which the ear was being irrigated with boric acid solution. Two weeks later the discharge recurred, as the patient did not return for the second, precautionary, dose, which she ultimately received, and the suppuration ceased four days thereafter. The deafness, which had been nearly absolute in the affected ear, yielded to three inflations of the middle ear. This case shows the necessity of giving an extra dose, even when the disease appears to have been cured.

CASE VI. A boy of five years, had at the age of two years scarlatina, followed by mastoiditis, the operation for which did not stop the middle ear discharge, though the postauricular wound healed promptly. A sequestrum was seen protruding into the canal; so a radical operation was done, and three large sequestra were removed. From the very beginning the wound was not prone to heal, and the discharge was both profuse and most offensive in odor. After it had been dressed for a month, and evidence was not lacking that it was of the type that undergoes caries frequently, a culture was taken from the deepest part of the cavity, and an autogenous vaccine prepared. The causative organism was found to be one of the proteus group of bacilli. At the time of the first dose, April 29th, the wound was filled with coarse, sloughing granulations, which had been cut down at every dressing, only to reform in two days. On this occasion he received 15 millions; May 3d, 15 millions; May 7th, 20 millions. At this stage it was observed that all odor and much of the discharge had ceased. May 11th, he received 30 millions; May 19th, 40 millions, and, on the 23d, the wound was healed.

In less than a month this child had changed from a fretful, ill natured, pasty faced boy, with no appetite or interest in what was taking place about him, into a child of natural impulses, good color, good appetite, and freedom from any septic color. In short, here is illustrated that metabolic change which mere absence of suppuration would not explain, but presence of the proper antitoxic corrective would.

CASE VII. A child of six years was operated upon for mastoiditis, and the wound later (four months) was curetted because of failure to close. Seven weeks after this curettement she was brought to the writer for advice as to the best method to hasten closure of the wound, which was then two inches deep, three quarters of an inch in diameter, and cone shaped. A culture yielded *Bacillus pseudodiphtheriæ,* and an autogenous vaccine was given, beginning with 10 millions. After a second dose had been

given, the granulations, which had been pale, flat and glazed, not bleeding on touch became raised into papillæ, bright red and easily made to bleed on the slightest swabbing. At an interval of six days, 30 millions were given, and the wound being measured was found to be one half inch less deep. After ten days 40 millions were given, and vaccine therapy laid aside as the child had become terrified at the mere sight of the syringe. However, the impetus given the healing process was sufficient to close in five weeks a wound that had not healed in five months, and had shown no evidences of the reparative process for two months before the use of vaccines.

Case VIII. A pale, poorly nourished child of six years had an acute mastoiditis following a suppurating ear of two weeks' duration. The operation revealed an epidural and circumsinous abscess, though the wound healed rapidly to a narrow channel at the bottom of which was uncovered bone, which remained bare of granulations for a month, and was consequently curetted, but still remained unhealthy. Six months later a sequestrum was removed and the same behavior was observed, i. e., healing to a narrow slit with bare bone at the bottom. This condition was allowed to remain for a while, but finally an autogenous vaccine of one of the proteus group was given with the result of a solid cicatrix on the seventh day thereafter. Again, the building up of this child's physique was remarkable, and the most noteworthy effect of the vaccine to those who came in contact with her.

Case IX. A well nourished boy of sixteen years complained of pain in the ear for three days before being examined, when there was seen on the floor of the canal a fluctuating swelling the size of a large pea, while the glands in front of the tragus were enlarged as far as the malar bone in front, and down to the angle of the jaw below. After incising the swelling and evacuating its contents with a curette, a culture made from the contained pus gave a pure growth of staphylococcus aureus. One hundred and fifty millions of a stock culture were given, and the discharge ceased on the seventh day. The canal was smooth, free of swelling, and all glandular disturbance had subsided; however, an additional dose of 250 millions was given, this time of the autogenous vaccine which had been prepared in the interval between his visits.

Case X. A laboring woman of thirty-nine years had had a scanty discharge and some severe pain from the right canal for five days. When examined, she was seen to be suffering from a diffuse furunculosis and a rather extensive eczematous infiltration of the surrounding tissues. She received 250 millions of a stock staphylococcus albus vaccine, in accordance with the findings of the culture. Six days later there was not visible any sign of infection or any eczema, and she was perfectly comfortable, but refused the routine extra dose.

Furunculosis of the auditory canal is an unusually stubborn complaint, lasting frequently from ten days to four weeks; hence this is a notable advance in its treatment.

Case XI. A boy of six years, giving a history of an intermittent discharge from the left ear for the past four years, received for one month at intervals of four to six days injections of an autogenous vaccine, prepared from a culture which showed an atypical, perverted form of the proteus group. The discharge which stopped at the end of this period has not returned after six months. This is a case of true chronic suppurative otitis media, as he was never free from discharge for longer than three or four days at a time.

NASAL CASES.

In this region the author has tried vaccine therapy, but the results in the various infections of the nose and its accessory sinuses have not been sufficiently conclusive to warrant the opinion that vaccine in itself had assisted convalescence. The reasons for this are not far to seek. In ethmoiditis and infection of the sphenoid it is not possible to secure the causative organism with such degree of certainty as would justify the administration of a vaccine prepared from the many bacteria found in this region, and from the many perverted forms of them to be found there in health as well as in disease. In frontal and maxillary sinusitis, especially of the suppurative type, it is easy to secure the germ of the disease, but ordinarily the operation used to lay bare the nidus is in itself a curative agent of the greatest efficiency; though the pus can, of course, be collected free in the nose, contaminated with many other pyogenic agents. However, in the light of the success of vaccines in other places, it is fair to assume that an autogenous vaccine prepared from the actual causative organism would be of great service in hastening the return to health of these diseased structures.

St. Clair Thomson (19) says that in chronic sinus diseases it would be conservative to try vaccine therapy, though his experience with it has been unsatisfactory. He recommends that good drainage be established, even if this is done, which suggests some distrust on his part. Yet Goadby (20) makes the same suggestion, though he reports six cures out of fourteen chronic maxillary sinus cases, and lays special stress on the great improvement in the general condition of all the patients, in whom the toxemia and anemia so characteristic of such cases were quickly relieved. Thus, in this last respect, his experience and observation are in perfect accord with that of the writer.

Mosher and Kerr (5) write enthusiastically of their success in the treatment of ten cases of atrophic rhinitis, in which they had no cures but the most marked relief of most of the symptoms, using a vaccine derived from a culture of three organisms, *Staphylococcus albus, aureus,* and *citreus.* Fisher (6) reports one case of complete cure of hay fever, using *Micrococcus catarrhalis* as his agent for vaccine preparation.

The investigation of the etiology of the various types of otitic suppuration revealed an organism of great importance as a causative agent, but one for which no name better than *Bacillus pseudodiphtheriæ* has thus far been suggested. It would seem that a pseudodiphtheria bacillus exists, but it cannot be differentiated by the microscope from the true bacillus, as it is morphologically identical and behaves similarly in culture media and staining. It seems more prone to assume the perverted forms, such as those seen in the cultures taken from convalescent diphtheria cases. The reason for the particular mention of this one bacillus is that it has often appeared to underlie those infections of the ear which had resisted the attack of vaccine, but which no longer so resisted, when reculturing disclosed that it had either taken the place of the original cause or had been the cause itself throughout. An autogenous vaccine in such a case has yielded a cure in the majority of cases. Again, this bacillus is frequently found to be the agent of suppuration in chronic ear discharge, and when carefully cultured, and recultured when necessary, is generally of benefit and frequently curative. Weston and Kolmer found this to be the cause of suppuration in fifty-seven out of 100 cases, and the writer is strongly of the opinion that careful culturing on the part of the otologist would enable the bacteriologist to show this organism more often in his reports. The culture must always be taken from the deepest part of the ear attainable, after all ap-

parent pus has been wiped away with an applicator armed with sterile cotton. If the drum is intact, the surface close to the perforation would yield the best culture; if the promontory is exposed, the culture should be taken from that surface.

Those who have used vaccines in the treatment of ear, nose, and throat diseases have not yet arrived at any definite conclusion as to the superiority of either the autogenous or the stock vaccine, though the majority of the observers quoted in this paper rather incline to the use of the autogenous, especially McDonald (1), Weston and Kolmer (2), Mosher and Kerr (5), and Beck (16). Sill (23), who reports 124 cases of otitis media, does not consider that an autogenous vaccine possesses any not originate in that case, and a culture from them would not be "autogenous." Of course, this is begging the question somewhat, and a discussion of it would carry us too far afield to be pertinent to the subject of vaccine therapy in the diseases herein treated. It should be remembered that in treating a patient two things are aimed at, to cure that patient, and to make that case serve as a guide to curing others. In using a stock vaccine followed by an autogenous preparation the therapeutical issue is rendered obscure; which did the curative work? The theory which has made observers take up the use of vaccines is based somewhat on the autogenous principle, and most of those who have compared the two uses are in favor of the autogen-

AUTHOR'S CASES

Disease.	Number.	Cured.	Improved.	No change.	Injections.	Bacteria.
Chronic otitis media.....	7	3	2	2	2-5, cure	Staphylococcus, streptococcus, pseudodiphtheriæ, proteus.
Subacute otitis media....	5	5			2-3	Staphylococcus albus et aureus, streptococcus.
Mastoiditis sinusitis.....	6	4	2		1-7, cure	Proteus, staphylococcus albus, pseudodiphtheriæ.
Mastoditis sinusitis, acute	1	0	1		3	Staphylococcus aureus. Wound perfectly dry after one injection; healing rapidly.
Tonsils infected.....	4	4			1-2	Streptococcus (3), staphylococcus aureus (1).
Furunculosis canal.....	5	5			1-4	Staphylococcus aureus (3), albus (2).

CASES OF OTHER OBSERVERS.

Author.	Disease.	Number.	Cured.	Improved.	No change.	
McDonald (1)	Subacute otitis media.....	13	13			
	Chronic otitis media.....	17	3	5	9	
Weston and Kolmer (2).....	Subacute otitis media.....	100	83	10	7	
Patterson et al (3).....	Subacute otitis media.....	10	7	0	3	
	Chronic otitis media.....	17	3	3	11	
	Acute maxillary sinusitis..	6	6			
	Chronic maxillary sinusitis.	3	3			
	Chronic frontal sinusitis...	5	0	0	5	
	Chronic ethmoiditis sinusitis	3	1	1	1	
Conners (4)	Subacute otitis media.....	7	2	3	2	
	Mastoiditis	3	0	2	1	
Mosher and Kerr (5).....	Atrophic rhinitis	10	0	10		
Fisher (6)	Atrophic rhinitis	1	0	1		
	Hay fever	1	1			
Christie (7)	Subacute otitis media.....	6	6			
Jacobs (8)	Chronic otitis media.....	6	2	4		
Thomas (9)	Chronic otitis media.....	1	0	0	1	
Hoobler (10)	Chronic otitis media.....	2	2			
	Mastoiditis	1	1			
Harris (11)	Coryza	1	1			
Benham (12)	Coryza	5	0	5		
Skillern (13)	Atrophic rhinitis	2	0	2		
Beck (16)	Chronic frontal sinusitis...	3	0	3		
	Chronic otitis media.....	7	0	7		
Scott (17)	Mastoiditis	1	1			
Goadby (20)	Chronic maxillary sinusitis.	14	6	8		Drainage established in all cases.
Sill (23)	Subacute otitis media.....	124	70	22	5	(3 operated in for mastoiditis; 24 disappeared).
Total, author's cases included.....	Subacute otitis media.....	265	186	35	17	(27 cases of Sill unfinished).
	Chronic otitis media.....	57	13	21	23	
	Acute maxillary sinusitis...	6	6			
	Acute frontal sinusitis.....	0	0			
	Chronic frontal sinusitis...	8	0	3	5	
	Chronic maxillary sinusitis.	17	9	8		
	Chronic ethmoiditis sinusitis	3	1	1	1	
	Mastoiditis sinusitis	11	6	4	1	
	Mastoiditis, acute.....	1	0	1		Under treatment; 3 doses; great improvement.
	Atrophic rhinitis	13	0	13		
	Coryza	6	1	5		
	Hay fever	1	1			

virtues not characteristic of the stock preparation; certainly his success with the latter entitles his opinion to respect. He uses a vaccine which comprises three types of staphylococci, albus, aureus, and citreus, and urges as one reason for the giving of a stock preparation, that the delay of preparing the autogenous might be very dangerous to the patient. Undoubtedly this is good practice, but when an ear has been discharging for a period of two weeks to one year, as in his cases, the delay of two days would not be a matter of serious moment. He goes further than this, suggesting that there is no such thing as an autogenous preparation, inasmuch as the organisms under attack in any given case did

ous, in which number the writer is included. By all means use the stock preparation if time is an element to be considered; such has been the invariable custom of the writer in throat cases of a serious type, as in the case of streptococcic infection noted here as Case I. However, the rare efficiency of the stock preparations used by the writer is due entirely to the care with which Doctor Neate prepared them, and his blending at least seven strains of virulent streptococci in his vaccine. Again, let me repeat that the credit belongs to the bacteriologist in such cases.

All the laboratory work, including the preparation of the vaccines, in the writer's cases was done

by Dr. J. S. Neate, who has, by his frequent valuable suggestions as to doses and the intervals, been of great service and has rendered possible the good which the various patients have derived from the use of vaccines.

CONCLUSION.

The greatest difficulty has been experienced in securing reports of vaccine therapy which were at all conclusive or scientifically summarized; hence the accompanying table is offered for whatever purpose it may serve, as it represents the winnowing of a little wheat from much chaff. Let it be clearly understood that no claim of infallibility is made for vaccine therapy, nor is it asserted that the various diseases spoken of as yielding to this method of therapy would have always failed to yield in time to those other means of treatment commonly employed by the experienced. It is intended to supplement other therapy, and the writer takes issue here with those who deprecate the use of the ordinary treatment at the same time. Theoretically and practically there is nothing in the irrigation of a discharging ear or sinus with an antiseptic solution that does violence to the principles of vaccine therapy, and doing so gives the patient a double chance of recovery. Proof is not wanting to show that in acute and subacute otitis media, stubborn, slowly healing sinuses following the mastoid operations, all forms of tonsillar infection and furunculosis of the auditory canal vaccines will surely abbreviate convalescence. Aside from preventing unnecessarily prolonged suffering, no mean consideration, this shortening of the sway of disease tends to prevent the familiar consequences of long suppuration in the ear, such as deafness, great inconvenience, loss of time at work, expense, and even death. Surely this one point of view in itself is sufficient to commend the treatment, and certainly no method devised in the past ten years for the care of otitis media has shown the excellent effects and given the brilliant promise of vaccine therapy.

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1633 Connecticut Avenue.

PERFORATION OF THE GRAVID UTERUS; ITS PREVENTION BY PROPER TECHNIQUE. WITH CASE REPORTS.

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About a year ago the writer published a case of perforation of the gravid womb with laceration of the small intestine (*American Journal of Obstetrics,* Volume 63, No. 3). A physician was emptying a three months' gravid uterus for incomplete abortion with bleeding. His method of procedure was to pass a rounded placental forceps through the partially dilated cervix and pull out uterine contents, piece by piece. Suddenly he observed to his horror that his forceps had pulled down a loop of intestine into the vagina. This was replaced at once and the uterus and vagina were firmly packed with gauze. I was called in consultation and had the patient at once transported to the hospital. An immediate laparotomy revealed a peritoneal cavity filled with blood, a mutilated fetus of three months floating among the intestines, eleven centimetres of small intestines torn away from their mesenteric attachment, two perforations of this gut, and just below and posterior to the left cornu of the uterus a ragged tear three centimetres in diameter.

The injured intestine was resected and an end to end anastamosis made with the Murphy button. The tear in the uterus was sutured, and after cleaning the peritoneum of blood and clots the wound was closed, draining the cul-de-sac of Douglas through its lower angle.

The patient made an uninterrupted recovery. She is perfectly well to-day, has a freely movable uterus in good position, and menstruates normally. There has been no further pregnancy.

At that time I took occasion to sound a note of warning against the practice of so dangerous a technique, and to draw attention to the appalling list of such cases in the literature. It has been my fortune to meet with a second well nigh identical case.

Case. Rose R., aged thirty-two years, admitted September 18, 1911, to Doctor Krug's service, Mt. Sinai Hospital. Menstruation began at fifteen years, regular every four weeks, duration three days, flow moderate, no pain. Last menstruation three months before. Married ten years, seven children, youngest child six months old. Two miscarriages. Eight days ago began to complain of severe right iliac pain, chilliness, headache, and fever (?). Following the advent of pain she bled from vagina for three days in small amounts. The bleeding stopped, but pain continued. The previous day she called in a physician who proceeded to empty the uterus without anesthesia. He inserted a flat sponge holder through the partially dilated cervix and began to pull away the uterine contents, piece by piece. Suddenly he saw that he had pulled a loop of gut into the vagina. He stopped all further manipulation and packed the vagina. Since then (for the past twenty-four hours) the patient had had constant severe abdominal pain, vomiting, obstipation, and fever.

Examination on admission. Patient looked very sick; anxious facies, knees flexed, respiration costal in type, tongue fissured and dry. Pulse 120, fair quality, respiration 30, temperature 101° F., white corpuscles 32,000, multinuclears 93 per cent.

Abdomen rounded, protuberant, markedly tympanitic, slight dullness in the flanks; boardlike rigidity of the muscles; marked tenderness of the lower half, especially in the left iliac region. The cervix admitted one finger; uterus corresponded in size to the third month of pregnancy, empty; a ragged tear into the peritoneal cavity at the fundus.

The operation took place one hour after admission. Under anesthesia the uterine cavity was once more explored with the finger and found empty. Median hypogastric incision. There was about 500 c.c. of free blood in the peritoneal cavity. Eight centimetres of greenish black, gangrenous, foul smelling small intestine were delivered into the wound. This had been completely torn away from the mesenteric attachment. There was no perforation into the lumen of the gut. Twelve centimetres of the intestine were resected and an end to end anasta-

mosis was made with a Murphy button, reinforced by Lembert sutures of linen thread. The rent in the mesentery was sutured with chromic catgut after ligating several large bleeding mesenteric vessels.

The uterus was next brought into the wound and a ragged tear three centimetres long in the fundus was trimmed and then sutured with deep and superficial interrupted No. 2 chromic catgut. Owing to the patient's precarious condition no time was spent in attempting to remove all the blood clots from the peritoneum. The anastamosed loop of intestine was placed behind the uterus and the omentum was drawn down so as to cover it and the sutured uterus. The abdomen was rapidly closed without drainage by layer suture. Time of operation, fifty minutes. The pulse went up to 160 on the table and an intravenous infusion and hypodermic stimulation were given.

The patient reacted well and was at once placed in the Fowler position. Convalescence was complicated by fever, the temperature ranging from 100° to 102° F. for twelve days. There was a slight, superficial fat necrosis down to the fascia, otherwise the wound healed *per primam*. The Murphy button was passed on the eleventh day.

One week after operation an irregular, hard, tender mass was made out behind and to the left of the uterus. This was watched for five days and then when it began to get soft and fluctuating a post vaginal section was decided on.

Under anesthesia the cervix was pulled down, a median postvaginal incision made into the mass, and considerable greenish yellow pus evacuated, with several sloughs, and a macerated fetus. Two pieces of pelvic gauze were inserted for drainage. The next day the temperature fell to normal and remained so. The patient was shortly out of bed and left the hospital with a small granulating wound in the vault of the vagina one month after admission. When seen a few weeks later she was in perfect health; the wounds were firmly healed, the uterus was in good position, in good involution, and freely movable.

This patient presented a far graver picture than the first case because twenty-four hours were allowed to elapse before she was sent to the hospital, whereas the first case was operated in within five hours of the injury.

Although the belly was full of blood and the injured loop of gut was completely gangrenous, drainage was omitted because there had been no perforation into the lumen of the intestine, and there was no evidence of an active localized peritonitis. The fetus must have been in the abdomen at the time of operation, but it is easy to understand how it was overlooked. The patient's condition was most precarious at the completion of the absolutely necessary intraabdominal manipulations, so that it would have been very unwise to spend precious minutes in a complete search for clots and débris. The localized pelvic abscess which formed did not at any time seriously endanger the patient's chances of recovery.

In view of the constant recurrence of these shocking cases it seems not out of place to repeat in part what was said before concerning the technique of emptying the gravid uterus. Perfect asepsis is a *sine qua non;* careful preparation of the patient should never be neglected. Given a legitimate indication, what should be our method of procedure? Before the third month of gestation all indications can be met by careful curettage. Even at this early stage, however, it is highly desirable to use the finger to separate the ovum from the uterine wall, whenever the cervix can be sufficiently dilated to permit its entrance.

After the beginning of the third month our first endeavor must always be to obtain sufficient dilatation. This will be best accomplished by packing the cervix and vagina with gauze, or, whenever possible, by the insertion of a metreurynter. The gauze packing may be supplemented by passing a stiff bougie up to the fundus to stimulate contractions. In from twelve to twenty-four hours the cervix will have softened very considerably and will often admit one finger. In many cases uterine contraction will proceed regularly and the further process of expulsion can be left to nature. When this does not occur, or when hemorrhage or some other urgent indication supervenes, we proceed as follows: The patient is anesthetized and placed in the lithotomy position on a table. The cervix is gradually and gently stretched with the Goodel dilator until it will admit two fingers. Rarely this will not be possible without undue violence. In that event, if rapid delivery is imperative, anterior vaginal hysterotomy is performed. Under no circumstances should one proceed without dilatation sufficient to admit two fingers into the uterine cavity. To omit this precaution spells disaster!

Repeated packing of the cervix and vagina is a procedure fraught with grave danger. Even if carried out under rigid aseptic precautions, serious and even fatal sepsis may supervene. The irritation of the gauze and the drying of the vagina strongly predispose to infection; moreover, it is entirely feasible that the organisms growing in the vagina itself (which cannot be wholly eliminated) may give rise to the septic process.

If the first packing has had no effect after twenty-four hours, it may be replaced by a second, but under no circumstances should this be again renewed. If our efforts to stimulate the uterus to contract and empty itself fail after forty-eight hours, we should proceed to empty it by active measures at one sitting. Palliative procedures continued over a longer period of time invite serious trouble. Any rise of temperature after the introduction of gauze or metreurynter is an indication for immediate active procedure.

After the end of the third month it is highly desirable to obtain further dilatation manually. If one's fingers are reasonably small and due care is exercised, no serious laceration will occur.

Having obtained satisfactory dilatation, two or three fingers, or the whole hand is passed into the uterus. The other hand grasps and depresses the fundus through the abdominal wall. The fingers now gently sweep around the uterine cavity and detach the placenta from its insertion. If one works in the proper plane of cleavage little or no hemorrhage results. Often it is possible to maintain the integrity of the bag of membranes, and to re-

move fetus and placenta *en masse*. If the membranes have been ruptured the fetus is extracted first and then the placenta; but no attempt is made to remove placental tissue until the entire organ has been detached from the uterine wall. The finger once more enters the uterine cavity and determines that it is smooth and clean; then a hot intrauterine irrigation is given. Finally, the vagina only is packed, and an intramuscular injection of a rapidly absorbable preparation of ergot is given as a prophylactic against secondary hemorrhage.

In the writer's experience no instrument, other than the gloved hand, has been found necessary to detach the placenta from the uterine wall. Once it is lying detached in the uterine cavity it may be necessary, in the earlier months of pregnancy, to extract it with forceps. But we repeat, no instrument should ever be used before the placenta is fully detached. The custom of passing a placental forceps through a partially dilated cervix and tearing away tissue cannot be too strongly condemned. Serious hemorrhage is almost inevitable, and the catastrophe of perforating the uterine wall and lacerating abdominal viscera is ever imminent.

Unfortunately, some of our medical schools still teach that where the cervix is very rigid it is better to introduce the curette and "break up" the fetus and placenta and remove them piecemeal, than to attempt to dilate the cervix sufficiently to introduce the finger. It is just in this process of "breaking up" that the damage is almost always done. After the third month of gestation almost every cervix will soften sufficiently under the influence of the pack or elastic bag; if it does not, the simple and easy procedure of anterior vaginal hysterotomy will give ready access to the uterine cavity. Anyone not competent to do this operation is not competent to treat abortion.

When small pieces of placental tissue have remained adherent to the uterine wall it may become necessary to resort to the use of the curette for their removal. The largest size sharp curette should be very gently used for this purpose. The dull curette requires far too much pressure to be a safe instrument. In any event, we must remember that in curetting the relaxed puerperal or postabortion uterus we are venturing upon very thin ice, and should ever be on the alert to recognize the perforation the instant it occurs.

What course shall we pursue once the uterine wall has been perforated? All further manipulation should cease, intrauterine irrigation dispensed with; the uterus and vagina packed; the patient placed in the Fowler position, and further developments awaited. Barring peritoneal infection, the majority of cases will show no further ill effects. If the uterus has not yet been completely emptied, this may be undertaken at a future time. However, if the accident has not been at once recognized, if there has been intraperitoneal manipulation with the curette or placental forceps, or if omentum or intestine has actually been drawn down into the vagina, an exploratory laparotomy is urgently indicated. This should be performed just as soon as proper preparations can be made. A few hours may decide the question of the life or death of the patient. To await the development of active symptoms of peritonitis, or the collapse supervening upon intra-abdominal hemorrhage may turn the scale in favor of a fatal issue. The exact method of procedure after opening the abdomen must be determined by the conditions met with.

No mention has been made in this article of the use of drugs to stimulate the uterus to contract and empty itself. If this were feasible it would be the ideal method of procedure. Unfortunately, we have at the present time no drug at our command which can be relied upon to accomplish this purpose. Ergot, by its tendency to cause tetanic contraction of the os uteri, thus favoring retention, defeats its own purpose. Often enough it does not even start the process of expulsion. Pituitrin, while powerfully stimulating contraction during labor, often fails to start it in a uterus gravid at term. In the earlier months of pregnancy it has, from all reports, utterly failed as an ecbolic.

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A STUDY OF TWO HUNDRED CASES OF PYOSALPINX.*

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These two hundred cases were taken from the gynecological service of the Samaritan Hospital during the years 1906 to 1910, inclusive. Pyosalpinx is used to mean a purulent inflammation of the Fallopian tube in which both ends of the tube are closed and the tube takes on the shape and size of a sausage. The tube and ovary—both purulent—are often bound together by adhesions. Pyosalpinx does not include those cases of purulent salpingitis where one or both ends of the tube are open, allowing the purulent discharge to escape.

While the patient's age has no direct bearing on the etiology of this infection, it is interesting to note that of these two hundred patients to undergo a mutilating operation which either partially or completely unsexed them,

Twenty-four were 20 years of age or less;

One hundred and five were between 21 and 30 years of age;

Fifty were between 31 and 40 years of age;

Twenty-one were 41 years of age or more.

Therefore, 64.5 per cent. of these two hundred women were unsexed just before or at the beginning of their reproductive period of life.

The direct cause of the pus tube is one of the most interesting of the phases in this series of cases. Of the two hundred cases,

Fifty-six were due to infection by the gonococcus;

Fifty-six were due to infection following abortion;

Twenty-eight were due to infection following childbirth;

Fifteen were due to infection traveling from a purulent appendix;

*Read before the Philadelphia Obstetrical Society, October 5, 1911.

Six were due to the tubercle bacillus;

Six were due to infection following dilatation and curettement done outside the hospital;

Thirty-three, the direct cause could not be obtained.

It is reasonably certain that fifty-six cases do not represent the whole number due directly to the gonococcus. Undoubtedly many of those where the cause could not be determined, were due to this organism. It is well known that pus due to the gonococcus becomes sterile, or at least so sterile that culture tubes will not reveal the diplococcus. Again, of the fifty-six cases following abortion, the gonococcus undoubtedly was often the cause of the infection, and the same may be said of many of the twenty-eight cases following childbirth. A latent gonorrheal endometritis is frequently the cause of the sepsis following either miscarriage or childbirth.

Still another observation leads me to think that the gonococcus was the infecting organism in more than the fifty-six cases as stated above. Of the twenty-eight cases following childbirth, all made good recoveries with one exception. In this one patient a virulent sepsis developed and he died. A latent gonorrhea, which lighted up at delivery, must have been the cause in many of these puerperal cases, or our mortality would have been higher. Doubtless the gonococcus was the infecting organism in many of those cases developing after abortion. However, despite the most positive denial by many patients, it is only fair to assume that the great majority of the fifty-six cases following abortion were of a criminal character, and our mortality in this particular series of fifty-six cases would indicate that the infecting organism was more virulent than the gonococcus. Four of these patients died, three of sepsis and one of cardiac failure; while in the fifty-six due to the gonococcus but one patient died and that from a pulmonary embolism.

That three per cent. of these two hundred cases were caused by a dilatation and curettement at the hands of the family doctor should receive more than mere mention. It is not fair to assume that the physician infected the patient by his faulty technique in more than a very small percentage of the cases. Most often the tubes were more or less involved at the time of his operation. His meddlesome manipulation could only serve to break up Nature's wall of defense and to aid in the spread of the infection.

The complications attending pyosalpinx make an interesting paragraph. In seventy-five of these two hundred cases the appendix was involved in the inflammatory mass. As stated in the paragraph on etiology, in fifteen of these seventy-five cases the history and symptoms pointed to the appendix as the point of beginning infection with extension to the Fallopian tubes. Nine of the cases were complicated by fibromyoma of the uterus. The large blood sinuses of this growth render the infection much more serious. One of the deaths due to sepsis was in such a case.

Four cases were complicated by ovarian cysts. One case was complicated by an infected dermoid. This patient, aged forty-two years, died without any rise in temperature to indicate general infection. Her death was preceded, like that of many patients operated upon for dermoids, by rapid running pulse and exhaustion.

One case was complicated by ectopic gestation. The ectopic product occupied the left tube, while a collection of gonorrheal pus possessed the other.

Another gonorrheal case was complicated by arthritis.

A marriage before maturity with the attending trials of pregnancy and labor is held by many physicians to contribute not a few cases to the gynecologist. In these two hundred cases we were able to elicit the age at which ninety-four of these women were married.

Forty-six of the ninety-four were married at thirteen to twenty years of age; thirty-eight were married from twenty-one to twenty-five years, and ten from twenty-six to thirty-five years of age. Twenty-seven of the two hundred were still unmarried. Ninety of the two hundred gave a history of having one child or more. We are not warranted in assuming that the remaining 110 never had children, though a majority of them so stated. Forty-five gave a history of previous abortions.

Very many of these patients were treated at their homes by their family physicians until the signs of acute inflammation had subsided sufficiently to make operation reasonably safe. But the records show that in twenty-three of the cases the operation was delayed for four to thirty-six days after the admission to the hospital because of the acute course of the disease.

With one exception, all of these patients received ether as the anesthetic. The exception was a case complicated by a marked nephritis which refused to yield to treatment. Chloroform was administered for thirty minutes. After the removal of the pus tubes the nephritis promptly disappeared.

From the time the ether was started until the completion of the operation in the 199 cases, the average time was forty-six minutes. It cannot be far wrong to say that twelve minutes of this time was required by the etherizer to anesthetize his patient.

Briefly stated, the operations performed were:

Ninety-two bilateral salpingo-oophorectomies.

Three left salpingo-oophorectomies.

Six right salpingo-oophorectomies.

Sixty-one bilateral salpingo-oophorectomies plus appendectomies.

Two left salpingo-oophorectomies plus appendectomies.

Four right salpingo-oophorectomies.

Thirteen supravaginal hysterectomies.

Eight supravaginal hysterectomies plus appendectomies.

Two panhysterectomies.

Three abdominal incisions; tuberculous cases.

Six vaginal sections.

Two of the vaginal sections where the pus pockets could not all be drained were followed by abdominal section.

Seventy-four of these cases were drained—

Fifty-seven by way of the abdominal incision;

Seven by way of the vagina;

Six by both the abdominal and vaginal routes;

Four by the T drainage tube where vaginal section had been performed.

It was my impression that more of these cases were drained a few years ago than at present, but the cases of drainage are pretty evenly distributed over this period of five years. Recently, drainage by the vaginal route seems to be preferred.

The average time in the hospital for each patient was 24.4 days.

The mortality was four per cent. The eight deaths were due to the following direct causes:

Four to sepsis. One of these septic cases occurred in a case of pyosalpinx following childbirth and three in cases of pyosalpinx following abortion;

One patient with abortion died of cardiac failure;

One patient with gonorrheal pyosalpinx died of embolism;

One patient, her case complicated by a dermoid, died of nervous exhaustion and cardiac failure;

One tuberculous patient died of miliary tuberculosis.

An interesting observation is that there has been no death following operation for pyosalpinx since August, 1909. It must have been about this time that the Murphy treatment was established as almost a routine measure in these cases.

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TUMOR OF THE BRAIN.*

Preliminary Report.

By Hyman Climenko, M. D.,
New York,
Attending Physician to the Hospital for Nervous Diseases, Blackwell's Island; Clinical Assistant, Neurological Institute.

The interesting points in the following case are: 1. The fact that the tumor, a glioma, existed for a considerable time in a functionally important area of the brain, without giving any discomfort to the patient; 2, when the symptoms made themselves apparent, they were of such rapid onset as to simulate an acute disease; and, 3, the successful removal of the tumor.

Case. The patient, forty-three years old, a laborer, was seen by me with a colleague September 10, 1911. At that time he complained of severe headache, vomiting, dizziness, indistinct vision, and of inability to use the right extremities. His personal history, save for a traumatism to the head sustained some months before the onset, was negative. He denied syphilis and there was no indication that he had been infected.

His present illness began eight weeks before I saw him. He was suddenly seized with severe pain in the abdomen, headache, and vomiting. He was taken to a hospital where a diagnosis of influenza was made. At the end of one week he was discharged cured. The patient, however, continued to complain of headache all over the head and he vomited about ten or twelve times a day. Two weeks after the onset his vision became dim and he began to suffer from dizziness. One week after the onset he noticed that his right hand and right leg were growing weak. This was progressive and at the end of two weeks he was unable to walk. He says that inability to walk was not caused by paralysis but by weakness. There was no complaint of uncertainty of position in sitting or lying. His speech was also somewhat thick.

His physical status showed a man well developed. The face was cyanotic. He lay on the left side, the head retracted, abdomen scaphoid in shape. On attempting to stand he bent his knees beneath his weight but he succeeded in walking. The gait was ataxic. Apparently he had no capacity to use his upper and lower extremities although he executed the various movements while in bed. He was able to move his toes and fingers, and to extend both knees simultaneously. Active movements were rather sluggish in the right hand. On voluntary effort there seemed to be a slight difference in innervation in the two sides of the face, the right being a little less active. On emotional display this right facial weakness was somewhat more pronounced.

Both plantar reflexes were of the flexor type without the slightest indication of a Babinski. No ankle clonus, but both ankle jerks were present; the cremasteric lively, the left greater than right. The knee jerks were diminished, right greater than left. Left epigastric and abdominal reflexes were present. *The right epigastric and abdominal reflexes were absent.* Both elbow jerks were lively. The pupils were equal, but the right reacted sluggishly to light.

There was no disturbance in the cutaneous sensibility. In the right upper extremity there was a certain degree of ataxia which expressed itself in an uncertainty in prehension. Postural sensibility was intact. *There was complete astereognosis in right hand.* Ophthalmoscopical examination revealed a slight elevation of the discs and tortuous veins. With these data a diagnosis of a tumor of the brain situated at the left supramarginal and angular convolution and encroaching upon the posterior ascending convolution was made.

On the following day the patient was admitted to the Neurological Institute in the service of Doctor Collins, who confirmed the findings, and advised immediate operation.

On September 22d, Dr. Charles S. Elsberg performed the operation.

At the region of the supramarginal convolution, a small button of bone was removed and the brain aspirated; result negative. After application of hemostatic sutures, a large bone flap was outlined. An opening was made in the usual manner, and an oval flap of dura made with base downward. The brain pulsated and prolapsed markedly when the dura was opened. Fairly near the upper end of the flap, the brain was discolored and firmer than normal. In order fully to examine what seemed to be a tumor, more bone was removed. After, the meningeal vessels were tied. The cortex was incised, and at once a tumor began to bulge out from the brain tissue.

The greater part of the mass was peeled out of its bed, some small fragments being removed secondarily. The mass was of brownish color and extended about two centimetres deep into the brain. In parts it seemed to have well defined margins, in parts none could be demonstrated. After the tumor, which measured about three by three centimetres, was incised, several pieces of brain tissue evidently also diseased were removed. With compression, rather free oozing was quickly controlled. The attempt was then made to close the dura, but only a part could be closed. The brain was covered with cargile membrane. The edges of membrane were pressed under edges of bone. In the anterior part of the wound the dura had been injured so that the brain tissue prolapsed. This also was covered with cargile membrane. Rapid suture of the scalp was done, etc. At the last part of the operation the patient became blue, and artificial respiration was used. The operation lasted one hour and fifteen minutes.

On the next day the right side of the face was paralyzed, but this soon disappeared. The patient made a quick and good recovery.

To-day the only symptoms that persist are weakness and partial astereognosis in the right hand. A few days ago the patient consulted the writer as to whether he should go back to work.

The optic nerve examination as recorded by Doctor Holden is as follows:

September 19, 1911.—Disc margin blurred, veins dilated and very tortuous. Very slight elevation.

September 26th.—*In statu quo ante.*

October 6th.—Veins very much dilated and tortuous. No appreciable elevation.

The pathological examination of the tumor was made by Dr. E. G. Zabriskie, and the following is his report:

The tumor was the size of a small egg. In the cut surface which was rather grisly were seen one or two areas having the appearance of cheesy degeneration and dotted here and there with small punctate hemorrhages.

*Reported to the Eastern Medical Society, November 10, 1911.

Section through the tumor showed it to be a glioma with active formation of new bloodvessels, with several areas of necrosis and hemorrhages. There was everywhere active connective tissue proliferation arising from the blood vessels. The type of cells seen in the areas where the growth was most active, were small active cells with occasional spiral cells and very little proliferation of the glia tissues themselves. At the periphery it had stimulated very active thickening of the pia and enormous connective tissue hyperplasia of the blood vessels. In the hemorrhagic area there were also marked connective tissue, new formation growth, and large numbers of Kernchen cells. In other areas where the connective tissue proliferation of the blood vessels was more active, the cells had taken on a distinct spindle shaped type and here the proliferation of the glia tissue was more active. The small pieces of contagious cortex shows circumvascular brown cell infiltration and glia cell infiltration.

252 East Broadway.

INSANITY IN CHILDREN.

By Charles Holmes, M.D.,
New York

The existence of insanity in children has always been considered rare—one in 70,684 children annually becomes insane according to Hagen (1)—but it is equally important to know that premonitory symptoms of insidiously developing mental disease often occur during early childhood and go unrecognized. Emminghaus's (2) statement that "an exalted mood, a rapid succession of incomplete thoughts characterize a healthy child" is less true than was once believed. Such juvenile enthusiasm improperly interpreted and ill directed often leads to a condition which is correctly diagnosticated retrospectively, when alternating attacks of excitement and depression incapacitate the individual in later life.

Such excitements are the most common of all forms of mental disease in otherwise normal children and the outlook is the most hopeful, if they are recognized and treated in their incipiency. If they go untreated, the disease establishes itself and recurrences of either excitement or depression are almost sure to occur.

M. Liebers (3), of Dosen, reports a case of pure manic excitement in a boy of four years followed by recovery in six months' time.

H. Gottgetreu (4), of Munster, reports the case of a boy of ten years developing mania after head injury; he was committed to an asylum, but recovered in five months' time. In his report the author advocated the establishment of a special division of the psychiatric clinic for the treatment of such children. Holt (5) states that "mania" occurs more often than any other form of mental disease in children; he states that this is true because of the instability of the nerve centres in the young and the disproportionate reaction which any excitement causes. So called idiopathic convulsive seizures occur for the same reason, and should not be taken too seriously. Still (6), in the *Kings County Hospital Reports*, Vol. VII, states that as early as the third year he has seen marked evidences of an abnormal degree of mental excitability and suggestibility. He reports the case of a boy of eight years who became "excited beyond control" by hearing Stainer's *Amen* in church. Another boy of seven years, upon hearing the details of a case of melancholia, assumed the depressed attitude and would not talk for several days.

From the personal observation of from fifteen to twenty thousand mental cases in the psychopathic wards of Bellevue Hospital it has seemed to me that of all the patients seen, these excitements in childhood and early adult life offer the best opportunities for thoughtful prophylactic work and give promise of the best results. The anatomically unstable nerve centres of the vigorous, growing child offer a vulnerable field for the maladjustments and abuses of a crowded, bustling city life to do irreparable damage. The ability to recognize the abnormal from the normal mental excitement, to appreciate that a certain form of unrest is developing as a direct result of distressing bodily or home conditions, to decide whether or not the child's conduct is due to his being fundamentally defective, to recognize the excitement of fatigue from overstudy—these are some of the things which should constitute the equipment of prophylactic workers in the homes and in the schools. Exceptional opportunities for the observation of incipient mental diseases, especially among children, are furnished by every large general hospital, but unless the hospital is equipped with special wards, specially trained nurses and medical men for the care of such patients, they commonly pass through unnoticed. The establishment of such a ward in connection with each large general hospital, for the treatment of incipient mental diseases and the training of prophylactic workers, would be productive of surprising results. The State hospitals do not furnish such opportunities because, by reason of the incipiency of the disease or the prejudice of relatives, these patients do not reach State hospitals until opportunities for prophylactic work have long since ceased to exist.

The histories of the following three patients seen at Bellevue Hospital, and reported through the courtesy of Doctor Gregory, the resident alienist, will show in a measure the class of patients who may be benefited by work of this kind:

Case I. T. S., aged thirteen years, American, boy of good physical health and intellect, but somewhat nervous temperament. The family history was negative. From early childhood he and an older sister had been incompatible; one was a source of constant irritation to the other and the parents were unable to adjust the differences. The situation was not considered serious until the patient became so wrought up after a disagreement with his sister that he made threats of violence against his mother, his sister, and himself. His talk became irrational, the family physician was called, and he advised that the child be placed under observation. For the first three or four days in the ward, his talk was flighty, he whistled, sang, ran about the ward performing mischievous tricks; his attention was difficult to hold. Later he became more composed, he was allowed to explain his trouble to sympathetic listeners, he appreciated that some attempt was being made to relieve the tension, he became frank and honest about the home situation and began to realize that what he had said and done was not like himself. After a stay of ten days he became quite normal again. Conditions at home were adjusted by the sister being removed to the family of a relative and the boy has got along well since that time.

Case II. B. B., aged ten years, American, boy of average intelligence, good physical condition, from healthy parents, fell five stories from the roof, but his fall was broken by intervening clothes lines and he sustained only a fracture of the left humerus. He was brought to the surgical wards for treatment, and three days later it was noticed by the ward physician that the child talked too

much and seemed too happy. The resident alienist was consulted; he recognized at once that the child was irrational and removed him to the psychopathic ward for treatment. For about two weeks he continued to show distinct flurries of maniacal excitement, talked much about his accident, the pigeons which caused the accident, and his broken arm. Gradually he began to appreciate that he was being protected from the repetition of any such accident, that his nervousness came as a result of his fear, but that he was safe now. In four weeks time he was in normal condition and was allowed to go home.

Case III. F. S., aged seven years, Russian, girl of average intelligence, but poor physical health. Her parents were of a low order of intellect; the family history was negative. From infancy she had been insufficiently nourished; she was aged beyond her years. Her mother had noticed that for three or four weeks she had been "hysterical"; the family doctor had treated her without success; finally she talked so continuously that she was placed under observation in the hospital. For nearly a month she talked, rhymed, and commented on what went on around her. Her attention was gained with difficulty. She exhibited much motor excitement but her movements were purposive and well directed. She appreciated that she was not like herself, and she knew where she was. Tonics and forced feeding were resorted to and as the physical health improved, her mental excitement subsided. In six weeks she was allowed to return to her home. The visiting nurse reported favorably from time to time upon the condition of the child and the improvement of home surroundings.

These three patients might have been treated as well at home if means had been at hand to readjust and regulate their environment to suit their individual needs.

The masterly memoir of Heron (7), of London, shows well the actual necessity of investigators and prophylactic workers having, 1, a uniformity of teaching in the principles which underlie their investigations; 2, actual experience for a sufficient period with the class of patients they are to help. In the case of Heron, 4,286 boys and 4,474 girls in the London schools were examined by his large force of investigators with the view of ascertaining the influence of defective physique and home environment on the intelligence of the children. He himself states that his findings have not been altogether satisfactory because of the different points of view and the different personal opinions which crept into the statistics. His findings, based on statistics carefully compiled from these observations, led to the somewhat surprising conclusion that defective physique and unfavorable home environment were not contributory to defective intelligence. He deplores the lack of uniformity in the standards of the observers, and attributes the results of the total findings, in a measure, to lack of harmony in their opinions.

There has been most excellent work done in the segregation and training of the defective class of children; there has been equally original and praiseworthy work done in mental hygiene and the after care of the insane, but there remains a field among children who are *not* in the defective class and who have *not* yet become insane, which promises ample reward for the efforts expended in this direction.

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LETTER FROM EDINBURGH.

Edinburgh, *January 24, 1912.*

Scottish Insurance Commissioners.—Scottish Doctors and the Insurance Act.—Hospital Prospects under the Insurance Act.—Edinburgh Royal Infirmary.—Edinburgh University Annual Report.—Chair of Bacteriology in Edinburgh.—Crusade against Consumption.—Skin Diseases School in Edinburgh.—New Hospital for Dundee.—Death of Dr. Sophia Jex-Blake.

The Insurance Commissioners for Scotland, as required by the National Insurance Act, have been appointed as follows: Chairman, Mr. James Leishman, treasurer of the city of Edinburgh; deputy chairman, John Christie M'Vail, M.D., LL.D; commissioners, Mr. John M'Nicol, general secretary, Loyal Order of Ancient Shepherds, Ashton Unity, and Miss M. M. Paterson, H.M., deputy principal lady inspector of factories; secretary, Mr. John Jeffrey, inspecting officer, Local Government Board for Scotland. These commissioners are to frame the regulations, and it is hoped that due recognition will be given when they do so to the claims of the medical profession.

Meanwhile the medical profession are organizing all over the country, with a view to having their "six cardinal points" incorporated in these regulations. The Scottish Medical Corporations have issued a manifesto, dated December 22, 1911, in which the need for united action is strongly emphasized. It is proposed that a Scottish executive be appointed, endowed with full advisory and administrative powers, to confer with the commissioners with a view to obtaining their demands. The manifesto continues: "The Scottish corporations are of opinion that the members of the medical profession in Scotland should refrain from undertaking any medical work under the insurance act until regulations have been framed by the Scottish insurance commission which are entirely in accordance with the six fundamental requirements of the profession, and that the Scottish insurance commission should forthwith be informed of this."

Mr. J. D. Hedderwick, treasurer of the Glasgow Royal Infirmary, gives his views in *The Hospital* of the probable effect of national insurance upon the voluntary hospitals. He believes that these will be so seriously affected within a few years that they will have either to close their doors or be taken over by the State. He shows how hospitals must continue to give free treatment, and he fears that extension and development will be impossible with the act in operation.

The report by the managers of the Edinburgh Royal Infirmary for the year ended October 1, 1911, has been issued. Mention is made of the fact that the ordinary income of the infirmary has this year been the largest on record, but the managers express grave anxiety for the future, as they fear the national insurance act will divert much of their income into other channels. The managers refer also to the contributions received from working people. A large amount has been collected by door to door canvassing by the collectors, while contributions from the employes of public works and business establishments, given for the most part in

weekly or monthly payments, have amounted to a very considerable sum.

The annual report for 1911 of the University of Edinburgh is mainly concerned with figures and statistics, but it contains also one or two items of general interest. Several new lectureships have been instituted, including comparative anatomy, genetics, mycology and bacteriology, and agriculture. The postgraduate courses have again been successful. Reference is made also to the deaths of Professor Chrystal and Dr. Joseph Bell, and to the election of the Earl of Minto as rector.

Some interest is being shown in the new chair of bacteriology about to be founded in the University of Edinburgh, and the names of possible candidates for the post are being freely discussed. The late Mr. Robert Irvine, of Edinburgh, instructed his trustees to set apart a certain portion of his estate as a separate trust, the income from which was to accumulate to the sum of £30,000. This sum was then to be handed over to the university authorities "for the purpose of founding a professorship of bacteriology in the said university and the equipment of classroom and laboratory for the teaching of the same and for conducting original investigation."

A conference was held in Glasgow, January 12th, to consider the question of establishing an Institute of Preventive Medicine as a memorial to the late King Edward VII. It was mentioned in these letters some months ago that the Edinburgh scheme did not commend itself to the West of Scotland, who desired the memorial to take the form of a crusade against consumption. The meeting was largely attended by representatives from many parts of Scotland, and the following resolutions were adopted at the meeting: 1. That this meeting is of opinion that there should be in Scotland a memorial of the late King Edward connected with the alleviation of suffering, and they accordingly resolve that steps be taken to raise a fund to be called The King Edward Memorial Fund; 2, that this meeting is of opinion that the memorial fund should be applied, *inter alia,* to the establishment and maintenance of an institute, to be called The King Edward Memorial Institute of Preventive Medicine, or some similar name, the institute to be dedicated primarily to research and the dissemination of knowledge in relation to tuberculosis, and to be available to the whole of Scotland; 3, that an executive committee be appointed to carry out the resolutions of this conference, and also to consider the question of the erection and maintenance of consumptive sanatoria, and report thereon to a future conference.

The Edinburgh school for children suffering from skin diseases, referred to some time ago in these letters, is expected to be opened during the present month. The special school will accommodate sixty pupils in three classes of twenty. The staff will consist of a head teacher and two assistants, a nurse, and a caretaker. The pupils will range in age from five to sixteen years.

The committee of the Private Hospital for Women in Dundee have of late been troubled by want of accommodation and the difficulty of adapting their present building to their requirements. Fortunately, a gift of £4,000 has just reached them, and this with some other contributions will enable them to build a new hospital on a more suitable site.

The death took place on January 7th of Dr. Sophia Jex-Blake, the leader of the movement for the medical education of women. She was over seventy years of age when she died, and though she had been ailing for some time the end came somewhat unexpectedly. Daughter of a landed proprietor in England, her career is one of considerable interest. At the age of eighteen she was appointed mathematical tutor in Queen's College, London. After studying the education of girls on the Continent and in America, she took up the study of medicine in Boston in 1866 under Dr. Lucy Sewall. In 1869 she formed one of a band of seven ladies who came to Edinburgh in search of the medical education which had been denied them in England. As the result of their united application, the Edinburgh University court passed certain regulations "for the education of women in medicine." For six months they pursued their studies without interference, but subsequently a strong feeling grew up against them in certain medical circles. When they applied for permission to study in the wards of the infirmary, the behavior of some of the male students became very hostile. The lecturers at Surgeons' Hall passed a resolution which was looked upon as a total prohibition of the attendance of the ladies at the classes. On a petition signed by 9,000 women, praying that the female students be allowed to complete their studies, the senatus decided, by a majority, not to take any steps in that direction. Later the university court said that if the ladies would give up the question of graduation and be content with "certificates of proficiency" they would try to meet their views. But certificates of proficiency were not recognized by the medical act, and were therefore useless for the purpose of qualification. In combination with the six other ladies referred to, Dr. Jex-Blake raised an action in 1872 against the senatus for declaration to compel the senatus to allow the ladies to complete their education and proceed to the medical degree. The Lord Ordinary decided in favor of the pursuers, but in 1873, the whole court, on appeal, reversed his decision on the ground that the admission of the ladies in the first instance had been illegal.

In 1899 Dr. Jex-Blake retired to her native county of Sussex, where she died.

Therapeutical Notes.

Treatment of Erysipelas. — Pontano (*Policlinico,* Rome, January, 1912) believes that measures that torture the patient are useless, and serotherapy has given no conclusive benefit in the severe cases. He has been best pleased with the action of hot compresses dipped in physiological salt solution and renewed every four hours. Although this treatment does not modify the actual course of the disease or reduce its mortality, it is the simplest and easiest means of protecting the region, preventing contagion, and reducing the pain.

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APPENDICITIS; PURGATION; PERFORATION; PERITONITIS.

The best results in acute appendicitis can be obtained only by operating immediately after the onset of the disease, before any purgative medicine has been given and before peritonitis has occurred. To quote Moynihan: "Perforation means purgation in the appendix kinked and bad, both food and drink will worry him and aperients drive him mad." Practically if not actually all the patients with perforative appendicitis seen by the writer have been purged, have received calomel, salts, castor oil, or some other aperient. The writer considers it practically criminal to administer a purgative in an "acute abdomen" until the cause is determined; but one drug that he knows of can be of use, namely, morphine, and this should not be given until the diagnosis is made. After the diagnosis, morphine is permissible while preparing for operation or in the enforced absence of operation. The more common causes of acute abdomen, exclusive of the traumatic conditions, such as ruptured liver, spleen, kidney, bladder, etc., are acute appendicitis, acute cholecystitis, perforated duodenal and gastric ulcer, acute intestinal obstruction, acute pancreatitis, mesenteric thrombosis, twisted pedicle of an ovarian tumor or pedunculated fibroid, a ruptured extrauterine sac, and acute pyosalpinx. Can any of these conditions be improved by a purge? Are they not all made worse by a purge? Again, are not all these conditions amenable to surgery alone?

All patients with chronically diseased appendices should be subjected to operation immediately the diagnosis is made, provided there are no constitutional contraindications. Such patients, with few exceptions, if not operated upon, suffer from chronic indigestion, dyspepsia, chronic intestinal stasis, neurasthenia, etc., and sooner or later have an acute attack. The only valid contraindications are severe pulmonary disease, an uncompensated heart lesion, and in general those lowered states of vitality the results of constitutional disease, which would render inadvisable any operative intervention. The responsibility for delay in operation in the case of chronic appendicitis should be assumed by the patient, to whom a clear statement of the hazards of this condition should be given by the medical or surgical attendant. Under no circumstances should he be permitted to believe that any form of medical treatment can prevent an attack, or cure it if it occurs.

The only exception to the uniform rule of early operation is in a minority of cases of unusually severe appendicitis complicated by diffusing peritonitis. The discussion among surgeons of this class of cases has led to many misapprehensions, false quotations, and misstatements. It must be understood that these cases are the exception and not the rule, that the point at issue is merely the advisability of deferring operation and not its abandonment; that the delay is not for an indefinite season, but until the best moment for operation; that the responsibility for the decision should rest not with the medical attendant but with the surgeon who has seen, and is constantly seeing many cases of acute appendicitis, and finally that the delay is due, not to any change of heart regarding the proper treatment of appendicitis, but to the existence of an overshadowing condition, namely, diffusing peritonitis which has gained an independent footing. These cases are not exceptions to the rule requiring operative treatment. In a sense, they are due to error in not bringing operative treatment to bear sufficiently early. By a judicious conservatism the patients must be restored to a condition in which operation can be done with its usual success.

The cases of acute appendicitis, as a rule, that should not be operated in immediately are those with diffusing peritonitis, usually but not necessarily of more than forty-eight hours' duration. The latter, in my experience, if rigidly treated by anatomical and physiological rest, proctoclysis, absolutely nothing by mouth, with lavage if necessary, the sitting position, and cold to the abdomen in the shape of the ice bag or the ice coil, with few exceptions end in recovery from the spreading peri-

tonitis, cause the mischief in the neighborhood of the appendix to become localized, and allow of operation which should then be done immediately.

The localization of a peritonitis in the presence of a definitely located appendix does not contraindicate immediate operation, with the exception of cases in which the appendix is centrally located; here, it may be the part of wisdom to wait until the inflammatory peritoneal process has become entirely localized. In abscess formation the peritoneal cavity should not be opened as a preliminary step to evacuation of the abscess; this practice is dangerous and can only invite disaster in a percentage of cases that otherwise would terminate favorably if the pus had been evacuated by opening directly into the abscess cavity. The appendix should not necessarily be removed in every case of appendicular abscess; in nearly all cases, however, this is readily accomplished without exposing the patient to any increased risk.

In conclusion, it must be insisted that the qualifications of the principle of immediate operation in acute appendicitis, which experience has shown to be necessary, must not be construed into any retreat from the position that appendicitis in all its forms is a surgical disease; that the physician should never treat it alone; and that the surgeon should decide not only as to the form, but also as to the time for treatment.

JOHN B. DEAVER.

THE PATHOGENESIS AND THERAPEUTICS OF CANCER.

A number of interesting features are brought out in the recently issued fourth *Report of the Imperial Cancer Research Fund,* working under the direction of the Royal College of Physicians and the Royal College of Surgeons of England. We may recall that the work done so far, under the supervision of Dr. E. F. Bashford, has been in mice. The more important facts brought out in the report are briefly as follows: Additional evidence to the effect that a malignant new growth arises from local causes in a circumscribed area; the existence of hereditary predisposition, apparently of certain tissues, to the development of spontaneous cancer; the probability that chronic irritation of normal cells may be responsible for the development of certain forms of cancer; the pure arbitrariness of the conception of a fundamental difference between benign and malignant new growths.

Of momentous interest, in view of considerable work done in this country, is the demonstration that cancer occurs in practically all races of mankind and throughout the vertebrates, even when living in a state of nature; and in view of the fact that the only manner in which cancer can be transferred from one individual to another of the same species, viz., by implanting living cells, that *cancer was not due to a common causal parasite;* nor did it even appear to be due to influences dependent on man's particular forms of civilization, as suggested by its wide zoological distribution. The incidence of age, in the absence of communicability, proved to be compatible only with the recognition of an intrinsic cellular nature of cancerous proliferation.

Cancer was found also, when transferred from one animal to another of a strange species, to have all the properties distinguishing the normal tissues of one species from those of the other species—in other words, no properties of its own. As to the relations of immunity to the development of cancer, resistance is awakened only by the living cells, either cancerous or normal, of the same species. This does not apply, however, and curiously enough, to cancerous or normal cells derived from other species. The individuality of cancer, both as regards the organism attacked and the tumor proper, is deemed demonstrated beyond further doubt.

A new tabulation of the data for the years 1901, 1909, for England and Wales, based on the last report of the Registrar General, and in which overlapping of data—a source of confusion in ordinary statistics—was avoided, demonstrated for the first time that *it is erroneous to make statements of a disquieting nature about the increase of cancer* in general.

Less encouraging, however, are the therapeutical bearings of the question. The conclusions in 1906, 1907, that a high degree of resistance to the transplantation of cancer did not exempt an animal from the spontaneous development of the disease was further confirmed in the more recent report. Obviously, had immunity to the natural acquirement of cancer been also obtained, the control of the disease would have been within reach. As it is, however, any analogy with infective diseases, and the preventive and remedial measures capable of awakening militant resistance to them, cannot be said to apply to cancer—a fact which necessarily introduces new problems, the solution of which is required before we can hope to find a clearly defined path to the goal.

Fortunately, this virtual relegation of a curative method to the hazy and indefinite future is to a material degree offset by the encouraging results of Wassermann's chemotherapeutic method, referred to editorially in our issue for February 3d. When, also in mice, the size of the malignant growth did not exceed a certain limit or proportion to the body weight of the rodent, daily intravenous injections of Wassermann's selenium and tellurium compound—the exact nature of which has not as yet, and very properly, been revealed—brought on soft-

ening of the growth on the third day and total absorption by the tenth. Although marked toxic phenomena, and even death, occurred in a few of the experimental animals, all those that survived and in which complete absorption occurred have now been free of their tumors a number of months, i. e., have not shown the least sign of recurrence. Ehrlich, working on the same lines, has done even better, all his mice having yielded to a compound still unrevealed.

To those of us who have seen cancerous cases *de près,* and who have, also through special methods, witnessed "recoveries," such results, even though attained by masters such as Ehrlich and Wassermann, do not inspire enthusiasm, and we cannot but agree with them when they warn against premature conclusions, and emphasize the need of several years' experience and nonrecurrence of the growths to warrant any degree of certainty as to the actual value of chemotherapy in malignant neoplasms.

THE ADVANTAGES OF NATIONAL CONTROL OF QUARANTINE.

Those of our readers who did not have the privilege of hearing the address of the assistant surgeon general of the Public Health and Marine Hospital Service, Dr. L. E. Cofer, at the Academy of Medicine on February 1st, may enjoy it almost in its entirety in our report of society proceedings on page 304 of this issue. The illuminating comments of Dr. William M. Polk and Commissioner Williams are also given. As will be seen, the arguments advanced hardly admit of qualification to say nothing of dispute, and it is unnecessary to recapitulate here what was so well and tersely said at the academy meeting. The administration of quarantine demands knowledge of the occurrence of infectious and contagious disease throughout the world, knowledge which no single State is able to obtain of itself, as well as unique attributes in the men selected to carry out the carefully devised regulations made by experts after thorough study of all the questions involved. The personnel of the service in charge of National quarantine is well nigh beyond criticism, the rigidity of the examination preliminary to appointment being, as Doctor Cofer remarked *en passant* in reply to a question from one of his auditors, probably greater even than that of the sister services in the army and navy. Furthermore, the men are chosen only after assurance of their possession of qualities of tact, administrative ability, promptness in emergencies, and certain other indispensable personal attributes upon which we need not dwell, in addition to their professional equipment. The results are what might have been expected and our readers have only to grasp the core of what was advanced by the three distinguished speakers on the evening mentioned to realize that neither theoretically nor practically have the advocates of local control of quarantine a leg to stand on. Our freedom from danger under purely local control of quarantine during the past fifteen years can be considered only as exceptionally fortunate, and our officials, capable as they have been, have always had the advantage of knowledge of conditions abroad obtained for them by the National authorities, as well as assistance of other and most valuable kinds.

Doubtless, as civilization advances, governments will learn that the health of citizens is a matter of National importance and increasing armies of the public health will replace those of the present model on land and sea; the amiable citizen will be gently but firmly prevented from sowing or spreading infection, and that without interference with his heaven born rights to play with his minor and individual aches and pains, through either religious metaphysics or seductively labeled bottles.

MORTALITY STATISTICS FOR 1910.

The mortality statistics of the United States for 1910 have appeared as *Bulletin No. 109* of the Bureau of Census. In a general way it gives the death rates, causes of death, and deaths of infants from each cause, by days for the first week of life, by weeks for the first month, and by months for the first two years. A short chapter deals with the revised international list of causes of death. The adaptation of such an international list makes it possible to compare directly the mortality statistics of the United States with those of Great Britain and her possessions and this means a uniform method of treating of the causes of death by all English speaking countries. The following States are included in the so called registration area: California, Colorado, Connecticut, Indiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, Utah, Vermont, Washington, Wisconsin, beside the District of Columbia. To these States will be added Texas. We thus see that the registration area since its establishment in 1880, when it included eight and a half million out of fifty million inhabitants, increased to fifty-three million out of a population of ninety-two million, that is, from seventeen per cent. to 58.3 per cent. of the total population.

The death rate from all causes, exclusive of stillbirths, for 1910, per mille was 14.4, while the death rate for England and Wales for the same year was

13.5, the lowest rate registered for that country. Among the individual States we find that the highest death rate is registered for North Carolina, 18.7 per mille, while the District of Columbia has ten per mille. The death rate for the fifty largest cities gives Richmond, Virginia, 22.6 per mille as the highest and Seattle, Washington, 10.1 per mille as the lowest; for comparison we mention that London is noted with 12.7; Paris, 16.7; Berlin, 14.7; Vienna, 15.8; New York, 16.0; Chicago, 15.1; Philadelphia, 16.8; Boston, 17.2; and Rio de Janeiro, 20.6; the figures for Montreal and Toronto were not available. The largest number of deaths during any month occurred in March (76,237), and the smallest number in June (60,827). The number of deaths from suicide is given as 8,509, and of accident and homicide as 48,606; this includes 7,877 from railroad accidents and injuries, 1,949 from street car accidents, and 3,190 from homicide. The number of deaths of infants under one year of age was 154,373, or a little less than one fifth of all deaths that occurred in the registration area for the year 1910; during the second year of life there died 33,080, or one twenty-fifth.

BRILL'S DISEASE, TYPHUS FEVER?

The recent work of Anderson and Goldberger[1] gives added interest and importance to the observations of Dr. Nathan E. Brill, who for a number of years has recognized in certain patients with clinical symptoms resembling those of typhoid fever the existence of another disease. Doctor Brill published in this JOURNAL in 1898 a report of seventeen cases occurring in New York during the summer of 1897, which, while resembling to some extent typhoid fever, did not give the Widal reaction. The same author published in 1910 further observations on 221 cases and gave as the most marked features in which it differed from typhoid fever, a course of from twelve to fourteen days, a temperature descent characterized mainly by crisis, a maculopapular eruption which did not disappear on pressure, and an absence of the Widal reaction. A later report of thirty-four cases made a total of 255 observed in New York city from 1896 to the end of 1910. Through all his work Brill noted the similarity of the symptoms of this disease to those of typhus fever, but the cases were much less severe, and the fatality rate was so small, there being but one fatal case in the 255 studied, that he found it difficult to consider the two diseases identical.

Anderson and Goldberger, who had previously been working with the typhus fever for some years prevalent in certain parts of Mexico, have succeeded in infecting the rhesus monkey by inoculation with the disease described by Brill, and they have found that one attack confers a definite immunity to subsequent infection by inoculation; also that an attack of Brill's disease renders this monkey immune to the typhus fever of Mexico and *vice versa*. It appears that the disease described by Doctor Brill and the typhus fever now prevailing in Mexico are one and the same disease.

There seems to be little doubt that the typhus fever of Mexico is identical with that of Europe, and that a few cases of this disease have been present for many years in New York city, and very probably in other large cities of the country. The disease has been of a comparatively mild form, but it is impossible to know whether this apparent absence of virulence will continue; it is clearly important that physicians should bear it constantly in mind and report all cases to the proper health authorities. Although the disease has not appeared to spread, and in the experience of Brill second cases seldom, if ever, came from the same household, it may possibly do so under altered conditions. Recent work on typhus fever has shown that it can be spread by the common body louse, and in all probability this is the usual method.

Typhus fever at present is known to exist in Mexico, in Russia, Austria-Hungary, and Italy, and to a less extent in Ireland, Scotland, England, and other European countries. It is also known to be present in certain parts of Asia and elsewhere. With a knowledge of its continued existence in certain parts of Europe, its occurrence in the United States is understandable in view of the large number of immigrants.

RIGHT HAND MEN TO THE PROFESSION.

The organization of an association of the manufacturers of pharmaceutical, chemical, and biological preparations and surgical supplies, which was effected this week, brings together a group of manufacturers whose products are in constant daily use in medicine. It is to these manufacturers that physicians must look for remedies for use in the prevention and treatment of disease. The fluid extracts, the tinctures, the elixirs, the chemicals, the serums and the plasters of American manufacture compare favorably with those produced anywhere else in the world, and the fact that these manufacturers can lay aside their commercial jealousies and combine for the elevation and improvement of their important calling gives us reason to expect that the high standards of the American manufacturers will be even more jealously guarded in the future than in the past.

[1] J. F. Anderson and J. Goldberger. The Relation of So Called Brill's Disease to Typhus Fever, *Public Health Reports*, February 2, 1912, xxvii, 5, Public Health and Marine Hospital Service.

Medical Law.

XII. MISCELLANEOUS REGULATIONS AND MATTERS.

The right of the Common Council of a city to appoint a city physician at a stated salary under a charter which does not expressly give to the council the power to appoint a city physician was passed upon by the Appellate Division of the Supreme Court in the case of Jacobs v. city of Elmira, 132 N. Y. Supp. 54. In this case the council had terminated the contract of employment before its natural expiration and appointed another physician in the place of the plaintiff. The plaintiff offered to perform services after such termination and for a portion of the period named in the contract, but was not permitted to do so. He then brought action to recover judgment for a portion of the time of the contract after such discharge.

It appears from the opinion that the only provision in the charter under which such a contract could be made by the common council, was the general power "to enter into contracts for services or supplies and order payment of the same and to provide generally for the welfare of the city."

Mr. Justice Houghton, in speaking for the court, said: "The provision of the charter quoted falls far short of giving even implied authority to enter into a binding contract with the plaintiff for the rendering of services for a specified time. The common council had no more authority to bind the city by a contract with the plaintiff than it had to create the office of a city physician and agree to pay a salary." The court proceeds to express the view that under the charter, the plaintiff could not be considered to hold an office or to have a definite tenure of employment, as it was not within the powers of the council to bind the city for a definite term, although in terms it attempted so to do, and that the tenure of employment was terminable at the pleasure of the appointing power, the city council, or as in that case, the newly elected common council.

VI. RIGHT TO COMPENSATION.

The law of compensation, it appears, having grudgingly given the quack a dwarfed and distorted moral sense, usually, by way of reparation, endows him with unusual business acumen and ingenuity.

A case illustrating the moral deficiency and at the same time the business enterprise and shrewdness of this class of practitioner reaches us through the Supreme Court of Indiana, in the case of State Bank v. Lawrence, 96 N. E. Rep., 947.

In this case "Doctor" Magee, a resident of Chicago, claimed to be a medical and surgical specialist. He had no license to practise in Indiana, and, so far as the case shows, none to practise in Chicago. His plan was to call on people in the country who were in ill health, and assure them he could cure them in a definite time, to prevail upon the patient to execute a note due at the end of that time in payment for the proposed treatment, and at the same time to execute a written agreement for the return of the note when due, if no cure were effected. He then sold the note before maturity.

In the particular case before the court the "doctor" was driven to the farm residence of one Lawrence, in Huntington County, Indiana. Lawrence was lying on a couch. Magee told him he was from Chicago, and was a specialist with a capital of $175,000; that he was out on a vacation advertising his business and had heard that Lawrence was ill. He examined Lawrence and told him he had catarrh and kidney disease and was in a very dangerous condition and would soon be beyond relief; that he could effect a cure in one year. Lawrence's wife was also present and the "doctor" found her also in great need of his treatment. For $120 he agreed to visit Lawrence and his wife once a month for a year and furnish them medicine to take and insure a cure. He prevailed upon Lawrence to execute a note for $120 and he then gave Lawrence a written agreement signed by himself agreeing that the note was to be returned in case Lawrence and his wife were not cured in a year. The "doctor" never returned although he sent some medicine which Lawrence and his wife took for some time and which made them worse each time they took it. After about eight months they quit taking Magee's medicine called in a local physician who prescribed for them and their ailments readily yielded to his treatment.

In the meanwhile Magee had indorsed and sold the note to a bank. The note was not paid at maturity and the bank promptly brought suit.

The Supreme Court held that, as the practice of medicine in the State without a license was prohibited under penalty of a fine, the note could not have been enforced by Magee.

The bank, however, having purchased the note before maturity for a valuable consideration, could not enforce it unless the bank had knowledge of the note's infirmity or the evidence disclosed such facts as would legally put the bank on inquiry as to its consideration.

The evidence brought out at the trial showed that the bank officials knew or believed, that Magee claimed to be a Chicago specialist: that he called himself a doctor; that he was offering to treat eyes and perform operations in Indiana; and that some of his notes handled by them were for the treatment of eyes. The treatment of eyes, either by medicine or by surgical operation, is prohibited by the statute of Indiana unless the physician or surgeon is licensed.

Under all of the circumstances the court affirmed the judgment in favor of Lawrence and against the bank.

VIII. CIVIL MALPRACTICE.

It is a recognized principle that if a physician advises against a particular operation as unnecessary and improper, and the patient nevertheless insists upon its being performed, the patient will thereafter be precluded from asserting that the operation was unnecessary or improper.

In a recent action for malpractice growing out of the improper use of the x ray, Hales v. Raines, 141 S. W. Rep. 917, the physician attempted to invoke this principle by showing that he had advised the patient that while the x ray was a proper treatment and that he would give it if the patient so desired, yet he warned the patient that it was a new method which involved some danger, and that notwithstanding the warning the patient assumed the risk and asked that he receive the treatment.

The evidence showed that the patient was suffering from what was diagnosticated by the physician as dry tetter or eczema, which had appeared in the palm of the right hand. After treating the patient for more than a year by the application of different remedies without satisfactory results, the x ray treatment was advised by the physician in the manner indicated. In the course of the treatment the patient's hand was exposed nine times within eleven days for different periods ranging from fifteen to thirty-five minutes each, and during each time was held only one half inch from the tube of the machine. As a result of this treatment the entire tissues of the hand were so burned as to cause its permanent injury. The patient suffered excruciating pain for several months, and the ligaments and muscles of the hand became so withered and distorted as to justify its being described by some of the witnesses as a "claw hand." It also appears that the proof was convincing that though the application of the x ray was proper treatment for eczema, at the time, the apparatus should have been adjusted at a distance from six to twelve inches from the part which was being treated.

The court in this case was of the opinion that the risk assumed by the patient was merely the danger resulting from the use of the x ray, if properly and skillfully used. A risk distinct from that which is introduced into the case by the negligence of the physician. "In other words," said Mr. Justice Nortoni, "though plaintiff (patient) should be regarded as having assumed by his express agreement such risks as attended the employment of the x ray, this agreement essentially implied a careful and skillful application thereof on the part of the defendant. We deem it to be contrary to the precepts of public policy to declare such agreement valid in the full measure of its scope and entail upon plaintiff (the patient), as within it, the consequences of defendant's (the physician's)

negligence in exposing his hand nine separate times within one half inch of the tube; for consent concerning such matters avails nothing unless due care and skill is employed by the physician."

In this case a judgment of $5,583.33 was reversed and the case remanded for a new trial, because of errors made in the trial of the case.

News Items.

The National Association of Manufacturers of Medicinal Products, is the title of an organization formed at a meeting held at the Waldorf-Astoria Hotel in New York on February 6th and 7th. The association embraces the leading manufacturers of pharmaceutical preparations of medicinal chemicals and the biological and surgical products. In the call for the meeting the statement was set forth that while wholesale druggists had a national body to protect their interests, and manufacturers of proprietary preparations had a national organization to protect their interests, the manufacturing chemists, pharmacists, and biologists of the country lacked such means of self protection. One of the principal objects of the organization is to bring about uniform legislation in the several States regarding medicinal products. This is, however, only one of the fields in which the organization is expected to be active. The following were elected officers for the ensuing year: President, Frank G. Ryan, of Parke, Davis & Co.; vice-president, Adolph G. Rosengarten, of the Powers-Weightman-Rosengarten Co.; secretary, C. M. Woodruff, of Parke, Davis & Co.; treasurer, Dr. H. C. Lovis, of Seabury & Johnson; members of the executive committee, the officers named above and A. R. L. Dohme, president of Sharp & Dohme, and Charles J. Lynn, of Eli Lilly & Co. The following were registered as in attendance: Frank G. Ryan, president of Parke, Davis & Co.; E. H. Nelson, of Nelson, Baker & Co.; Dr. Louis Schaefer, of the Schaefer Alkaloid Works; S. H. Black, vice-president of Bauer & Black; A. R. L. Dohme, of Sharp & Dohme; W. L. Stearns, of Frederick Stearns & Co.; H. J. Woodward, of Allaire, Woodward & Co.; George Simon, vice-president of the Heyden Chemical Works; George Merrell, of the William S. Merrell Chemical Company; John F. Carver, of Henry Thayer & Co.; Franklin Black, of Charles Pfizer & Co., New York; Dr. Hugo Schweitzer, resident manager of the New York branch of the Farbenfabriken of Elberfeld Company; A. G. Rosengarten, of the Powers-Weightman-Rosengarten Company, Philadelphia; Dr. Henry C. Lovis, president of Seabury & Johnson, New York; G. A. Pfeiffer, of William R. Warner & Co.; Dr. William Abbott, of the Abbott Alkaloidal Company; J. H. Cox, of the Tilden Company; Harry T. Jarrett, manager of the New York office of the Mallinckrodt Chemical Works; George G. Williams, of the E. L. Patch Company; R. C. Stofer, of the Norwich Pharmacal Company; George R. Wallace, of Henry K. Wampole & Co.; Josiah K. Lilly, of Eli Lilly & Co.; F. M. Bell, of Armour & Co., Chicago; Milton Campbell, of the H. K. Mulford Company, New York; W. F. Upjohn, of the Upjohn Company; Henry Schenck, of Merck & Co.; John F. Queeny, of the Monsento Chemical Works; A. M. Hance, of the Hance Brothers & White; Harold W. Sorby, of the Sorby Vaccine Company; A. D. Thorburn, of the Pitman-Wyers Company, of Indianapolis.

Changes of Address.—Dr. Charlotte Steckel Farrington, from Boston, to 5214 Spruce Street, Philadelphia.

Dr. C. L. Hosmer, from 4056 North Fifth Street, to 512 West Lehigh Avenue, Philadelphia.

Dr. William Henry Wilson, from 1837 Vermont Avenue to 1515 Tenth Street, N. W., Washington, D. C.

Personal.—Dr. Lewis Marks, who has been associated with Professor Ehrlich at Frankfurt-am-Main, for several years, has received from American friends a gift of $250,000, which is to be used in carrying on the special research work in which he has been engaged.

Dr. Henry A. Christian has resigned as dean of Harvard Medical School, resignation to take effect on September 1st. Doctor Christian has taken this step in order to devote all his time to the work of the new Brigham Hospital.

Civil Service Examinations.—The New York State Civil Service Commission announces that among the positions for which examinations will be held on February 24th are the following: Bacteriologist, female, health officer of the Port of New York, salary $1,500; Inspector, State Board of Pharmacy, men only, salary, $1,200; Physicians, homeopathic and regular, $900 and maintenance; Veterinarian, Department of Agriculture, $5 to $7 a day when employed. Application blanks must be filed on or before February 16th. For detailed circular and application blanks address the State Civil Service Commission, Albany, N. Y.

Dinner to a Distinguished Visitor.—Assistant Surgeon General Cofer, of the Public Health and Marine Hospital Service, on the occasion of his visit to New York on February 1st to address the Academy of Medicine on The Advisability of the National Control of Quarantine, was informally entertained at dinner by Dr. William M. Polk, president of the Academy, at the latter's home. The guests were Dr. John Henry Huddleston, secretary of the Academy, Dr. Algernon Thomas Bristow, Dr. Thomas Stedman, editor of the *Medical Record*, Dr. Claude L. Wheeler, editor of the NEW YORK MEDICAL JOURNAL, and Commissioner William Williams, of Ellis Island.

Examination for Assistant Registrar of Records.—At the request of the Department of Health of the City of New York the Municipal Civil Service, at a meeting held on January 31st, directed that an open competitive examination be held for the position of assistant registrar of records in the department. This position commands a salary of $3,000 a year. Candidates must be duly qualified physicians and must have had training and experience in statistical work. The time and place of the examination will be announced later by the Municipal Civil Service Commission, 299 Broadway, New York.

An Insufficient Number of Nurses.—The Public Health, Hospital, and Budget Committee of the New York Academy of Medicine, at a recent meeting, unanimously adopted the following resolution, subject to the approval of the Council of the Academy:

Resolved, That it is the sense of the committee that any regulations adopted by the State Education Department under the Nurse Practice Act, should not be so formulated, interpreted, or applied as to prevent the training in properly equipped hospitals of a sufficient number of pupil nurses to meet the public demand for trained nursing service.

It is said that the dearth of nurses in New York is threatening the activities of the hospitals most seriously.

Meetings of Local Medical Societies to be Held during the Coming Week:

MONDAY, *February 12th.*—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence; New York Ophthalmological Society; Williamsburgh Medical Society, Brooklyn; New Rochelle Medical Society; Corning Medical Association; Waterbury, Conn., Medical Association.

TUESDAY, *February 13th.*—New York Academy of Medicine (Section in Public Health); New York Obstetrical Society; Buffalo Academy of Medicine (Section in Medicine); Medical Society of the County of Rensselaer; Medical Society of the County of Schenectady; Jamestown Medical Society; Rome Medical Society; Practitioners' Club of Jersey City.

WEDNESDAY, *February 14th.*—New York Pathological Society; New York Surgical Society; Medical Society of the Borough of the Bronx; Alumni Association of the City Hospital; Brooklyn Medical and Pharmaceutical Association; Alumni Association of the Norwegian Hospital, Brooklyn; Richmond County Medical Society.

THURSDAY, *February 15th.*—New York Academy of Medicine; German Medical Society, Brooklyn; Newark, N. J., Medical and Surgical Society; Æsculapian Club of Buffalo.

FRIDAY, *February 16th.*—New York Academy of Medicine (Section in Orthopedic Surgery); Clinical Society of the New York Postgraduate Medical School and Hospital; New York Microscopical Society; Brooklyn Medical Society; Alumni Association of Roosevelt Hospital; Saratoga Springs Medical Society.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

January 25, 1912.

1. JAMES J. PUTNAM: Freud's Psychoanalytical Method and Its Evolution.
2. HENRY A. CHRISTIAN: Aneurysm of the Thoracic Aorta Treated by Wiring.
3. GODFREY R. PISEK and M. C. PEASE: Anaphylaxis in Its Relation to Pediatric Practice.
4. LINCOLN DAVIS: Acute Intestinal Emergencies: Strangulated Hernia, Intestinal Obstruction, Thombosis, and Rupture.
5. W. P. CONES: I. Successful Passage of an Unusual Foreign Body through the Intestinal Tract of a Child. II. The Importance of the X Ray in the Diagnosis of Obscure Fractures in Children.

2. Aneurysm of the Thoracic Aorta Treated by Wiring.—Christian reports a case in which a man was infected with syphilis at the age of thirty-four years, presented the first symptoms of endothoracic disturbance at the age of forty-three, and a diagnosis made of thoracic aneurysm on August 21, 1907, at the age of forty-six. The aneurysm was wired September 13, 1907. The symptomatic cure lasted six and one half months. A fall, with strain on arm and thorax, occurred May, 1908, followed by recurrence of symptoms and apparent enlargement of aneurysm, which was wired a second time June 30, 1908. There was temporary improvement, followed shortly by exacerbation of symptoms and evidence of enlargement of aneurysm. Rupture of aneurysm and death of patient took place August 27, 1908.

3. Anaphylaxis in Its Relation to Pediatric Practice.—Pisek and Pease say that many of the diseases of childhood find a satisfactory explanation in some degree of anaphylaxis. Von Pirquet's and Schick's "serum sickness" is a classic example. Severe asthmatic attacks are not uncommon in the "serum sickness." Closely associated with this type of bronchial asthma is urticaria. It has been classed with eczema and angioneurotic edema as a form of exudative diathesis. Localized reactions to a second injection of antigen (sensitizing agent) occur best in those animals which give the more generalized reaction with the greatest difficulty. The most common example of such a localized anaphylactic reaction is hay fever, in which the attack can be brought on at will by exposing the sensitive individual to small amounts of pollen. There are many spasmodic conditions in children which have long been regarded as due to exaggerated irritability on the part of the child's nervous system, but the suddenness of their onset and the rapidity with which they disappear make it seem certain that they belong to the group of anaphylactic reactions. Included among these are laryngeal spasm, tetany, eclampsia, certain forms of asthma, and some of the severer types of convulsive seizures. Bacterial extracts may cause anaphylactic reaction. The cure of infectious diseases begins with the formation of antibodies, and with the formation of these anaphylaxis takes place. We are forced to conclude that these reactions are merely quantitative differences in the same curative processes.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

February 3, 1912.

1. FRANK S. MEARA: Treatment of Acute Endocarditis and Myocarditis.
2. C. C. WHOLEY: Relationship of Drug Addictions, Particularly Alcoholism, to Nervous and Mental Diseases.
3. WALTER A. WELLS: Nonsurgical Treatment of Chronically Discharging Ears.
4. W. D. OWENS: Signs and Symptoms Presented by Those Addicted to Cocaine.
5. JULIUS H. HURST: Thirty Day Rhythm in Apoplexy.
6. DOUGLAS VANDERHOOF: Hexamethylenamine in the Treatment of Bronchitis.
7. RICHARD L. SUTTON and CHARLES C. DENNIE: Possible Interrelationship of Acanthoma Adenoides Cysticum (Multiple Benign Cystic Epithelioma) and Syringocystadenoma (Lymphangioma Tuberosum Multiplex).
8. J. SHELTON HORSLEY: Treatment of Nonunion of Fractures.
9. HENRY A. GARDNER: Decoration of the Interior of Hospitals and Public Buildings.
10. HENRY J. SCHERK: A Prostatometer for Estimating the Size of an Enlarged Prostate.
11. O. H. PERRY PEPPER: Magnified Heart Sounds Due to Exocardiac Conditions.
12. CATHERINE MACFARLANE: Menstrual Suppression Due to Hypothyroidism.
13. W. G. LITTLE: Sporadic Case of Infectious Hemoglobinuria.

5. A Thirty Day Rhythm in Apoplexy.—Hurst observed that five consecutive cases of apoplexy showed a marked periodicity in their recurrence. The danger periods appeared not to exceed five days and recurred at approximately thirty day intervals. Prophylactic treatment during these danger periods alone lessened very materially both the frequency and severity of the attacks. During these danger periods the blood pressure carried by the cases of the series was much in excess of that for the remainder of the month. The ultimate cause appears obscure. The author suggests that the phenomenon may be due to 1, influences originating in the nervous system; 2, the products of germ or parasitic activity; 3, mechanical compensatory changes of blood pressure; 4, disturbance of metabolism, assimilative or eliminative, or, 5, to the function, or disturbance of the function, of a gland or chain of glands possessing an internal secretion.

6. Hexamethylenamine in the Treatment of Bronchitis.—Vanderhoof, acting upon the suggestion of Armstrong and Goodman, has employed this drug in a series of cases of common colds and in patients suffering from acute and chronic bronchitis. The author has been pleased with his results and recommends this remedy highly in these conditions. The drug should be given in large doses (ten grains dissolved in a full glass of water, given four times daily for three to seven days, and then discontinued). In the ordinary cold, treatment with hexamethylenamine shortens the stage of coryza and greatly modifies or entirely prevents the succeeding bronchitis. It also acts as a prophylactic agent against ensuing infection of the accessory nasal sinuses. Certain cases of chronic bronchitis respond to treatment by this remedy with a gratifying alacrity, while others do not. In the latter instance it is presumed that structural changes have occurred in the walls of the bronchi, associated with thickening and calcification of the cartilages, fibrous membranes, and muscular coats so as to preclude the hope of successful treatment by any remedy. The patient is always instructed to drink water copiously during the time the drug is being taken, to lessen or prevent any irritating effect of the drug upon the bladder.

7. Possible Interrelationship of Acanthoma Adenoides Cysticum and Syringocystadenoma.—Sutton and Dennie recall that lymphangioma tuberosum multiplex or, better, syringocystadenoma, is a nonmalignant, cystic neoplasm derived from misplaced embryonal coil gland elements. The cells still retain their sweat secreting function, hence the tumors are true adenomata. Although these growths are, in reality, benign cystic epitheliomata,

they distinctly differ, both clinically and microscopically, from the acanthoma adenoides cysticum originally described by Brooke and by Fordyce. If the term, multiple benign cystic epithelioma, is to be retained, its use should be confined strictly to tumors of the Brooke-Fordyce group, and a more fitting and proper designation, as syringocystadenoma, adopted for the neoplasms which have so long been indexed under the euphonious but misleading appellation of lymphangioma tuberosum multiplex.

8. Treatment of Nonunion of Fractures.—Horsley notes that in the treatment of true nonunion of bone, that is, cases in which lime salts are not properly thrown down, there are two indications. The first is to increase the quantity of lime salts contained in the blood; and the second, to induce a larger quantity of blood to flow through the affected bones. The first indication is met by the administration of calcium salts, usually in the form of the hypophosphites. Thyroid extract has also been recommended, though its action is uncertain. The diet and personal hygiene of the patient should be carefully regulated. The second indication must be carried out by local measures. Any foreign substance imbedded in tissue induces a hyperemia. If, then, we insert a sterile foreign body that can be gradually absorbed, we have the ideal condition of bringing more blood to the region, and, at the same time, attracting leucocytes for its absorption, and so accomplishing the gradual disappearance of the foreign body after union of the bone has occurred. For this purpose Dr. Charles Mayo inserts a sterile ivory pin into the medulla of the bone. Bier's hyperemia method is useful in conjunction with the foregoing measures.

12. Menstrual Suppression Due to Hypothyroidism.—Macfarlane reports a case of amenorrhea in which the whole aspect of the patient was so suggestive of myxedema, and in which the blood and pelvic findings were negative, that the possibility of the amenorrhea being due to deficient thyroid secretion at once suggested itself. The patient was directed to take a five grain tablet of thyroid extract three times a day. After eight weeks' treatment, the patient menstruated for the first time in ten months; the flow was dark in color and moderate in amount, lasting five days; the headache, backache, numbness of the hands and arms, and the vertigo previously complained of were all relieved. From this time on the patient menstruated regularly every four weeks, with the exception of the third period, and her symptoms gradually disappeared. She lost twenty pounds of her surplus weight, her features became clearly defined, and her expression and conversation, compared with the same at her first visit, seemed animated.

MEDICAL RECORD

February 3, 1912.

1. W. Gilman Thompson: Importance and Prevalence of the Occupational Diseases.
2. Leonard W. Hatch: State Control of Occupational Diseases.
3. M. Allen Starr: Industrial Diseases Due to the Use of Metallic Poisons and the Measures Needed for Their Prevention.
4. John A. Fordyce: Occupational Diseases of the Skin.
5. B. Sachs and I. Strauss: Salvarsan in Syphilis of the Nervous System. From the Mount Sinai Hospital and the Montefiore Home.
6. E. Harrison Griffin: The Unrecognized Tragedian, Syphilis.
7. G. Frank Lydston: Sexual Neurasthenia and the Prostate.
8. William Hills Sheldon: Blood Pressure and the Patient.

5. Salvarsan in Syphilis of the Nervous System.—Sachs and Strauss, after a study of eighty cases, conclude that salvarsan has no curative effect in tabes and general paresis; that it seems to influence favorably some of the symptoms, particularly the vesical and sexual functions, and that under its use some of the cases remained stationary, and that none of them exhibited any unfavorable symptoms attributable to the drug itself; that in these two diseases it accomplishes as much as, but not any more than was achieved in former years by the use of mercurials. In brain and spinal cord syphilis the use of salvarsan is followed by an improvement in many of the symptoms, and it seems to be at least as efficacious as mercury. In the acute and subacute forms of brain syphilis, especially when associated with convulsive seizures and with chronic headaches, the drug has been distinctly beneficial. Without doubt the good effects of this treatment may be made more lasting by the additional use of mercury and the iodides. The drug may, however, prove most efficient in the prevention of parasyphilitic and metasyphilitic diseases of the nervous system. That general paresis, and probably tabes, run a more slowly progressive course, and indeed, a milder course than they did in former years is true beyond a doubt. It is to be hoped that the use of salvarsan in the early stages of syphilis may prevent the development of late and more serious forms of specific disease of the central nervous system.

BRITISH MEDICAL JOURNAL.

January 20, 1912.

1. R. Morison: Operative Cure of Ascites.
2. H. H. B. MacLeod: Radical Cure of Hernia.
3. James Miller: Perforated Ulcer of Esophagus with Pneumothorax.
4. J. McMillan: Cholecystitis in Typhoid.
5. D. G. Cheyne: Fibromyoma of Stomach.
6. H. B. Angus: Treatment of Damaged Intestine without Resection.
7. H. G. Anderson: Solid Carbon Dioxide in Hemorrhoids.
8. G. R. Girdlestone: Ruptured Liver and Kidney; Recovery.
9. G. Chambers: Acetyl Salicylic Acid.
10. J. M. Barlet: Cast of the Bladder.
11. William B. Leishman: Correction of Errors of Refraction for Microscope Work.

2. Radical Cure of Hernia.—MacLeod believes that inguinal and femoral hernias are due to a congenital sac which is patent and that they are not strictly speaking ruptures in the sense of being due to strain. If the sac is wholly removed, so as to leave no concavity, the condition will be permanently cured except in those old cases in which there has been very marked dilatation of the canal. In these latter it will suffice to suture the pillars of the ring together. The obliteration of the peritoneal sac is best accomplished by removing the fundus of the sac, dissecting the neck free to its actual junction with the peritoneum, displacing it outward and upward by drawing it through an opening in the internal oblique and transversalis muscles at a point three quarters of an inch above and to the outer side of the internal ring. The whole of the lax peritoneum is thus made taut and no depression remains. The excessive projection of the sac can then be removed, the skin wound is closed, and recovery will usually be without further interference. The results of this simple method of treatment are good, as is witnessed by the fact that of 250 cases done in the years of 1906 to 1908 there

were but nine recurrences up to the time of the publication of this article.

5. Fibroma of the Stomach.—Cheyne reports an interesting case of a woman in whom there was a large fibroma of the stomach which was discovered quite by accident and who had been totally devoid of symptoms referable to its presence. The tumor was described on the physical examination as a firm, smooth, rounded, elastic mass about the size of a cricket ball. It was seen bulging in the mid line of the epigastrium and appeared to move somewhat with respiration. It was readily movable laterally, but could not be drawn below the umbilicus. The excised mass weighed four ounces, its surface was smooth, it was rather soft and at places almost cystic. The pathological findings were those of a pure fibromyoma.

6. Treatment of Damaged Intestine without Resection.—Angus reports excellent results in the treatment of the injured, gangrenous, or perforated intestine when the lesion is confined to a small area. He passes one or more sutures of chromicized catgut through all the coats of the gut and approximates the edges of the wound. Then with Pagenstecher's thread he brings the adjacent sides of the damaged area into apposition by means of a Lembert suture, either continuous or interrupted, and thus encloses the weak spot. The kink formed in the bowel would seem to be likely to cause an obstruction, but in a number of cases in which the method has been used such has not been the result. The operation is designed chiefly as an emergency one and is not offered as one of choice in a case in which the condition of the patient would permit a more prolonged operative proceeding.

10. Cast of the Bladder.—Barlet records the case of a woman who gave the history of having had labor pains and whose uterus was considerably enlarged. He thought that she had had an incomplete abortion and dilated her cervix sufficiently to introduce his finger, when to his surprise he was able to feel a fetus enclosed in the membranes. He washed out the vagina and plugged it with iodoform gauze which he removed the next day. Later the patient was taken with an intense desire to micturate, but was unable to do so. After some efforts for twenty minutes a severe pain developed and, after straining, a considerable amount of water was passed together with a mass which was rolled up to about the size of the thumb. This mass proved to be a cast of the bladder more than three inches in the smallest dimension. Recovery was fairly rapid and was complete. The pregnancy progressed normally.

LANCET

January 20, 1912.

1. C. A. Ballance: Resources of Surgery in Emergencies.
2. Henry Head and Gordon Holmes: Sensory Disturbances from Cerebral Lesions.
3. W. Evans: Salvarsan.
4. J. H. Sequeira: Advances in the Diagnosis and Treatment of Syphilis.
5. E. A. Cockayne: Intestinal Myiasis.
6. L. E. Barrington-Ward: Double Coxa Vara in Brother and Sister.
7. K. H. Digby: Function of the Tonsils and the Appendix.

2. Sensory Disturbances from Cerebral Lesions.—Head and Holmes conclude their studies in this paper, the third of a series, with the details of the sensory disturbances produced by lesions of the cerebral cortex and of the optic thalamus and neighboring parts. They summarize their conclusions upon the entire sensory portion of the central nervous system. The thalamus contains the ending of all secondary sensory paths and through it the sensory paths are regrouped into two divisions, one passing to the cortex of the brain, and the other to the gray matter of the thalamus itself. The thalamus also contains gray matter which is its essential organ and which forms the centre for certain fundamental elements of sensation. And lastly a lateral part through which the cerebrum influences the essential thalamic centre. This essential thalamic centre or organ is the centre of consciousness for those sensory elements pertaining to pleasure or pain, or consciousness of a change in state. The feeling tone of somatic or visceral sensations results from thalamic activity and a sensation devoid of feeling tone is one which makes no thalamic impression. These actions of the essential thalamic centre are probably controlled by fibres from the cerebral cortex which end in the lateral nucleus. When this control is removed through injury to this region the thalamic centre can react without restraint to those impulses which affect it—i. e., to all stimuli capable of arousing affective states. Since most stimuli of daily life contain a noxious or disagreeable element, most sensations are painful to one with a lesion of this portion of the thalamus. The occurrence of painful paresthesias and spontaneous pains are likewise due to the removal of cortical inhibition of the thalamic centre. The cortex itself is the organ by means of which we can become attentive to the changes evoked by sensory impulses. A pure quiescent cortical lesion will alter the sensibility in such a way that the patient's answers will appear to be untrustworthy. The uncertainty of response by destroying the power of comparing one set of impressions with another prevents discrimination. The cortex is also the storehouse of past impressions. These may come to consciousness as images, but more often they remain outside central consciousness where they form organized models of ourselves which the authors term *schemata*. These schemata so modify the impressions of incoming sensory impulses that the final sensations of position and of locality rise into consciousness charged with a relation to something that has happened before. All possibility of the recognition of the location of a touched spot or of posture is removed through the destruction of such schemata by a lesion of the cortex. The view of the sensory mechanism put forward by Head and Holmes in this paper explains many facts already observed by clinicians and psychologists. The aim of human evolution is the domination of feeling and instinct by discriminative mental activities. The height of this evolution is made clear by these researches.

4. Treatment of Syphilis.—Sequeira concludes that the treatment should be begun in the primary stage rather than delaying till the development of secondaries. The finding of the spirochetes or the determination of the Wassermann reaction should confirm the early or late diagnosis where there is any doubt, and it is well to have these observations in any case. Mercurial treatment is undoubtedly efficacious and nearly every case is influenced by it.

After eight or more courses of injections twenty-one per cent. still have a positive Wassermann reaction. After two or more years' treament with mercurial pills thirty per cent. remain positive. Salvarsan is not notably dangerous in properly selected cases. Under rigid care in asepsis the intravenous is the best method of administration. The use of redistilled saline eliminates the fever, rigors, vomiting, and other unpleasant symptoms in nearly every case. The immediate effects of salvarsan on both the clinical manifestations and on the Wassermann reaction are far more rapid than are those of mercury. In primary syphilis the results are remarkable. In early cases the secondary stage may be aborted. In well developed secondary cases the effects are less striking and relapses do certainly occur. The permanence of the results must wait for time to demonstrate. In tertiary cases healing is very rapid, but the Wassermann reaction is hard to influence and relapses are likely to occur. Everything points to the importance of early diagnosis and early treatment.

5. **Intestinal Myiasis.**—Cockayne reports the interesting case of a boy of fourteen months who harbored in his intestine the larvæ of the common house fly, *Musca domestica* Linnæus, and of the small house fly, *Fannia canicularis.* These larvæ were never passed with the stools, but were found on the napkin in numbers up to fifty at one time. The worms were in the last stage of development and in all probability they left the child voluntarily to find a suitable place to pupate. The child had no symptoms and was in apparent good health. The occurrence in the late Fall when there were but few flies in the house is in itself remarkable. Cockayne analyzes the other reported cases and shows that in many instances the infection can be traced directly to food contamination.

7. **Functions of the Tonsils.**—Digby advances the hypothesis that the lymphatic tissues in the tonsils, the appendix, and the intestine are the structures which protect the body from chance infection and that their action is one of continual autovaccination. By their destruction of the bacteria which are attracted to these structures through positive chemotaxis, there are formed both specific bacteriolysins and antitoxines in excess. These in turn are absorbed into the general circulation and produce a certain degree of immunity to infection. As the process goes on continually there is always a production of this condition unless the infecting organisms are sufficiently abundant or of such virulence as to overcome the protective barrier. One should be guarded, then, in removing the tonsils merely on account of some slight enlargement and such a procedure should be adopted only when the enlargement is sufficient to cause obstructive symptoms in the respiratory passages.

PARIS MÉDICAL.

January 20, 1912.

1. Sacquépée: Antityphoid Vaccination.
2. Carrière: D'Arsonvalization, Arterial Tension, and Diuresis in Hypertonic Arteriosclerotics.
3. Schwartz: Treatment of Thoracoabdominal Wounds.
4. Grangée: Two Rare Forms of Hemorrhage.

1. **Antityphoid Vaccination.**—Sacquépée has little but praise for this procedure and points out that there has been steady improvement in methods, and that fear of the trifling operation has been largely dissipated. The method of Pfeiffer-Kolle is not so good, but the vaccines of Wright-Leishman, Chantemesse, and H. Vincent, especially the latter, are well borne. There should be at least three successive inoculations, preferably four, of increasing strength, as one inoculation is valueless. One vaccination a year makes an excellent routine, and it should be carried out everywhere, since typhoid is universal. Perhaps the procedure is still too new to be made obligatory, but all troops should be vaccinated, and all practising physicians. Praise is accorded to the American government for its prompt action when the troops went to the Mexican frontier.

2. **D'Arsonvalization.**—Carrière avers that this procedure is a two edged sword, giving rise occasionally to grave accidents, even to death. It should be used with caution and no attempt made to obtain a sudden diminution in arterial pressure. It is formally contraindicated in albuminuria, if chloride elimination is less than three grammes (forty-five grains), if nitrogen elimination is below normal, if there is less than 800 grammes of urine in the twenty-four hours, and if the renal permeability to methylene blue is prolonged or retarded. Carrière advises when giving high frequency currents the administration of plenty of fluids, and even of nonhypertonic diuretics, and the suspension of d'Arsonvalization if the excretion of urine falls below one litre with symptoms of nitrogen or chloride retention.

PRESSE MÉDICALE.

January 20, 1912.

1. J. Castaigne: Rôle of the Physician in Treating Renal Tuberculosis.
2. Emile Feuillié: Leucopathic Albuminurias.
3. Alfred Martinet: Medicinal Treatment of Hyperchlorhydria.

1. **Renal Tuberculosis and the Physician.**—Castaigne raises a protest against invariable nephrectomy in this disease and gives details concerning five cases in which he used tuberculin or Spengler's immunizing bodies, or both, with ultimate success. He asks his readers to report all similar cases and to make a concerted effort to save these patients from the surgeon. Treatment along these lines, says the writer, may relieve a large number of cases hitherto thought to be exclusively surgical, and will prevent even in surgical cases the spread of infection to the other kidney. Medical treatment should, therefore, supplement operation also.

3. **Hyperchlorhydria.** — Martinet says that sodium bicarbonate has always been the classic remedy in this condition; insisting on a chemically pure salt, he prescribes it as eight grammes to four of dried sodium phosphate, and two of dried sodium sulphate, to make one powder. This is to be dissolved when required in one litre of cold water and taken in doses of fifty to 100 grammes as required when the attacks of pain begin. When hyperchlorhydria is very severe, as in gastric ulcer, bismuth is indicated, especially the carbonate. Milk, olive oil, fresh butter, and almonds are excellent when pure and free from fatty acids. The almonds should be blanched.

SEMAINE MÉDICALE.

January 17, 1912.

F. LEJARS: Practical Value of Abdominal Drainage.

Abdominal Drainage.—Lejars admits that there is at present a sentiment against drainage after abdominal operations, on account of its incomplete results, and states that our methods of asepsis and our present technique render the procedure frequently quite superfluous. He makes a plea, however, for its very gradual renunciation and thinks that for the present only the complicated processes, those unduly prolonged and accompanied with excessive tamponage need be dispensed with.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

January 12, 1912.

1. VON DUNGERN: Serodiagnosis of Tumors with Complement Reaction.
2. SCHITTENHELM and WEICHARDT: Anaphylaxis in Infection and Immunity.
3. ESCH: Is Birth to Be Considered an Anaphylactic Process? Biological Investigations.
4. NEU and WOLFF: Experimental and Anatomical Investigation of the So Called Myoma of the Heart.
5. SCHÄFER: Experience with Pituglandol.
6. HAMM: Extract of the Hypophysis as an Oxytocic at Normal and at Premature Birth.
7. KREUZFUCHS: Radiological Examination of the Apices of the Lungs. Phenomenon of Coughing.
8. ABELIN: Salvarsan in the Blood after Intravenous Injection.
9. MALAISÉ: Diagnostic Importance of Hemiplegic Convulsions.
10. GUDDEN: Adalin, a New Narcotic.
11. CROHN: The Treatment of Postdiphtheritic Paralysis with Serum.
12. PERLMANN: Hot Air Treatment of Eczema in Nurslings.
13. LAMPÉ: A Source of Error in the Use of Nylander's Sugar Test.
14. WEYGANDT: The Foreign, Especially the Transatlantic Insane.
15. MENZER: Treatment of Gonorrhea in the Male.
16. BÜRKER: Examination and Graduation of Sahli's Hematometer and Improvements on the Method of Counting Erythrocytes.
17. GERTZ: Allvar Gullstrand.
18. COHN: In Memory of Max Jaffé.

1. Serodiagnosis of Tumors with Complement Reaction.—Von Dungern shows in fifty-five cases that malignant tumor reaction well indicates serologically the presence of tumors. The test should not be made in a luetic who gives a positive Wassermann reaction, although the tumor reaction cannot be confounded serologically with syphilitic reaction. The author produces his extract through the action of ethyl alcohol upon a particle of the malignant tumor; one part in weight of the tumor is finely cut up and dissolved with four parts of weight of 98 per cent. ethyl alcohol, and kept from twelve to forty-eight hours. After filtration the extract is mixed before use with physiological salt solution, one to two. He uses as complement guineapig serum. He has thus produced five useful extracts.

3. Is Birth to Be Considered an Anaphylactic Process?—Esch disagrees with Heyde, who asserted that birth is an anaphylactic process.

5, 6. Hypophysis Extract.—Schäfer has made experiments with pituitrin and pituglandol and says that neither is trustworthy for inducing abortion or premature birth. In weakness of labor pains in the first period the doses are to be administered repeatedly before an effect is produced, but in the third period pituglandol is very effective.——Hamm has used pituitrin, vaporole, and pituglandol, and does not think that either remedy used alone, without mechanical help, exerts any influence upon labor.

8. Salvarsan in the Blood after Intravenous Injection.—Abelin proves in eight cases that after intravenous injection, salvarsan can be demonstrated for some time in the circulation.

12. Hot Air Treatment of Eczema in Nurslings.—Perlmann has used hot air treatment in eczema of nurslings. He found that together with a very rigorous diet the treatment was very successful, especially in moist eczema and in furunculosis.

PRAGER MEDIZINISCHE WOCHENSCHRIFT.

January 11, 1912.

1. EMIL STARKENSTEIN: Pharmacology of Pituitrin.
2. ARTHUR SCHEUER: Rhodalzid, Its Importance in Dentistry and Its Future in Medicine.

January 18, 1912.

3. F. GANGHOFNER and FELIX SCHLEISSNER: Retreats for Nursing Mothers.
4. HANS WOLLIN: Diagnosis of Perinephritic Abscesses.

1. Pharmacology of Pituitrin.—Starkenstein remarks that the name pituitrin is misleading, as the extract is made from the neurohypophysis, that is, from the posterior lobe of the gland, while the name glandula pituitaria belongs to the anterior lobe. He gives a good review of the literature. We see that the hypophysis is important to the growth of the body; even in pregnancy this ductless gland plays a certain rôle in the development of the fetus. An excessive production of the gland carries with it a decrease of the generative functions. The extract produces quickly in intravenous injections a large increase of the blood pressure, which is of longer duration than that following extract of the suprarenal gland. Besides, the extract of the hypophysis shows a permanent effect upon the secretion of the kidneys, which is increased. But as to the purity of the extract from the hypophysis, the chemical production is far behind that obtained in the productions of the suprarenal extracts. As to the toxicity of the extract we do not know much. The majority of the experiments with the extracts were made in gynecology and urology. In obstetrics we find that the extract will increase labor pains.

3. Retreats for Nursing Mothers.—Ganghofner and Schleissner speak of homes for infants in which the mother who works in a factory may, at certain hours, visit her baby to nurse it. Such homes exist officially in Italy, Spain, and Portugal, but it is mentioned that in these countries the homes are to be found on paper only, that is, the law prescribes them, but is not carried out. In Austria governmental tobacco factories and private manufacturing concerns keep such homes, one of which is described. The results are very beneficial for the mother, the infant, and the family, and the institution of *Stillkrippe* should be more widely introduced in such industrial countries where the mothers have to work in factories.

WIENER KLINISCHE WOCHENSCHRIFT.

January 4, 1912.

1. OTTOKAR CHIARI: Modification of Schloffer's Operation for Tumors of the Hypophysis.
2. F. CHVOSTEK: Constitution and Blood Producing Glands.
3. F. DIMMER: Operative Treatment of Strabismus.
4. A. FREIHERR VON EISELSBERG: My Results from Operations on Tumors of the Brain.
5. SIGMUND EXNER: Experiment Based upon Goethe's Theory of Colors and the Explanation.
6. F. FINGER: The Etiology of Skin Diseases.
7. ALEXANDER FRAENKEL: Asepsis; Antisepsis.
8. A. FRÖHLICH and H. H. MEYER: The Sensory Innervation of Intestines and the Bladder.
9. A. VON FRISCH: Hematuria in Appendicitis.
10. ERNST FUCHS: Photophobia.
11. JULIUS HOCHENEGG: Gunshot Injury of the Thorax Section of the Esophagus.
12. GEORG JOANNOVICS: Action of Transplanted Carcinoma in Mice Made Anemic Artificially.
13. ALEXANDER KOLISKO: Fever Hallucinations of a Pneumonia Patient Based upon Erroneous Statements of Maltreatment.
14. E. LUDWIG: Rare Elements of Mineral Waters.
15. RICHARD PALTAUF: Leucosarcomatosis and Myeloblastoleuchemia.
16. C. FREIHERR VON PIRQUET: The New Pediatric Clinic of the Vienna University.

17. G. Riehl: Furunculosis and Its Treatment.
18. F. Schauta: Is It Necessary to Take out Fragments of the Placenta?
19. Wagner von Jauregg: Treatment of Progressive Paralysis with Bacterial Toxines.
20. A. Weichselbaum: Chronic Pancreatitis in Chronic Alcoholism.
21. E. Wertheim: Operations for Recurrence after Extirpation of the Carcinomatous Uterus.

With this number the twenty-fifth volume begins of the *Wochenschrift,* which was founded by von Bamberger, Theodor Billroth, E. Fuchs, H. Kundrat, E. Ludwig, and L. von Schrötter. It is the official journal of the Imperial Royal Society of Physicians in Vienna, and has produced many valuable articles. The present number contains a long list of important essays, only a few of which we have the space to review in very condensed form.

1. Modification of Schloffer's Operation on Tumor of the Hypophysis.—Chiari reports two cases in which he used a modification of Schloffer's operation on tumors of the hypophysis. As one of the great advantages of this method, the author mentions that it is possible to perform it in one step and not in two as is necessary with Hirsch's method. The scar which results is small, and the disfigurement is therefore minimal. Only one side of the nasal antrum is opened, and here only a small part of the bony frame is resected, that is, the frontal process, while from the inside of the antrum there are removed the middle concha, the ethmoid bone, the greater part of the lamina papyracea, and the posterior part of the septum nasi. The route from the external cut to the sphenoid bone is shorter and much broader than the one through the opening of the nose.

4. My Results from Operations on Tumors of the Brain.—Baron Eiselsberg describes his technique for operations on tumors of the brain which he has used in a hundred cases. These include forty-three trepanations for tumors of the cerebrum, with thirty-two correct diagnoses; twenty-two trepanations for tumors of the cerebellum, with eleven correct diagnoses; twelve trepanations for tumors in the acoustic region; thirteen operations for tumors of the hypophysis; and ten palliative operations. Of the thirty-two correctly diagnosticated cases of tumors of the cerebrum, nine patients died from the operation. Of the remaining twenty-three cases he only was able to report the post-operative history of nineteen. Of these twelve are still alive, from two weeks to five years after the operation. Of the eleven cases with tumors of the cerebellum rightly diagnosticated five patients died from the operation, and only one patient is alive two years after the operation. Of the twelve acoustic tumors two patients died from the operation, while four are still alive from two years to one year after the operation. In all, the cerebellum was thirty-four times the object of operation, and twenty-two patients died.

9. Hematuria in Appendicitis.—Von Frisch speaks of the difficulty to distinguish correctly between appendicular inflammation and stones in the kidney or ureter. The urinary system is often affected in appendicitis, and in such cases hematuria will appear. This he explains in the following way: The stasis of the contents of the intestines in the flexura coli forms a hard clot of the feces, which through pressure upon the left kidney or its vessels produces hematuria.

18. Artificial Expulsion of Fragments of the Placenta.—Schauta states that placenta fragments should always be taken out in the absence of fever; in fever only when the process involves the endometrium or the uterus, and as long as the parametria, the annexa, and the veins of the pelvis are entirely free; but even if these are involved, the fragments should be extirpated as a last resort in moribund patients.

ZENTRALBLATT FÜR CHIRURGIE

January 13, 1912.

Wilhelm Wolf: Pressure Pareses after Use of Esmarch's Bandage.

Pressure Pareses after the Use of Esmarch's Bandage.—Wolf is inclined to ascribe the paresis occasionally observed in limbs that have been rendered bloodless by Esmarch's method, to the presence of old syphilis, which renders the nervous system hypersensitive to external injuries.

ZENTRALBLATT FÜR INNERE MEDIZIN.

January 6, 1912.

A. Schmidt: Intestinal Antisepsis by Insufflation of Oxygen into the Duodenum.

Intraduodenal Oxygen Insufflation.—Schmidt introduces a slow stream of oxygen directly into the intestine by means of Einhorn's tube, slightly modified for the purpose. From two to four litres of the gas are generally introduced, twice daily, and cause no discomfort to the patient. An hour or two after the gas is passed as flatus. Fermentative changes of the intestinal contents are completely overcome after a few insufflations. Putrefactive processes also seem to be diminished.

AMERICAN JOURNAL OF SURGERY.

January, 1912.

1. W. J. Mayo: Gastrojejunostomy.
2. J. F. Binnie: Colonic Intoxication.
3. G. W. Crile: Surgical Aspects of Graves's Disease.
4. A. J. Ochsner: Surgical Treatment of Exophthalmic Goitre.
5. J. Rilus Eastman: Bleeding in Brain Operations.
6. N. Allison: Tendons and Ligaments of Silk in the Surgical Treatment of the Paralyses.
7. W. Bartlett: Operative Treatment of Fractures.
8. J. H. Carstens: Nephropexy: The Necessity of Technique.
9. E. O. Smith: Prostatic Obstruction.
10. A. Ravogli: Treatment of Abscesses and of the Necrotic Foci Resulting from the Injection of Salvarsan.
11. E. Fletcher Ingalls: Foreign Bodies in the Esophagus.
12. S. W. Kelly: Drainage of Acute Pleural Empyema in Children.
13. L. W. Ely: Arthritis Deformans.
14. H. Tuholske: Adenoma of the Liver.
15. W. H. Axtell: Acute Angulation and Flexure of the Sigmoid, a Causative Factor in Epilepsy.
16. John C. Murphy: Uterine Cancer; Its Early Recognition by the General Practitioner.

1. Gastrojejunostomy.—Mayo notes that post-operative vomiting is rare when the jejunum is applied to the posterior surface of the stomach as near as possible to its origin. In cases where cancer or ulcer with adhesions makes the posterior operation impossible, the anterior method must be used, and to obviate bile regurgitation or vomiting, Hartman's plan of putting a mattress suture, one inch proximal and one inch distal to the suture line, will be found effective. Since the Moynihan clamps have been introduced for the purpose of bringing the parts into apposition and to prevent soiling the field of operation, they have been abandoned in many foreign clinics because of occasional hemorrhages from the suture line into the gastrointestinal

tract after removal of the clamps. To insure against this accident, Mayo now uses a third row of catgut sutures, uniting the mucous membrane along the posterior suture line and has since had no bleeding following operation. The second row of sutures is placed before opening the cavity of the stomach and jejunum, thus preventing the posterior suture line from being soiled. The mucous coats of the stomach and intestine are opened near the outer margin, which throws a little flap of redundant mucous membrane toward the suture line, and this is brought together with the third row of sutures. Chromic catgut is used for the inner, and linen for the outer rows of sutures, but in carcinoma linen is used for both, as union is slow. The torn margins of the gastrocolic omentum are fastened to the suture line of the gastrojejunostomy by three or four sutures, which should pick up the peritoneum a quarter inch above the rent, and after fastening down to the suture line the torn margin should be neatly tucked in to avoid secondary adhesions. Gastric ulcers should be excised and duodenal ulcers infolded with sutures. Operative closure of the pylorus following gastrojejunostomy is usually unnecessary and unavailing. Castor oil is used instead of salines in preparing the patient for operation, as it is effective and not exhausting. If the patient is in an exhausted condition, one sixth grain of morphine is given. The field of operation is cleaned with benzene after being shaved. When dry, a coating of three and a half per cent. solution of iodine, freshly prepared, is applied. After operation the patient is placed in the semisitting posture on a buttock rest, which is merely a sling of gauze wrapped with a sheet and fastened to each side of the head of the bed, and rectal salines by the Murphy method are begun.

2. **Colonic Intoxication.**—Binnie, after a review of the embryology of the intestinal tract, avers that toxemia due to stasis is one of the commonest conditions met with by physicians. Ptosis of the transverse colon leads to contraction of the peritoneal attachments at the flexure, thus accentuating the kinks at these locations. Wasting of the muscular coats follows, especially at the sigmoid flexure. In cases of chronic colonic intoxication, there is abdominal distention, painful dragging in the abdomen and pelvis, tenderness and rigidity, frequently in the right iliac region, but lower than McBurney's point,—and perhaps constipation, alternating frequently with diarrhea. Indigestion, neurasthenia, dirty looking skin, especially at the body folds and eyes, and cold hands and feet are frequent symptoms. Even very severe cases often respond to patient medical treatment, which is as follows: 1. Support the lower abdomen with a well fitting binder or lifting corset; 2, strengthen the abdominal muscles by exercise; 3, regulate the diet, avoiding foods which leave a large amount of material to be absorbed by the lower bowel, i. e., vegetable food; buttermilk being of great value; 4, regulate the bowels by rectal flushing, and use of white petrolatum by mouth; 5, use judicious abdominal massage. If these measures fail after a thorough trial, surgery is required, and a great diversity of opinion prevails as to the best treatment, which ranges all the way from appendectomy to excision of the colon, the latter measure having given wonderful results in Lane's hands. Ileocolostomy has proved its value by sidetracking the offending portion of the bowel, and cases of chronic rheumatism and tuberculous joints have readily cleared up and the patient has been restored to health by the operation.

4. **Practical Points in the Surgical Treatment of Exophthalmic Goitre.**—Ochsner cites the following practical points in the treatment of exophthalmic goitre: Surgery is indicated in every case which does not end in permanent recovery upon treatment with rest, good hygiene, a few harmless remedies, and possibly serum, provided the patient is not suffering from temporary exacerbation of hyperthyroidism; and, second, that the condition has not existed long enough to leave the circulat on and nervous system in a hopeless condition. To be safe, do not exceed the patient's margin of safety, i. e., if the patient is in bad shape, ligating a vessel or two will be safe when perhaps a more extensive operation would mean death. The rest can be done later. Good drainage of the wound must be provided. Traumatism and crushing of gland tissue must be guarded against during operation. The safest method of anesthesia for this operation is to give one quarter grain of morphine and one one hundredth grain of atropine, hypodermically, half an hour before operation. Then thoroughly anesthetize with ether by the drop method, withdrawing the ether as soon as the patient is fully under, and elevate the head of the table to an angle of forty-five degrees. The jaw must be held forward during the whole operation. Avoid injury to the recurrent laryngeal nerves, parathyroids, and trachea, and leave enough thyroid tissue to avoid myxedema. Immediately following the operation an abundance of liquid must be given, either hot water by the mouth, salt solution per rectum, or subcutaneously, to avoid postoperative hyperthyroidism.

5. **The Control of Bleeding in Brain Operations.**—Eastman states that elevation of the head of the table will do more to check venous hemorrhage in brain operations than the elastic encircling band, and should be tried if the latter fails. The common stationer's circular rubber bands are easier to handle than an Esmarch band or rubber tubing. The scalp flap should be cut with the base downward, so that the supplying vessel enters the base of the flap, the horseshoe incision arching over its branches, and the hemorrhage can then be easily controlled by catching the base of the flap between the jaws of rubber covered forceps, applying just enough pressure to stop the bleeding. In troublesome hemorrhage from the diploe Horsley's wax, or warm, soft sterile gum, may be pressed into the openings, or sterilized, soft, fine pegs may be inserted, removing these before closing the wound. Eastman uses a punch for condensing the margin of the diploe to arrest bleeding.

6. **Tendons and Ligaments of Silk in the Surgical Treatment of the Paralyses.**—Allison says that surgical treatment to relieve the effects of paralysis aims either to furnish improved muscle balance or to produce stability in the palsied member, and that the operations designed to restore

muscle equilibrium are nerve anastomoses and tendon transference. Artificial ligaments of silk open a promising field; the silk must be boiled for twenty minutes in one to 1,000 bichloride solution before using, and careful asepsis observed to insure success of the operation.

8. Nephropexy.—Carstens points out that the kidney is not an abdominal organ, and although it often takes part in a general ptosis of the abdominal viscera, it alone may be displaced. The symptoms are variable, ranging from those of pressure by the kidney in its new position to indefinite hysterical or neurasthenic manifestations. He notes that the kidney often returns to its own position when the patient is put on the back, but that straining or coughing will bring it down. The only proper way of fixing the kidney so that displacement will not recur is by fixation of the fibrous capsule. The fatty capsule is stripped off, any peritoneal adhesions are freed, the fibrous capsule is incised at the convex border, from one pole to the other, and stripped off on one side. The upper part of the freed capsule is sutured to the erector spinal muscles and the lower part to the quadratus lumbar muscles. The muscles are brought together with a running suture and the skin wound is closed by strips of adhesive plaster.

10. The Treatment of Abscesses and of Necrotic Foci Resulting from the Use of Salvarsan.—Ravogli states that a few days after an injection of salvarsan a swelling occurs in the place of injection, usually with little pain. This is due to necrosis and edema produced by the drug, but may simulate a true abscess and give signs of fluctuation. There is no phagocytosis, however, and no pus. If left alone these usually subside, but opening may be necessary with removal of the necrotic tissue and drainage to aid removal of necrotic particles. In most cases the swelling disappears, leaving a hard lump, and later nothing remains but a little hardness at the site. A few abscesses are no contraindication to the use of salvarsan, which is a most wonderful remedy for syphilis.

11. Treatment of Foreign Bodies in the Esophagus.—Ingalls considers, unless a competent esophagoscopist is at hand, that the bristle bougie is the best device for removing foreign bodies, such as pins or fish bones, from the esophagus. A foreign body, if not too large or rough, may be pushed down into the stomach. When coins or similar shaped bodies have lodged in the esophagus, if their position can be ascertained by means of the esophageal bougie or a skiagraph, either the bent esophageal forceps or an eight to twelve inch hemostat may often be successfully employed in their removal, even when the esophagoscope has failed to locate the offending object. The distance from the teeth to the object is measured, the instrument passed to its vicinity, opened anteroposteriorly, pushed gently for about an inch, and closed, and in most cases it will grasp or enclose the offending body. Unless the esophagus is inflamed it is not very sensitive, and so anesthesia is unnecessary unless the patient is nervous. If thought necessary, cocaine from ten to twenty per cent. in a one to two to 4,000 solution may suffice. In children over four or five years, excitable adults, or spasm of the esophagus, ether is indicated. To pass the esophagoscope the patient should be placed on the back with his shoulders from four to six inches beyond the end of the table, the head bent backward, and supported by an assistant. The mouth gag is used and pressure on the trachea avoided. The essentials for successful passing of the esophagoscope are that at first the head be bent backward, so as to straighten the cervical curvature and bring the axis of the oral cavity parallel with that of the esophagus, but as soon as the mouth of the esophagus has been passed the head must be brought slightly forward so that the instrument is directed downward and backward at an angle of about ten degrees.

16. Uterine Cancer; Its Early Recognition by the General Practitioner.—Murphy avers that many fatal cases of cancer are blamable on the doctor, who often, by a false diagnosis, lulls the patient into a false sense of security. Irregular hemorrhage from the uterus in all women over twenty-one years of age should call for thorough examination. He has never seen cervical cancer in a nulliparous woman, but has had two cases of cervical cancer at twenty-two years from unrepaired cervical lacerations. In cancer of the body hemorrhage may be late and pain entirely absent, but a watery, perhaps blood streaked leucorrhea, is a fairly constant symptom. Thorough curettement of the whole endometrium should be done and the scrapings thoroughly examined by the microscope. The curette is the best aid in diagnosis. Adenocarcinoma of the cervix starts primarily in the cervical canal and remains hidden from view till great damage is done. Squamous cell carcinoma (the most frequent form) has its origin in the squamous epithelium, covering the vaginal portion of the cervix, and can be readily seen, so there is no excuse for failure to recognize it, as the preliminary hardness of the cervix, its glazed appearance, and the papillary excrescences on its surface are characteristic. Cervical cancer is practically confined to parous women; to repair all cervical lacerations after the period of involution is therefore obligatory. Bleeding after the menopause calls for immediate and thorough examination, curettement, and microscopical examination of the scrapings. If the cervix is enlarged, glossy, and nodular, excise a small portion from the suspicious area and examine microscopically.

BULLETIN OF THE JOHNS HOPKINS HOSPITAL.

January, 1912.

1. C. R. Austrian: Ophthalmoreaction in Typhoid Fever.
2. J. W. Churchman: Strauss Test for Hepatic Insufficiency.
3. W. S. Thayer: Sepsis and Antisepsis in Measles.
4. C. N. Hendrick: Sewerage System of the City of Baltimore.

1. The Ophthalmoreaction in Typhoid Fever.—Austrian, reviewing the work done in June, 1910, when an investigation of the merits of the ophthalmoreaction as an aid to diagnosis was undertaken in the typhoid ward of the Johns Hopkins Hospital, states that varying reactions to the antigens used in patients with undoubted typhoid led to the following conclusions: Since there are many strains of typhoid bacilli a patient may produce immense bodies in large amounts against the predominating strain A, but possibly relatively small amounts against the less numerous strain B. As a consequence

though he overwhelmed A his serum was unable to prevent the multiplication of B and consequently he suffered a relapse or reinfection. To prevent such variations in reaction eighty strains of typhoid bacilli were used in making the test preparations, the idea being to secure a substance which would cause a reaction in all cases of typhoid, but no reaction in those ill with other diseases, or in healthy individuals. The end product of the process is a powder, one drop of the solution of ten milligrammes of it in one c.c. of water being used to make the test. The drop is introduced into the conjunctival sac and in from one to five hours if positive there is generally a moderate grade of injection of the vessels of the palpebral conjunctiva of the lower lid, reddening of the caruncle, sometimes lacrymation, and a drop of yellow pus in the conjunctival sac. The reaction may be more marked but gradually subsides, and there is rarely any complaint of symptoms. In seventy-five cases thus examined seventy-one were positive, the earliest reaction being on the third day and the latest on the twenty-fifth day. The typical response is limited to, or most marked in the lower lid and caruncle, and the most characteristic sign is the deep purple congestion of the conjunctiva of these parts. The reaction can be had earlier than the Widal test; and the advantages are its simplicity, its ease of application and interpretation by the average physician, the rapidity with which it becomes manifest, and the absence of any discomfort to the patient.

2. Strauss Test for Hepatic Insufficiency.—Churchman, in an attempt to determine clinically the value of the Strauss test for hepatic insufficiency, reviewed fifty-two cases taken at random from the wards of the hospital in which a positive diagnosis of hepatic disease could be made clinically in only twelve cases. The following technique was employed: The night before the test all food was stopped after the evening meal. At 6 a. m. the following morning a specimen of urine was obtained and the patient had 100 grammes of levulose with 400 c.c. of water or weak tea. Additional specimens of urine were collected at 7, 8, 9 and 10 a. m. Diet was then resumed. The five specimens of urine were examined for levulose by the Selinanoff, Borchardt, and phenyl-hydrazine tests. His conclusions are as follows: Alimentary levulosuria, as measured by the Strauss test, though not a constant feature, is present in a large proportion of cases of hepatic diseases, 83.33 per cent. It is present also in 23.68 per cent. of normal patients and is absent in certain cases of definite and extensive disease of the liver, and so the test is not of absolute clinical value in differential diagnosis.

THE MILITARY SURGEON

January, 1912.

1. Edward L. Munson: Conduction of Field Maneuvres of Militia Sanitary Troops.
2. Joseph A. Hall: Efforts of Ohio during the Past Year.
3. J. F. Edwards: Adaptation of the Medical Service of the National Guard to That of the Army.
4. Weston P. Chamberlain: Typhoid Fever in the Philippines.

4. Typhoid Fever in the Philippine Islands.—Major Chamberlain reports that investigation by the Board for the Study of Tropical Diseases shows that typhoid fever, formerly thought to be a very rare disease in the Philippine Islands, is now known to be quite common, especially among white people, and the death rate from this malady in Manila is exceeded by only a few American cities which are notorious for high typhoid rates. Distilled water of unquestioned purity is furnished the soldiers to minimize the danger of cholera and dysentery, and this doubtless prevents a higher death rate from typhoid. Many cases, especially among the natives, are not diagnosticated or wrongly as malaria, undetermined fever, intermittent fever, dysentery, or malaria, as in a blood examination of twenty-five persons who admitted having fever, twenty gave a positive Widal reaction. Cases presenting few symptoms, little fever, and short course are common among Filipinos and Americans, and although the condition of living among the natives, disposal of excreta, and water supply would seem to predispose to wide infection, epidemics are rare. Although in the United States typhoid is more prevalent during August, September, and October, in the Philippines it is distributed throughout the year in a regular manner. Widal reactions performed on the blood of 591 healthy Filipinos suggest a comparatively recent attack of typhoid in about six per cent. of adults, but do not indicate that the disease is prevalent in childhood. The leucocyte count in typhoid remains normal for whites, but is slightly increased for natives. The differential count is normal for both races. The mortality for white troops in the Philippines during the last five years has been no higher than at home. Many of the cases of enteric fever, whether among Americans or Filipinos, are entirely atypical and cannot be diagnosticated without laboratory methods, but the average case can be recognized clinically and differs in no essential particular from typhoid fever at home.

YALE MEDICAL JOURNAL.

November, 1911.

1. J. Hobart Egbert and Owen O'Neill: Sera and Vaccines—Prophylactic and Curative.
2. Arthur J. Wolff: Anaphylaxis and Its Application to Legal Medicine.
3. John C. Rowley: Present Status of Salvarsan in the Treatment of Syphilis.

1. Sera and Vaccines.—Egbert and O'Neill present certain actual personal observations and experiences in this field and point out their practical teachings. The philosophy of serum therapy, the authors state, whether for prophylaxis or cure, is based upon the doctrine of immunity, or resistance to disease. This immunity may be *inherent* (inborn), *acquired* (obtained by passing through an attack of a given disease), or *artificial* (secured through laboratory methods of inoculation). The authors discuss these varieties *in extenso* and then give some practical points, as observed by them, on the various vaccines. *Diphtheria antitoxine:* It has been demonstrated that a comparatively small dose of antitoxine—500 to 1,000 units—will confer immunity to diphtheria for a certain period of time. This protection is transitory, beginning about twenty-four hours after the injection and lasting about three weeks. Prophylactic injections of antitoxine are not only recommended where persons are exposed to the disease, but are useful in persons suffering from scarlet fever and measles, in which

affections diphtheria may occur as a complication. Curative injections should be given early and often, beginning with from 3,000 to 5,000 units upon the appearance of the first sign of the disease, instead of waiting for a bacteriological report, as the mortality is progressively greater as the serum injections are delayed. There is little to fear from the remedy. *Tetanus antitoxine:* This serum resembles diphtheria antitoxine both in preparation and in accepted value—especially as a prophylactic agent. While no very large proportion of cures in cases of developed tetanus have been recorded, it should still be used in all cases, as it may turn the tide in the patient's favor, by neutralizing the poison circulating in the blood, even though it does not repair the damage already done to the nervous system. *Antirabic vaccination:* Owing to the long incubation period of hydrophobia—about six weeks—it is possible to induce immunity to the disease between the time at which the bite was inflicted and that at which the symptoms appear. Like vaccination against smallpox, antirabic vaccination is a prophylactic procedure and in no way curative. If the symptoms of the disease are manifest, Pasteur's treatment is of no avail. *Antiplague vaccine and serum:* In combating plague (bubonic), both protective and curative inoculations are used. Haffkine's prophylactic, which is a true vaccine and depends for its efficacy on the actual bacilli (dead) which it contains, has proved a valuable, though not absolute means of protection against plague. Protection is not conferred on those inoculated until a few days after the vaccine is injected. The duration of the immunity appears to be a number of months. Vaccination with living attenuated plague bacilli has been practised; Strong, of Manila, reports satisfactory results and no untoward incidental occurrences. In the curative treatment Yersin's antipest serum should be given early and in large doses, seventy-five c.c. to 150 c.c. subcutaneously and smaller doses intravenously. Yersin's serum is also prophylactic; the protection, while lasting not more than fifteen days, may be renewed by subsequent injections as a prophylactic, from 5 to 10 c.c. of the serum being injected subcutaneously. None injected contracted the disease. No untoward symptoms were noticed. *Antistreptococcic serum:* In the hands of the authors this serum has proved to be a valuable and effective remedy, especially in cases of acute and spreading infection with marked toxemia) using forty c.c. every six hours until a physiological reaction was obtained — universal rash, disappearance of delirium, etc. The authors' experience with both streptococcic and staphylococcic vaccines (bacterins) is that stock vaccines of these varieties are very uncertain but that autogenous vaccines are highly efficacious. *Gonococcic vaccine:* Five cases of gonococcic infection reported treated with gonococcic vaccine—three presented arthritis; one (a case of multiple infection), arthritis and iritis, and one iritis. From five million to fifty million killed cocci were injected *pro re nata.* Results were good, both as regards the arthritis and the iritis. *Coley's Fluid:* Two cases of sarcoma injected with one apparent cure. *Antimeningitis serum:* Of six patients with cerebrospinal meningitis treated by O'Neill, four treated without serum recovered, and two treated with injections of Flexner's serum died. Each of the two fatal cases received fifteen c.c. intraspinally—death occurring in two and fourteen hours, respectively, after the injection of the serum. *Pneumococcic vaccine:* Sixteen cases of lobar pneumonia treated (O'Neill) by inoculation, with one death. The inoculations usually lessened expectoration, but in all, except one, diaphoresis was augmented. The average dose given was ten minims of vaccine, equal to about thirty-five million bacteria, every twelve hours; average number of injections, ten.

GLASGOW MEDICAL JOURNAL.

January, 1912.

1. A. W. Russell: Cancer of the Uterus.
2. John H. Teacher: History of Pathology in the Glasgow Royal Infirmary.
3. Frank Charteris: Treatment of Pneumonia by a Multivalent Stock Pneumococcic Vaccine.
4. Alexander Mills Kennedy: Enlargement of the Thymus.

1. Cancer of the Uterus.—Russell has no faith in any operation short of hysterectomy when the uterus is cancerous. He still feels justified in performing a simple vaginal hysterectomy in an early case, but, though the immediate results of the vaginal operation are better than those of abdominal hysterectomy, he believes that the remote results of the latter are the better. The abdominal operation is more scientific in principle, as it takes advantage of the facts revealed by modern pathology as to the mode of extension and spread of cancer and aims at the removal, not only of the parametric tissues and neighboring vagina, which can be reached by the vaginal route, but also of the tissue bearing the lymphatics and numerous glands in the upper part of the pelvis, along with the iliac vessels and about the lower part of the ureters, which are beyond the reach of the most extended vaginal operation. Improvement in technique reduces the primary mortality and the number of recurrences.

3. Treatment of Pneumonia by a Multivalent Stock Pneumococcic Vaccine.—Charteris reports nineteen cases, from which he draws the following conclusions: 1. The administration of a stock pneumococcic vaccine had no marked effect upon the subsequent course of the disease; 2, the mortality in the vaccine series (twenty-one per cent.) was slightly higher than in the control series (twenty per cent.); 3, the early administration of vaccine did not abort the disease, nor prevent complications; 4, complications were relatively frequent in the vaccine series, one case of meningitis, two of empyema, and one of hyperpyrexia.

EDINBURGH MEDICAL JOURNAL.

January, 1912.

1. Arthur Keith: Anatomy in Scotland during the Lifetime of Sir John Struthers (1823-1899).
2. William Russell: Position of the Stomach as a Guide to Pyloric or Duodenal Difficulty.
3. James Ritchie: Vaccine Therapy.
4. J. W. Struthers: Dermoid Cyst of Neck with Unusual Contents.

3. Vaccine Therapy.—Ritchie says that in the consideration of the question of vaccine therapy we must first differentiate between two great groups of bacterial diseases, the intoxications and the infections proper. In bacterial intoxications, of which diphtheria and tetanus are the best examples, the multiplication of the bacteria is confined to

superficial parts of the body; the organisms do not pass into the blood, but the pathogenic effects are due to fluid poisons formed by them and absorbed into the body. In true infections the multiplication of bacteria usually takes place within the body tissues. Nothing is known as yet of the processes by which the organisms concerned with the true infections originate general disturbances in the body. It is usual to attribute such disturbances to the elaboration of toxines, but this phraseology must be used with the reservation that so far as we know no scientific definition of the toxic process can be given. The toxic effects are, however, associated with the breaking up of the protoplasm of the bacterial cell. When infection occurs a mechanism is stimulated in the body whose activity results in the appearance of new properties in the body fluids, called antibodies to the particular substance that excited the mechanism, which, as a rule, are capable of acting only on the substance that gave rise to them. These antibodies of bacteria are divided into two groups, bactericidal bodies and opsonins, the latter of which render bacteria more liable to be ingested by the phagocytes of the body. It is difficult to disentangle the two processes engendered by an infection, the harmful and the beneficent, and we do not know how far a moderate pyrexia may not be an indication of the development of resistance. Probably the absorption of a small amount of bacterial protoplasm favors resistance, while a large dose submerges the reactive process. In any case natural recovery is probably brought about by autoinoculation, i. e., by the activity of a mechanism which throws into the body fluids, substances inimical to the vitality of the infecting bacteria. In vaccine therapy the object is to stimulate the capacities of the human organism so as to enable it to resist infection, if this should occur, or to aid it in throwing off an infection already established. The means adopted is the injection of the causal organism modified so as to prevent its multiplication in the tissues, either by killing it, or by applying a process which disintegrates its protoplasm. The former method is the more commonly used. A well grown culture on sloped agar is washed off with a small quantity of normal saline; the bacillary emulsion thus formed is well shaken, preferably in a shaking machine, so as to disintegrate any masses of bacteria present and to get so far as possible a suspension of single bacterial cells. The number of bacteria present in a unit volume is estimated. The organisms are then killed at as low a temperature as possible, from 60° to 65° C., as there is evidence that a vaccine exposed to higher temperatures loses a certain amount of its efficiency. The amount of vaccine it is desired to give is placed in a sterilized ampoule which is sealed. For use the point of the ampoule is broken off, the contents are sucked up into a sterile hypodermic needle, and injected subcutaneously, the skin having previously been cleansed. An important point in the preparation of a vaccine is its standardization, the dose being reckoned in terms of the number of bacteria injected, usually by counting. The only vaccine made of disintegrated bacterial protoplasm is that of the tubercle bacillus. Dead tubercle bacilli when injected may give rise to local granulomata. Two such tuberculins are chiefly used, tuberculin R., and tuberculin bacillary emulsion. Old tuberculin, essentially a glycerin emulsion of autolysed tubercle bacilli, is little used in vaccination work. The rationale of the use of vaccines is the stimulation of the mechanism which creates the antibodies. The benefit is not immediate, as sufficient time must elapse for the formation of the antibodies. Very little change can be observed in the body for thirty-six to forty-eight hours, when this "negative phase" is followed by a "positive phase," in which the antibodies appear in the serum in large quantities, almost as if by crisis. The existence of the negative phase constitutes a great difficulty in the therapeutic application of vaccines. In chronic infections it may be unduly prolonged and if a fresh vaccination is made during such a period the diminution in resistance may be such as to favor an active proliferation of the bacteria and so make matters worse. The great difficulty underlying therapeutic vaccination is that the resources of the mechanism of the body antagonistic to bacterial protoplasm are very limited, and here the importance of the differentiation between bacterial intoxications and true infections becomes evident. It is easy to immunize an animal with diphtheria toxine so that it can successfully withstand the injection of many thousand times the amount of poison which would otherwise be fatal, but the same is not true of injections of dead bacteria. It is with great difficulty and many failures that an animal can be immunized against even a small number of lethal doses and this limitation of the antagonistic mechanism must be constantly remembered in using vaccines. It is possible to treat an infected organism so that it may be capable of killing invading bacteria, but there is very little reserve of capacity to fall back upon and it is easy to pass from success to failure and do more harm than good. The writer considers the application of vaccine therapy to a considerable number of diseases and finds its application limited by three factors: The limitation of the capacity for antibacterial response in the human body; the existence of individual peculiarities of disease manifestations; and the fact that we are still in the dark as to the means to be adopted for bringing out an antibacterial response in its highest degree. The practice of vaccine therapy is in advance of scientific knowledge.

THE PRACTITIONER

January, 1912.

1. Sir Dyce Duckworth: Morbid Diatheses.
2. I. Burney Yeo and Arthur G. Phear: General Treatment of Acute Rheumatism.
3. Professor Bier and Wilhelm Baetzner: Treatment by Active and Passive Hyperemia.
4. Arthur P. Luff: Rheumatoid Arthritis.
5. William Murrell: Gonorrheal Rheumatism.
6. Lewis Smith: Cardiac Manifestations of Acute Rheumatism.
7. A. H. Tubby: Torticollis.
8. Ralph Stockman: Drugs in Rheumatic Conditions.
9. James Galloway: Cutaneous Affections in Rheumatic Conditions.
10. Purves Stewart: Muscular Atrophy in Rheumatism.
11. A. M. Gossage: Rheumatism in Children.
12. Alfred W. Sikes: Diagnosis between Rheumatism and Gout.
13. Carey Coombs: Cerebral Rheumatism.
14. Kenneth Goadby: Diseases of the Mouth and Rheumatism.
15. Llewellyn Jones Llewellyn: Diet in Rheumatic Affections.
16. N. S. Finzi: Treatment of Rheumatism by Electricity.
17. Chisholm Williams: X Rays in the Treatment of Rheumatoid Arthritis.
18. A. G. Hay: Treatment of Sciatica by Endoneural Injections of Saline Solution.

19. William Armstrong: Radium Water and Radiooxygen Therapy in Rheumatism.
20. Lionel Calthorp: Treatment of Rheumatism at English Spas.
21. Fortescue Fox: Treatment of Rheumatism at Foreign Spas.
22. Algernon Bashillar Jackson: Treatment of Rheumatism by Injection of Magnesium Sulphate.
23. W. J. Midelton: Administration of Thyroid Extract in Rheumatoid Arthritis.
24. Alfred Mantle: Present Day Accepted Etiology of Acute Rheumatism.

Rheumatism.—This special number is devoted entirely to rheumatism, even to the Practical Notes and Selected Notes from Readers, which follow the twenty-four original articles. Duckworth presents an able plea for the recognition of the morbid diathesis, the arthritic, or rheumatic, the strumous or scrofulous, the bilious, and the nervous, by which are meant the personal peculiarities, inherited in varying degrees, which relate to the quality of the several tissues of the body, to the integrity of metabolic processes, and to the degrees of functional exercise of the nervous, vascular, visceral, and lymphatic systems. He describes the peculiarities of subjects of the arthritic diathesis at various ages, the marked feature of which is its resistance to tuberculosis, in which it contrasts most strongly with the strumous or scrofulous diathesis. He believes both to be widespread and to demand careful study. It is impracticable to review these valuable papers in detail. They necessarily dovetail into each other, and taken together they furnish an excellent presentation of what is understood at the present day by rheumatism and its treatment.

ARCHIVES DES SCIENCES BIOLOGIQUES A, ST. PETERSBOURG.

No. 5, 1911.

1. N. A. Dobrovolskaia: A Study of the Influence of Blood Losses on the Digestive Functions (*Concluded*).
2. P. N. Nikolaév: Contribution to the Analysis of Complex Conditional Reflexes.
3. A. Horowitz: A Study of the Biological Characteristics of Cholera Vibrios.
4. V. G. Korentchevsky: Effects of Experimental Anemia on the Amount and Composition of the Pancreatic Juice.

1. Influence of Blood Losses on the Digestive Functions.—Dobrovolskaïa concludes, after performing eighty-five experiments in dogs, that the removal of one third to one half of the estimated total amount of blood causes a definite series of disturbances in the secretory, motor, digestive and absorptive functions of the alimentary tract. The secretory and motor disturbances exhibit two successive stages, first one of inhibition, then a stage of excitation. The beginning of the second stage sometimes appears earlier with the motor than with the secretory function. The juices secreted in the first stage are richer in solid constituents than those in the second stage. The interference with the processes of digestion and absorption becomes marked in the second stage. In the first stage, digestion and absorption may exceed the normal, owing to the greater concentration of the juices, the prolongation of the digestive period, and other general compensatory factors. Digestion and absorption are most perfect, immediately after bleeding, in the presence of foods containing a high percentage of water. Intravenous injection of physiological salt solution after bleeding, while it diminishes the disturbances immediately following, does not seem to exert any influence on the subsequent recovery of the functions. The disturbances following the removal of blood are essentially the same whatever be the kind of food administered (proteid, carbohydrate, or fat). The belief is warranted that digestion and absorption are subject to the same laws under pathological conditions as in the normal state. The recovery from the gastric and intestinal disturbances brought on by bleeding seems to require a period of time which varies with each individual segment of the digestive tract.

3. Biology of Cholera Vibrios.—Horowitz presents the results of an extensive investigation of cholera organisms isolated from feces during the 1909-10 epidemic in Russia. The author states that in cholera epidemics one sometimes finds in the stools of healthy persons living in close relation to cholera patients, and especially in those of convalescents, organisms which are but slightly or even not at all agglutinable by cholera serum. Some of these weakly agglutinable strains preserve most of the characteristics of typical cholera vibrios and give rise to serum which will agglutinate the latter; others, however, especially often met with in convalescents, do not show these characteristics, and produce serum which does not influence typical cholera organisms; yet these may regain the typical agglutinability, either spontaneously or under certain special conditions, such as a favorable symbiosis; they also react with cholera bacteriolysins. The atypical cholera organisms are constantly undergoing a process of evolution, and present individual variations in their biochemical characteristics. The degenerative phenomena in the vibrios probably take place exclusively in the diseased organism. During a cholera epidemic, especially at its beginning and termination, all atypical vibrios should be regarded as suspicious, and the changes occurring in their characteristics under various conditions studied.

4. Effects of Experimental Anemia on Pancreatic Juice.—Korentchevsky found in a dog in which a permanent pancreatic fistula had been made by Pavloff's method, that the anemia induced by removal of twenty-nine to forty-three per cent. of the blood did not, on the whole, react very markedly on the secretory function of the pancreas. The flow of pancreatic juice induced by feeding meat or 0.25 per cent. hydrochloric acid was generally lessened as compared with the normal, though occasionally it showed an increase. The composition of the juice as regards solids, nitrogen, lab ferment, and fat and sugar splitting enzymes was most altered upon feeding the dog milk, but sometimes showed changes upon the administration of meat or acid.

DER KINDER-ARTZ

December, 1911

Kirchberg. Physical Therapeutics of Rhachitis.

Rhachitis.—Kirchberg points out that from the therapeutic standpoint three conditions are of especial interest—the prevention of disease, the cure of the illness itself, and the prevention of after effects. In rickets prevention is of especial importance. The direct cause of rickets is not yet clear, but it is most common among poor people, where hygienic conditions are worst. According to Heubner, it is a general constitutional disease, affecting primarily the bones, and due to some general de-

rangement of metabolism. Treatment should begin with the correction of errors in diet. Constipation is to be treated by massage and by regulation of the food intake, and not by medication and injections. The changes in the bones and the muscular atrophy are to be prevented if possible by suitable gymnastics and by stimulation of the circulation with regulated massage and baths. After the condition has developed the methods must be somewhat different. If the stools are loose and contain mucus, massage is contraindicated. When there is constipation with meteorism, abdominal massage should be started, and this is especially true in those cases where there are weakness and atrophy of the abdominal muscles. Beside having an influence upon the abdominal muscles, such massage regulates peristalsis and improves the secretory powers of the stomach and intestines. Physical therapy also improves the function of the skin; by thermic stimulation a prompt reaction of the capillaries is obtained. The air bath is suggested as an important therapeutic measure. At first its duration is from three to four minutes, and this is gradually increased during the course of a month to half an hour. It is to be followed by a vigorous rubbing, until the skin is red. During the summer it may be given out of doors, in a place which is protected from the wind. If possible, sunlight should be a part of the air bath. By this method the secondary anemia of rickets is most speedily cured. Deep massage reaches the bloodvessels in the muscles. It is best accomplished by the Swedish method, in which the muscles are firmly grasped by the hand. The result is to lower the blood pressure by causing a dilatation of the arteries and consequently to spare the heart. Eczema is not a contraindication to massage. The disturbances of respiration and of the nervous system are profoundly affected by baths, massage, and gymnastics, and are best treated by these methods. Kirchberg has divided his gymnastics into four general classes: Free exercise, exercise with apparatus, breathing exercises, and creeping exercises, and under each heading he gives in detail the motions which are used. As a general thing, systematic gymnastics can be started at the second or third year. In these ways the deformities following rickets are gradually cured. In addition to the treatment as outlined, it is sometimes necessary to use corrective orthopedic apparatus. It should be remembered that rickety children often have to be under observation for a long time and that much patient endeavor is necessary to correct the deformities.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting Held at the Academy of Medicine, 17 West Forty-third Street, February 1, 1912.

The President, Dr. William M. Polk, in the Chair.

The Advantages of a National Quarantine.—The president remarked that one of his duties, as president, was to have adequately presented at its regular meetings a subject or subjects bearing upon the science and art of medicine. One of the greatest departments of medicine was preventive medicine. This was intimately associated with quarantine, especially as it was administered in connection with maritime commerce, and with immigration. A fruitful source of disease existed in each of these activities, and each equipped itself with a clinical and laboratory medical staff, in order that difficulties pertaining to medical inspection and supervision might be met at the ports of entry—at quarantine for a certain class of diseases and at the immigration stations of inspection for another. When one reflected that after entering, some of these disorders had a tendency to spread rapidly, and also that some of them were characterized by a large mortality, a reason for our interest in quarantine was evident. Moreover, when it was realized that while the people at large were the chief sufferers, the members of this organization, in common with all the physicians of this city, must bear the brunt of such evil situations as faulty quarantine was apt to encourage, therefore our interest could be regarded as no more than natural. In fact we had a duty right here, and this duty was *inquiry*. To this end they had asked the best informed men in the service of the Government to address them upon the advantages of national quarantine, and had also asked their very able and efficient commissioner of immigration at this port, to address them on the subject as it was infolded within his jurisdiction.

Perhaps it was not outside their province to state, in connection with this subject, some facts of interest to the State at large, rather than to them just here. New York was one of the four ports within the United States outside National quarantine. At all others quarantine had been ceded to the National Government; Philadelphia, a possible exception, being covered by the National Station at the Delaware Capes. Efficiency of administration and saving of expense to the State had been thereby gained.

When one learned of the urgent need for sanitation in towns and communities dependent upon the State Board and how inadequate was the sum allowed for this work, one was tempted to ask why not divert this expenditure here into a channel where it was needed far more. Let it be understood that even now no State quarantine was independent of the National quarantine. For all information gathered at foreign ports and all precautions taken outside this port against disease infection, we were indebted to the National quarantine. Without this cooperation inspection at this port would be so prolonged as seriously to hamper commerce, because in the last analysis, the people had generally sacrificed commerce to fear of death. Already a large part of the quarantine work of this port was done by the National Department of Commerce and Labor. It would be a simple step to put the Nation in charge of all the quarantine at this port, and it would be for the good of this community and the betterment of the health conditions throughout the State at large.

Review of the Quarantine Laws and their Working.—Dr. L. E. Cofer, assistant surgeon general of the Public Health and Marine Hospital Service, who addressed the meeting by special invitation, stated that quarantine might be defined as an insti-

tution which prevented or modified the transmission of disease from one locality to another by the imposition of certain restrictions upon commercial intercourse. While quarantine was an offspring of medical science, it only throve when communities allowed themselves to be infected by quarantinable diseases, and its operations were unfortunately not then directed against the communities so infected, but rather against the social and commercial intercourse existent between them. This was unfortunate, and caused quarantine to be considered of such a palliative nature that progressive sanitarians were ever looking forward to the time when internal sanitary conditions would be developed to such a point that medical science would be warranted in dropping quarantine as an obsolete and unnecessary measure. Fortunately, sanitation was keeping pace with the other sciences in the march of progress, and students of sanitary science were making wonderful predictions as to the many radical reforms in public health work which the future had in store for us; but it was also true that these reforms, if at all general in their extent, could be brought about only by much education and persuasion of the people at large, and therefore the interim, which under these conditions might be a long one, must be utilized in bringing about the desired result, while public health work was continued for the time being along accustomed lines. That was to say, until we reached a state of general municipal cleanliness, whereby our sanitary conditions would insure immunity from quarantinable diseases, either in epidemic or endemic form, quarantine as an institution must be maintained.

It might be said that prior to the passage of the Act (approved February 15, 1893) "granting additional quarantine powers and imposing additional duties upon the Marine Hospital Service," there had been no national system of quarantine. Prior to 1893, the various State governments and later the county and municipal governments, as the case might be, had conducted their own quarantine systems. It was true that there had been some national legislation along the lines being discussed, but all the acts of Congress up to the one he had just mentioned, namely, that of February 15, 1893, relating to quarantine specifically, provided that the National measures were in the aid of the State and local authorities. In other words, quarantine had been permitted to be exercised by the States as a police function, notwithstanding the opinions held by the national legislature as to their rights in the premises, and it would be seen that in the present law, the Act of 1893, it was provided that assistance should be given to the States and municipalities by the United States government, the supremacy of the latter to obtain only when the State and local authorities failed or refused to enforce the minimum of regulations provided for by national law. It was not his purpose in these remarks to go into the disadvantages which did accrue or could easily now accrue under such a varied system of operating quarantine, but if the system had not been faulty and a burden upon commerce, not nearly so many States would have transferred their quarantine functions to the custody of the National government.

In the Act of 1893 the Secretary of the treasury was empowered to promulgate uniform quarantine regulations for the ports of the United States, to be enforced by the State or municipal authorities, provided they undertook to enforce them. The provision was made also that in the event they refused or failed to enforce these regulations, the President was directed to detail or appoint officers for this purpose. The law further provided that the surgeon general of the Public Health and Marine Hospital Service, under the direction of the Secretary of the Treasury, should perform all the duties in respect to quarantine which were provided for by the act. At a large number of ports the quarantine had been given over voluntarily to the National government, which exacted no fees, and at other ports the National government had assumed charge by virtue of the law, and because of noncompliance with the regulations.

In 1888 a site was purchased (Fisherman's Island) for the quarantine station at Cape Charles, Virginia, the boarding station being maintained at Fort Monroe, Va.

In 1889, the Delaware Breakwater quarantine was ceded by the State of Delaware. In the same year the site for the quarantine station on Blackbeard Island, Sapelo Sound, Georgia, known as the South Atlantic quarantine, was transferred for the use of the treasury department by the navy department. In the same year (1889) maritime quarantine matters at San Diego, California, were absorbed as a national function, the site for the national quarantine station at that port having been purchased from private parties.

In 1890, by the Act of Congress of April 30, of the same year, which act was known as the organic Act for Hawaii, the quarantine station, as well as the quarantine functions at Honolulu, Hawaii, and other ports in the Hawaiian Islands, were transferred to national control. In 1891 the quarantine station at San Francisco, Cal., was turned over to National control. In 1892 maritime quarantine functions at Port Townsend, Wash., were transferred to National control. In 1893 the quarantine station at Reedy Island, Delaware, was erected (this station afforded protection to Philadelphia). The year 1899 marked the transfer of quarantine functions at the ports of Astoria, Oregon, Savannah, Georgia, and Southport, N. C., to National control. In the same year the quarantine system in Porto Rico was placed under the operation of the National government.

In 1900 Brunswick, Georgia, relinquished its quarantine function in favor of the treasury department. In 1901 the whole quarantine system for the State of Florida was transferred to National control. In 1903 the quarantine functions were transferred to National control at the following ports: Portland, Me., and Ship Island, Miss. In 1907 the following ports relinquished their quarantine functions: Mobile, Ala., and New Orleans, La.

In 1908 similar action was taken at the ports of Charleston, Georgetown, Beaufort, and Port Royal, S. C., and finally, in 1910, a site was acquired from the war department for the construction of a quarantine station at Galveston, Tex. This station was

now under construction and would be in operation under the auspices of the Public Health and Marine Hospital Service in the course of nine or ten months.

It would be seen that the quarantine functions at all the ports of the Atlantic, Pacific, and Gulf Seaboards were operated under National control, by the department of treasury, under the Bureau of Public Health and Marine Hospital Service, with the following exceptions: New York, Boston, Baltimore, and Providence.

It had been often wondered at that the treasury department, the operations of which were generally supposed to be devoted exclusively to National financial problems, should be charged with the conduct of quarantine, an almost purely medical function. It might be said that if there were no other reasons for this, which was not admitted, there was probably no other department which, by virtue of its control over other allied services, was so well equipped for the conduct of quarantine. He referred to the custom service and the revenue service, which aided in the carrying out of quarantine regulations. For example, all vessels from foreign ports must, before the discharge of their cargo or passengers have been legally entered by the collector of customs at each port. Therefore, the collectors of customs might refuse entry or otherwise assist the quarantine officers in enforcing the quarantine regulations in conjunction with their customs regulations.

As stated above, it was always possible for the Secretary of the treasury to utilize the revenue cutter service when necessary as an auxiliary in connection with quarantine work. The revenue cutter service was for practical purposes a naval organization, and the character of assistance which they were at any time able to render could not be paralleled in any other quarantine organization than one conducted under National auspices.

The above mentioned Act of 1893 required that every vessel leaving a foreign port for the United States should have a bill of health in duplicate, signed by the United States consul at the port of departure. This bill of health contained much information concerning the health of the port of departure, the diseases prevailing at that port for the two weeks prior to the date of the issuance of the bill of health, and special information concerning the sanitary condition of the vessel, crew, passengers, and cargo. This bill of health was attached to a certificate which stated that the vessel had complied with the regulations for foreign ports promulgated by the secretary of the treasury under the act of February 15, 1893. These regulations were such as to insure, as far as practicable, that the vessel was not a carrier of quarantinable diseases. If the vessel did not obtain a bill of health, or if, upon application for same, the consul was unable to affix his signature, because of the fact that the terms of the said bill had not been complied with by the vessel, the said vessel was subject to a fine not to exceed $5,000 upon entering at a port of the United States. It might be said in this connection that in the National quarantine establishment there was no such document recognized as a foul bill of health. The vessel must be safe in the opinion of the consul before the bill of health was granted. In other words, as far as possible, a consular bill of health was a good bill of health.

At certain foreign ports and at certain times, depending upon the presence of the various quarantinable diseases, either in the foreign ports of departure or in the country contiguous thereto, officers of the Public Health and Marine Hospital Service were detailed by the President to serve in the offices of the American consuls, to assist them in enforcing the quarantine regulations for foreign ports. For example, during the summer just past, on account of cholera conditions prevailing in Italy, Russia, and France, there had been officers of this service detailed in the offices of the American consuls at Naples, Genoa, Palermo, Messina, and Catania, in Italy, at Libau in Russia, and at Marseilles, France. In addition to this, officers had been ordered to several other foreign ports of departure, there to confer with the American consular officers as to the enforcement of the regulations for foreign ports, and for the purpose of insuring uniformity of procedure.

In this connection, it might be said that the officers of the Public Health and Marine Hospital Service were maintained constantly at such ports as Calcutta, India, Hongkong, Shanghai, and Amoy, in China, Yokohama and Kobe in Japan, Santa Cruz, Manzanillo, and Puerto Mexico in Mexico, Guayaquil, Ecuador, La Guaira, Venezuela, and Havana, Cuba.

The State department had done much to assist the Public Health and Marine Hospital Service in the quarantine and sanitary work in foreign ports, through the interest it had aroused in the said work on the part of consular corps. There had been a time in the past when a number of American consular officers, perhaps through unfamiliarity with the quarantine regulations, were not as potent a factor in national quarantine work as they were today, but too much praise could not be given for the interest which many of the members of the consular service exhibited, both in the prompt reporting of the presence of quarantinable diseases in foreign countries, and in the intelligent and conscientious enforcement of the treasury regulations. The consular bureau of the State department invariably invited an officer of the Public Health and Marine Hospital Service to appear before their classes of consuls to explain the requirements of the regulations and to answer questions concerning the enforcement of them. With this growing knowledge of the work which was now possessed by the consular corps as a whole, individual consular officers might be directed by cable to put into immediate effect whatever regulation or regulations for foreign ports the local sanitary conditions demanded. Furthermore, it was possible for the consul himself, upon learning of the presence of epidemic disease at his post, to put such regulations into immediate effect to save loss of time, and to cable his action for approval.

He had mentioned that the consuls in all the foreign ports forwarded through the State department, to the Public Health and Marine Hospital Service, information as to the presence of quaran-

tinable disease and also general public health statistics. This information might be sent by letter, but if very important, it was invariably sent by cable, and this, and all other information of a like character obtainable, was incorporated into a weekly publication, published by the treasury department, known as the weekly *Public Health Reports*. These reports were edited carefully, and upon issuance from the public printer were mailed promptly, so that the quarantine officers at the various United States ports were put in possession, either through these reports, or else by special telegraphic information from the bureau, of any information concerning the sanitary condition of foreign ports which would be of assistance to them in judging as to the requisite quarantine treatment to be accorded a vessel arriving from a foreign port.

To give an idea of the work done in foreign ports either by the joint action of the officers of the Service and the consular officers, or else by the consular officers themselves, during the past summer all passengers from cholera infected localities had been caused to be detained at the foreign ports of embarkation for five days in barracks especially adapted for this purpose. Prior to the detention of these passengers their baggage had been searched and food stuffs and bottled waters carried in hand baggage had been eliminated, and, where necessary, the baggage of these persons had been subjected to disinfection, the passengers being subjected to a daily medical inspection, and to a final medical inspection just prior to the sailing of the vessel. In ports of departure wherein plague prevailed treatment of a similar nature was accorded the outgoing passengers, with special variations on account of the incubation of the disease, and the relation which rats and vermin bore to the dissemination of it. For example, where passengers were detained five days for cholera, they were detained seven days for plague, and where special care was taken to remove food stuffs in the case of cholera, special care was taken for the destruction of rats and vermin in the case of plague.

The quarantine regulations contained a number of requirements to be observed by vessels at sea, said requirements having been many times the means of determining the early discovery of quarantinable diseases occurring *en route*, with the resulting isolation of such cases, and the performance of the proper disinfection, all of which had served to mitigate the quarantine restrictions enforceable at the time of the arrival of the vessel. Upon the arrival of the vessel at a port in the United States, an inspection of the vessel, personnel, and cargo was made along lines which varied somewhat according to the port and the time of the year, but which on the whole were uniform, in that the following facts were made to enter into the judgment of a vessel, and he would like to say that one of the advantages which he should name later on for National control of quarantine work, was the steady and progressive education of officers, who were members of a corps devoted somewhat exclusively to this work, in learning to deduce, from facts obtained upon the arrival of a vessel, the sanitary condition of the latter.

There was far more to this process than the average layman would believe until he had taken the trouble to investigate the matter. Unfamiliarity with quarantine principles on the part of the laity unfortunately, but almost invariably, took the form of antagonism, so that not an inconsiderable part of a quarantine or sanitary officer's time was occupied in making explanations of his official acts. On the other hand, it must be admitted that the layman had grievance against a public function, toward the support of which he was expected to contribute, when said function enforced a restraint concerning the rationale of which he was kept in ignorance.

The speaker then enumerated the factors which they had by a long process of education instilled into their officers for their consideration in determining the sanitary status of a vessel.

1. The facts concerning the sanitary status of the port of departure, which were obtainable from the bills of health, the ship's papers, the *Public Health Reports*, and special information sent from the Bureau of Public Health and Marine Hospital Service.

2. The facts gathered from the personal observation on the part of the quarantine officer, of the ship, and its personnel.

3. Suppositions based upon—

a. The sanitary history of the voyage.
b. The likelihood of latent infection.
c. The reputation of the captain of the vessel.
d. The likelihood of concealed infection.
e. The attitude of the ship's surgeon.
f. The kind of cargo carried.

He had mentioned latent infection. He meant by this term the presence on board the vessel of plague infected rats, or perhaps yellow fever infected mosquitoes, which vermin and insects, as the case might be, had not, up to the time of arrival, caused the infection of any of the personnel of the vessel.

Now, after the completion by the quarantine officer of the medical inspection of the vessel and the personnel upon arrival came another inspection, also made by the officers of the Public Health and Marine Hospital Service, namely, the medical inspection of aliens for the determination of diseases deportable under the immigration laws. This latter inspection, while it was not an inspection for the detection of quarantinable diseases, often proved of the utmost value in the detection of cases of such diseases occurring later than would reasonably be expected. There were on record a number of instances where quarantinable diseases had been found amongst immigrants, the detection of which had been impossible in the regular quarantine examination given previously. There was a provision in the regulations governing the notification of the local health officer at the various points of destination of passengers arriving on vessels infected with quarantinable disease.

The speaker regretted that he had not the time more fully to describe the operations of the national quarantine system, but he hoped that he had given some idea of its extent and scope. He would now say a word about the organization of the corps which operated the national quarantine system, and would then give a summary of reasons why it was of advantage both to commerce and to the public

interests that maritime quarantine should be operated by the National Government.

The Public Health and Marine Hospital Service was under the supervision of the Secretary of the treasury, and in charge of the surgeon general, who had six assistant surgeons general in charge of the bureau divisions. These divisions were as follows:

1. Foreign and Insular Quarantine and Immigration.
2. Domestic (Interstate) Quarantine.
3. Personnel and Accounts.
4. Marine Hospitals and Relief.
5. Scientific Research and Sanitation.
6. Sanitary Reports and Statistics.

Each division had special office quarters, and a special clerical force. All of the officers in the outside service, whether at foreign ports, insular possessions, quarantine stations, immigration stations, those engaged in suppressing epidemics, in conducting the marine hospital relief stations, or in scientific investigations of disease in the field or in the laboratory, came under the jurisdiction of one or the other of these divisions of the Bureau. The operations of the divisions were coordinated and brought under the direct supervision of the surgeon general by special bureau regulations.

It was not pertinent in this connection to refer to the operations of any of these divisions except one, and that was the one devoted to foreign and insular quarantine. Through this division, during the fiscal year just passed, 15,160 vessels had been inspected, involving the inspection also of 1,516,445 persons (passengers and crews) and the disinfection of 1,801 vessels on account of actual infection or for the destruction of rats and mosquitoes, the carriers of plague and yellow fever. This division also supervised the medical inspection of immigrants, this point being again brought to attention as being an important factor in the amplification of the regular quarantine work. During the year ending June 30, 1911, 1,093,908 immigrants had been inspected, and 14,738 immigrants rejected on account of diseases deportable under the immigration laws.

The Public Health and Marine Hospital Service was composed of 135 commissioned officers, 283 acting assistant surgeons, and 1,014 men. Representatives of this corps would be found either in marine hospital, immigration, or quarantine stations, and perhaps all three, in every port and in the important cities and towns bordering upon the Canadian or Mexican frontiers. The officers were admitted to the corps only after passing a rigid physical and mental examination. They were then transferred to some large station for special training, and as soon as possible transferred to the hygienic laboratory at Washington for special training in bacteriology, especially the bacteriology of the various quarantinable diseases, so that when an officer of the Public Health and Marine Hospital Service was detailed for regular duty at a station he had already received special training for the work. In other words, in the conduct of quarantine stations the officers of the service were not unlike the officers of the navy, in that an officer might be transferred from station to station and become familiar almost immediately with the details of the work in the same sense that a naval officer might be transferred from a cruiser to a battleship, and in a short while become familiar with his new surroundings.

The service at the present time operated forty-six quarantine stations, extending along the Pacific, Gulf, and Atlantic Seaboards from Alaska to Maine. In addition to this, it operated the quarantine systems in the Philippine Islands, Hawaiian Islands, and in Porto Rico.

The diseases at present quarantined against under national law were cholera, yellow fever, smallpox, typhus fever, leprosy, and plague.

While some of our quarantine stations were inspection stations only, many of them were large institutions, comprised of barracks for the detention of crews and steerage passengers, quarters for the detention of cabin passengers, hospitals, and camp facilities for the quarantining of troops. In addition, there were the usual wharves, disinfecting machinery, boarding vessels, etc. All of this required good administrative ability on the part of the officers of the service, which was demanded of them in addition to a technical knowledge of medicine in general, and of the quarantinable diseases in particular.

(To be concluded.)

Letters to the Editor.

TABLE TALK.

New York, *February 5, 1912.*

To the Editor:

It seems almost inconceivable that any member of a profession, in which accuracy and acumen count for so much, should sign his name to any communication so manifestly inaccurate and so lacking in acumen as is the letter to the editor of the New York Medical Journal from Dr. Howard Lilienthal in the issue for February 3, 1912.

The premise which prompted Doctor Lilienthal's conclusions relative to the "Bainbridge table" is assuredly not based upon the article on The Evolution of the Operating Table which appeared in the Journal for November 4, 1911, nor upon the subsequent Additional Data in the Journal for January 13, 1912.

Had Doctor Lilienthal read in even the most cursory fashion either of these articles, it would have been clear to him that there was no "assumption" that I "invented the divided foot end of an operating table," and that I was not "falling back upon this 'improvement' as a final mark of originality in the construction of the 'Bainbridge table.'"

If Doctor Lilienthal will do himself the justice to read the original article, and to particularly note the Retslag table of 1878 (Fig. 14, p. 914), he will readily see that there has been no claim to priority in this regard. And, should any other distinguished colleague feel inclined to criticise the operating table, let it be suggested that all data with illustra-

tions be first carefully noted. This may prove of value, at least, for the sake of professional dignity and scientific accuracy.

WILLIAM SEAMAN BAINBRIDGE, M. D.

ACUTE INDIGESTION AS A CAUSE OF DEATH.

NEW YORK, *February 3, 1912.*

To the Editor:

Although I much dislike the inevitable personal side of engaging in answering letters from subscribers to editors of medical journals, I believe that Dr. J. H. Carstens's letter, published in your issue of February 3rd, deserves consideration, particularly because he presents that neither himself, those he had spoken to, and the reports of cases in medical journals considered acute indigestion as a cause of death, and because of this takes issue with your JOURNAL and states that the inspiration of the editorial you published on acute indigestion came from the lay press and not from proper medical channels.

While such conditions as Doctor Carstens mentions, namely, "ulcerated gallbladder, gallstones, ruptured duodenal ulcer," may be the cause of death in a number of cases designated as acute indigestion, I feel that the doctor has gone too far in the definite statement that "the acute indigestion which we hear about means gallbladder or duodenal disease, which has generally existed for a long time without correct diagnosis." Many systemic and diseased conditions of other organs than those of the alimentary tract and allied organs may just before death cause symptoms in the upper abdomen resembling some acute condition of the organs there, notably of the stomach. These cases are not uncommon in cardiac, renal, and hepatic diseases, many of which cases progress practically symptomless or have not been diagnosticated at any time during life. In these a type of acute gastritis is commonly the immediate cause of death. Further than this, it is a fact that in those of late middle life and in the aged, a form of acute gastritis may ensue, depriving one of life in a few hours. During the last years I have made autopsies in a number of such cases, and while it is not uncommon to find such conditions as he mentions present as causes of death, and others than stomach and intestinal disorders, there were four distinct cases in which none of these were present and in which the cause of death was a marked acute, diffuse, parenchymatous gastritis. These stomachs were all of them practically alike in internal appearance, in which there were seen a smoothing of the mucous membrane, due to protoplasmic and granular degeneration of the cells of the gastric glandularis, and a marked round cell infiltration in the intertubular structures—the degeneration of the mucosa with the infiltration of the mucosa and submucous tissues gave to the interior of the stomach its smooth and thickened appearance. Here and there, in these stomachs, there were thick clumps of mucus tightly adhering to the surface and small areas of superficial hemorrhage. Examinations of sections of these stomachs from every part of the organ showed the pathology mentioned, and careful bacteriological examinations of the tissues and contents of the stomach failed to disclose any bacteria associated with the condition, nor was there disclosed pathology of those organs of the body which Doctor Carstens mentions.

While most of the works on diseases of the stomach fail to mention this type of acute gastritis, it is shown in gross and minute pathology in my book, on Plate No. XXIX, and page 463, and described on page 465, to which I would respectfully refer the doctor.

I believe that there is a severe type of acute gastritis in children, those of late middle age, and in the old, which is commonly the terminal pathology of death and associated with disease of other organs than those concerned in digestion, and that this condition in fewer instances comes on without known cause (probably because of some biochemical change in the organism), and that it is a distinct clinical condition.

ANTHONY BASSLER, M. D.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Scientific Features of Modern Medicine. By FREDERIC C. LEE, Ph. D., Dalton Professor of Physiology, Columbia University. New York: The Columbia University Press, 1911. (Through Lemcke & Buechner, Agents.) Pp. vii-183.

The purpose of this little book being to awaken in the mind of the general public a correct appreciation of the genuinely scientific character of medicine, its vast progress and hopeful outlook, it is necessarily written in language adjusted to the lay reader. But this does not deprive it of its value to the physician who will find in its pages much interesting matter that is not as a rule brought to his attention in so readable a form. After a brief sketch of the normal body, the author gives an outline of the morbid processes to which it is exposed and a survey of our methods of treatment, giving a just share of credit to the *vis medicatrix naturæ*, and contrasting the resources of the past with those of the present. The gradual conquest of infectious diseases through the labors of Pasteur, Koch, and others, is traced up to its present well advanced stage, and the means through which pathogenic germs are fought with the aid of modern therapeutics, sera, vaccines, and the like, faithfully portrayed. Wholesome for the lay reader and well calculated to offset the harm done by ignorant "antis" of every kind are tables showing the marked influence of diphtheria antitoxine, vaccination, etc., upon the mortality from the deadly diseases which they must, at a corresponding rate, ultimately obliterate. The great strides of modern surgery, which has now risen to "the higher level of a science," are also justly emphasized. Experimental medicine means to the author a second veritable renaissance, ancient medicine being characterized by speculation and empiricism. It were wiser, it seems to us, to await the third developmental stage before speaking of "renaissance." If the author took a broader view of the problem as a whole, he would soon realize that it is only when experimentation *and* philosophical reasoning are placed on equal footing that the dawn of a true renaissance will actually appear. It may shock him to read it, but to those who have the opportunity of viewing the question from its many aspects, there has never been a period so replete with theories doomed to early death because of their birth in laboratories where inadequate experimentation and insufficient reasoning prevail. Yet, this is perhaps a necessary step in the evolu-

tion of a truly scientific medicine, and such excellent books as Doctor Lee's do much to stimulate thought and to teach the—often ungrateful—public, how much medical men are doing for their welfare.

Further Researches into Induced Cell Production and Cancer. Consisting of Papers by H. C. Ross, M. R. C. S. England, L. R. C. P. London, J. W. Cropper, M. B., M. Sc., Liverpool, and E. H. Ross, M. R. C. S. England, L. R. C. P. England. With Illustrations. The McFadden Researches. London: John Murray, 1911. (Through P. Blakiston's Son & Co., Philadelphia.) Pp. 63. (Price, $1.)

As was pointed out in reviewing the original volume of these studies, the evidence there collected regarding induced cell reproduction and its bearing on cancer was unconvincing. The authors are, however, attacking the cancer problem from a new standpoint, and it may well be that a careful consideration of the material they have collected in these pages would prove fruitful. Not having seen the writer's work when it was being demonstrated in this country, we are unable to express any opinion as to the nature of the division figures. In a letter accompanying the book, Sir Ronald Ross states that "the work is not only sound, but, in my opinion, contains a discovery of very high importance." We commend the studies to the attention of laboratory workers as offering a new field for investigation.

Nervous and Mental Diseases. By Archibald Church, M. D., Professor of Nervous and Mental Diseases and Medical Jurisprudence in the Northwestern University Medical School, Chicago; Late Professor of Neurology in the Chicago Polyclinic, etc., and Frederick Peterson, M. D., Ex-President of the New York State Commission in Lunacy, Professor of Psychiatry at Columbia University, etc. With 343 Illustrations. Seventh Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 932. (Price, $5.)

The publication of the seventh edition, beside numerous reprintings since its first appearance in 1899, attest the high appreciation with which this textbook has been received. As is well known, the volume really represents two books by different authors in one binding, so arranged for the convenience of the reader in consulting the closely allied subjects of neurology and psychiatry. In the seventh edition both sections of the book have undergone important revisions; in that devoted to nervous diseases the chapters on meningitis, aphasia, poliomyelitis, pellagra, and pituitary diseases have been largely rewritten.

In view of the fact that the book was written for the student and general practitioner it would seem that more thorough consideration of the subject of interpretation of reflexes might have been profitable. It is also to be regretted that a disease like rabies should be classified as a neurosis and no reference made to recent work on its pathology.

The section on mental diseases has been rearranged, some matter no longer useful omitted, and new matter added. Taken as a whole the latest edition of this textbook has kept pace with recent advance, and insures the continued popularity that it deserves.

Some Factors Influencing Health in Tropical and Subtropical Countries. By T. Gerald Garry, M. D., M. A. O., M. Ch. R. U. I., London: John Bale, Sons & Danielsson, Ltd., 1911. Pp. x-96.

This is an extremely useful little manual, which deserves careful reading by all who think of taking up an extended residence in any of our tropical possessions. The author begins by discussing the type of man best suited to tropical countries and points out that thin men have the best chance, that those with tendencies to skin eruptions had best stay away, that the intending resident should have perfect teeth, good hearing, a sound heart and stomach, and, above all, a firm and equable temperament. Still more interesting and important is the list of qualifications that should characterize the right sort of woman to reside in the tropics. She must, in addition to the physical attributes mentioned, have a distaste for gossip and unkind comments on her neighbors. Furthermore, "the woman who is not capable of intelligently ordering a good dinner, or who does not know whether it is scientifically cooked or otherwise, is absolutely unfitted for life in the tropics." Every feminine fault seems to be magnified into intolerable dimensions when transplanted to the neighborhood of the equator. Food, water, clothing, exercise receive due attention and, in conclusion, valuable hints are given regarding the prevention of disease. A list of useful medicines is given, among which quinine ranks high.

Lehrbuch der Hyperämiebehandlung akuter chirurgischer Infektionen. Theorie und Praxis für Aerzte und Chirurgen. Von Dr. med. Eugen Joseph, Privatdozent der Chirurgie an der Friedrich-Wilhelms-Universität Berlin Assistent der kgl. chirurgischen Universitätsklinik. Mit einem Vorwort von Prof. August Bier. 16 Tafeln und 14 Abbildungen und Kurven im Text. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. 283.

The author's intention in compiling this very useful book was to assist the practising physician in making a decision when or when not to adopt Bier's hyperemic treatment. The use of this treatment—and this question makes the decision so difficult—depends not only upon the modification and location, but also upon the phase in which the disease is seen by the physician. For example: The same hyperemic treatment with *Stauungsbinde* which will cure so quickly and fully a freshly inflamed gonorrheal joint, has absolutely no influence in a chronic case with adhesions and ankylosis. According to this point of view, that is, to instruct the general practitioner about the right time for hyperemic treatment, the author has well succeeded in elucidating the matter. Case histories are cited to emphasize the advice given in the text. The book is a valuable addition to the textbooks on hyperemic treatment.

Grundriss der hämatologischen Diagnostik und praktischen Blutuntersuchung. Ein Leitfaden für Anfänger, Studierende und praktische Aerzte. Von A. Pappenheim. Mit 8 farbigen Tafeln. Leipzig: Verlag von Dr. Werner Klinkhardt, 1911. Pp. viii-264. (Price, M. 12.00.)

The examination of the blood for diagnostic as well as clinical purposes has become so important that a practical textbook on this study will be very welcome to the profession, that is, a manual teaching such methods as are within reach of every physician who has some knowledge of laboratory work and has the time and facility to attend to this branch of medicine. The author is very explicit in his description and gives at the end of the book a very carefully prepared armamentarium for blood examination.

NEW PUBLICATIONS.

Baum, W. L., and Moyer, Harold N.—Skin and Venereal Diseases. Miscellaneous Topics. Volume IX of the Practical Medicine Series for 1911. Prepared under the General Editorial Charge of Gustavus P. Head, M. D., and Charles L. Mix, A. M., M. D. Chicago: The Year Book Publishers, 1912. Pp. 239. (Price, $1.25.)

Patrick, Hugh T., and Bassoe, Peter.—Nervous and Mental Diseases. Volume X of the Practical Medicine Series for 1911. Prepared under the General Editorial Charge of Gustavus P. Head, M. D., and Charles L. Mix, A. M., M. D. Chicago: The Year Book Publishers, 1912. Pp. 245. (Price, $1.25.)

Hutchinson, Woods.—Exercise and Health. New York: Outing Publishing Company, 1911. Pp. 156.

Mönckeberg, J. G.—Herzmissbildungen. Ein Atlas angeborener Herzfehler in Querschnitten mit besonderer Berücksichtigung des Atrioventrikularsystems. Mit 114 Abbildungen auf 65 Tafeln und 4 Textfiguren. Jena: Gustav Fischer, 1912.

Transactions of the Thirty-third Annual Meeting of the American Laryngological Association. Held at Philadelphia on May 29, 30, and 31, 1911. New York: Published by the Association, 1911. Pp. 315.

Transactions of the American Surgical Association. Volume XXIX. Edited by Archibald MacLaren, M. D., Recorder of the Association. Philadelphia: Published by the Association, 1911. Pp. xxxii-496.

A Protest against an Attempt to Create a Doctors' Trust. Pp. 50.

Jardine, Robert.—Delayed and Complicated Labor. With One Hundred and Seven Illustrations and Three Colored Plates. New York: William Wood & Co., 1912. Pp. xvi-351. (Price, $3.)

Short, A. Rendle.—The New Physiology in Surgical and General Practice. New York: William Wood & Co., 1911. Pp. vii-201. (Price, $2.)

Wolff-Eisner, A.—Clinical Immunity and Serodiagnosis. Translated by Ray W. Matson, M. D., Portland, Ore., Professor of Histology in the North Pacific College of Dentistry and Pharmacy, Physician to Portland Free Dispensary for the Tuberculous, etc. Revised and Edited, with a Special Introduction by the Author. New York: William Wood & Co., 1911. Pp. xiv-184. (Price, $2.50.)

Trask, John W.—A Digest of the Laws and Regulations of the Various States Relating to the Reporting of Cases of Sickness. Prepared by Direction of the Surgeon General of the Public Health and Marine Hospital Service. Public Bulletin No. 45. Washington: Government Printing Office, 1911. Pp. 191.

Kerr, J. W.—Ophthalmia Neonatorum. An Analysis of the Laws and Regulations Relating Thereto in Force in the United States. Prepared by Direction of the Surgeon General of the United States Public Health and Marine Hospital Service. Public Health Bulletin No. 49. Washington: Government Printing Office, 1911. Pp. 20.

Fifteenth Annual Report of the Loomis Sanatorium for the Treatment of Tuberculosis. For the Year Ending October 31, 1911. Pp. 75.

McMurtrie, Douglas C.—The Permanent Betterment of the Crippled Child. An Essay on the Operation of the Nonresidential System of Education and Care, the Social Principles Involved, and the Restoration of Crippled Children to Places as Useful Members of the Community. An Account of the Work of the Association for the Aid of Crippled Children. New York: Published by the Author, 1911. Pp. 11.

Kanavel, Allen B.—Infections of the Hand. A Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hand, and Forearm. Illustrated with 133 Engravings. Philadelphia and New York: Lea & Febiger, 1912. Pp. xiii-447. (Price, $3.75.)

Hutchinson, Woods.—We and Our Children. New York: Doubleday, Page & Co., 1911. Pp. x-371.

Halliburton, W. D.—Handbook of Physiology. Tenth Edition. Being the Twenty-third Edition of Kirkes's Physiology. With Nearly Six Hundred Illustrations in the Text, Many of Which Are Colored, and Three Colored Plates. Philadelphia: P. Blakiston's Son & Co., 1911. Pp. xvii-923. (Price, $3.)

Alcock, A.—Entomology for Medical Officers. London: Gurney & Jackson, 1911. Pp. xx-347. (Price, 9s.)

Walsh, James J.—Old Time Makers of Medicine. The Story of the Students and Teachers of the Sciences Related to Medicine during the Middle Ages. New York: Fordham University Press, 1911. Pp. vi-446. (Price, $2.)

Straub, Paul Frederick.—Medical Service in Campaign. A Handbook for Medical Officers in the Field. Prepared under the Direction of the Surgeon General of the United States Army, and Published by Authority of the War Department. Second Edition Illustrated. Philadelphia: P. Blakiston's Son & Co., 1912. Pp. ix-186. (Price, $1.50.)

Martin, J. M.—Practical Electrotherapeutics and X Ray Therapy. With Chapters on Phototherapy, X Rays in Eye Surgery, X Rays in Dentistry, and the Medicolegal Aspect of the X Ray. Containing 219 Illustrations. St. Louis: C. V. Mosby Company, 1912. Pp. 446. (Price, $4.)

Montgomery, E. E.—Practical Gynecology. A Comprehensive Textbook for Students and Physicians. Fourth Edition. Revised and Rearranged. With Five Hundred and Eighty-nine Illustrations, the Greater Number of Which Have Been Drawn and Engraved Specially for This Work, for the Most Part from Original Sources. Philadelphia: P. Blakiston's Son & Co., 1912. Pp. xxii-857. (Price, $6.)

Proceedings of the First International Municipal Congress and Exposition, Held in Chicago on September 18 to 30, 1911, under the Auspices of the Chicago Association of Commerce. Pp. 167.

Verhandlungen des ersten Kongresses des Nordischen Dermatologischen Vereins zu Kopenhagen den 17-19 Mai, 1910. Redigiert von C. Rasch, Kopenhagen. Nord. Med. Arkiv 1911, Abt. ii, Anhang. Stockholm: P. A. Norstodt & Söner, 1911. Pp. 67.

Forty-ninth Annual Report of the New York State Board of Charities. For the Year 1911. Transmitted to the Legislature on January 29, 1912. Pp. 203.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending February 2, 1912:

CHOLERA—FOREIGN: *Arabia,* Dec. 27, 2 deaths; *India,* Nov. 1-30, 4 cases, 4 deaths; *Indo-China,* Dec. 4-17, 173 cases, 144 deaths; *Java,* Dec. 12-18, 14 cases, 2 deaths; *Turkey in Asia,* Dec. 2-24, 322 cases, 310 deaths.

YELLOW FEVER—FOREIGN: *Brazil,* Dec. 24-Jan. 6, 3 deaths; *Mexico,* Dec. 31-Jan. 6, 6 cases.

PLAGUE—FOREIGN: *Brazil,* Dec. 10-Jan. 6, 6 cases, 4 deaths; *India* (Rangoon), Nov. 1-30, 12 cases, 12 deaths; Dec. 10-23, 20 cases, 17 deaths; *Indo-China,* Dec. 4-17, 2 cases, 2 deaths; *Java,* Dec. 12-18, 10 cases, 3 deaths; *Peru,* Dec. 25-Jan. 9, present; *Straits Settlements,* Dec. 3-9, 5 cases, 4 deaths.

SMALLPOX—UNITED STATES: *Florida,* Jan. 7-20, 68 cases; *Indiana,* Dec. 1-31, 113 cases; *Minnesota,* Nov. 28-Jan. 1, 223 cases; *Montana,* Dec. 1-31, 30 cases; *Nebraska,* Jan. 14-20, 4 cases; *New York,* Dec. 1-31, 166 cases; *Oregon,* Nov. 1-30, 27 cases; Dec. 1-31, 79 cases; *Tennessee,* Jan. 14-20, 1 case; *Texas,* Nov. 1-30 (incomplete), 24 deaths; Dec. 1-31, 44 cases, 28 deaths.

SMALLPOX—FOREIGN: *Argentina,* Nov. 1-30, 6 deaths; *Austria-Hungary,* Dec. 24-30, 1 case; *Brazil,* Dec. 1-Jan. 6, 75 deaths; *Canada,* Jan. 1-20, 10 cases; *China,* Dec. 1-17, 10 cases, 2 deaths; *France* (Paris), Jan. 1-6, 10 cases; *Germany,* Dec. 31-Jan. 6, 1 case; *India,* Nov. 1-Dec. 23, 26 cases, 12 deaths; *Indo-China,* Dec. 4-10, 3 cases; *Italy,* Jan. 1-6, 15 cases; *Java,* Dec. 12-18, 2 cases; *Malta,* Jan. 1-6, 1 death; *Mexico,* Dec. 19-Jan. 20, 132 cases, 32 deaths; *Portugal,* Jan. 1-6, 4 cases; *Russia,* Dec. 10-30, 59 cases, 4 deaths; *Spain,* Dec. 1-Jan. 6, 8 cases, 8 deaths; *Straits Settlements,* Dec. 3-9, 2 cases, 1 death; *Teneriffe,* Dec. 15-30, 7 deaths; *Turkey in Asia,* Dec. 24-30, 10 cases, 3 deaths; *Turkey in Europe,* Jan. 1-7, 5 deaths.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending January 31, 1912:

Banks, C. E., Surgeon. Granted five days' additional leave of absence, from January 31, 1912. **Blount,** B. B., Acting Assistant Surgeon. Granted thirty days' leave of absence from February 1, 1912. **Cofer,** L. E., Assistant Surgeon General. Directed to proceed to Philadelphia, Pa., Gloucester, N. J., and New York, N. Y., to inspect the operations of the Service in the medical inspection of arriving aliens; also, while in New York city, to deliver an address before the New York Academy of Medicine on Maritime Quarantine. **Currie,** Donald H., Passed Assistant Surgeon. Granted three days' leave of absence from January 15, 1912, under paragraph 191, Service Regulations. **Grubbs,** S. B., Passed Assistant Surgeon. Leave of absence for one month and nine days from October 31, 1912, amended to read "one month and sixteen days from October 24, 1911." **Gustetter,** A. L., Acting Assistant Surgeon. Granted fifteen days' leave of absence from January 24, 1912. **Hollman,** H. T., Acting Assistant Surgeon. Granted eight days' leave of absence from January 1, 1912, on account of sickness. **Lavinder,** C. H., Passed Assistant Surgeon. Directed to proceed to the South Atlantic Quarantine Station, for the purpose of inspecting the station. **McCaffry,** W. B., Acting Assistant Surgeon. Granted four days' leave of absence from January 25, 1912, under paragraph 210, Service Regulations. **McCoy,** G. W., Passed Assistant Surgeon. Appointed by the Governor of Hawaii as a member of the Sanitary Commission of Honolulu. **Roberts,** Norman, Passed Assistant Surgeon. Directed to proceed to Baltimore, Md., to arrange for Service exhibit during "Health Week" to be conducted under the auspices of the Medical and Chirurgical Faculty of Baltimore, beginning February 19, 1912. **Vogel,** C. W., Passed Assistant Surgeon. Granted six days' leave of absence from February 2, 1912.

Boards Convened.

Board of medical officers convened to meet at the Marine Hospital, Chicago, January 29, 1912, for the examination of Passed Assistant Surgeons H. S. Mathewson and Taliafero Clark to determine their fitness for promotion to the grade of Surgeon. Detail for the board: Surgeon R. M. Woodward, chairman; Surgeon J. O. Cobb; Passed Assistant Surgeon J. S. Boggess, recorder. Board of medical officers con-

vened to meet at Halifax, N. S., for the examination of an alien immigrant. Detail for the board: Acting Assistant Surgeon T. W. P. Flinn, chairman.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army, for the week ending February 3, 1912:

Eckels, L. S., Lieutenant, Medical Corps. Ordered to Fort Andrews, Mass., for temporary duty. **Johnstone,** E. K., First Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Shafter, and ordered to Schofield Barracks, H. T., for duty. **Persons,** E. E., Major, Medical Corps. Detailed to enter the Army Field Service School and Correspondence School for Medical Officers at Fort Leavenworth, Kansas. **Raymond,** T. U., Lieutenant Colonel, Medical Corps. Relieved from duty in the Philippines Division on July 15th, and ordered upon arrival at San Francisco, Cal., to report to the Adjutant General of the Army for orders. **Richards,** R. L., Captain, Medical Corps. Granted thirty days' leave of absence. **Rutherford,** Henry H., Major, Medical Corps. Granted one month's leave of absence, with permission to apply for one month's extension. **Thomason,** Henry D., Captain, Medical Corps. Order to the Army Field Service School, Fort Leavenworth, Kansas, revoked. **Waring,** J. B. H., Lieutenant, Medical Corps. Granted thirty days' leave of absence, to take effect upon expiration of present sick leave.

The following named officers, upon arrival at San Francisco, are ordered to duty at the posts named:

Conzelman, Fred J., First Lieutenant, Medical Reserve Corps. To Fort Mott, N. J., relieving First Lieutenant Charles E. MacDonald, Medical Reserve Corps, who, upon being relieved, will proceed to his home, and will stand relieved from active duty in the Medical Reserve Corps, to take effect on May 15, 1912. **Drake,** Percy G., First Lieutenant, Medical Reserve Corps. To Fort McKinley, Me. **Freeland,** H. L., First Lieutenant, Medical Reserve Corps. To Fort Benjamin Harrison, Ind. **Fronk,** Clarence E., Lieutenant, Medical Corps. To Fort Benjamin Harrison, Ind. **Henry,** Ziba L., First Lieutenant, Medical Reserve Corps. To Fort Sill, Okla. **Huntington,** Philip W., Captain, Medical Corps. To Fort Totten, N. Y. **McCulloch,** Champe C., Jr., Major, Medical Corps. To Fort D. A. Russell, Wyo. **McLellan,** George H., Lieutenant, Medical Corps. To Fort McDowell, Cal., relieving Captain Howard H. Johnson, Medical Corps, who, upon being relieved, will go to the Walter Reed General Hospital, Takoma Park, D. C. **Mueller,** Armin, Lieutenant, Medical Corps. To Fort Des Moines, Iowa. **Purviance,** William E., Major, Medical Corps. To Fort McDowell, Cal. **Truby,** Albert E., Major, Medical Corps. To Fort Jay, N. Y., relieving Major Elbert E. Persons, who has been ordered to the Field Hospital and Ambulance Company. No. 2, Presidio of San Francisco, Cal., relieving Captain James L. Bevans, Medical Corps, who will proceed to Fort Mason, Cal., for duty, and also to San Francisco, Cal., for duty as attending surgeon. **Watkins,** Victor E., First Lieutenant, Medical Reserve Corps. To Fort Sam Houston, Texas. **Woodruff,** Charles E., Lieutenant Colonel, Medical Corps. To San Francisco, Cal., as sanitary inspector of the Western Division, relieving Lieutenant Colonel Henry S. T. Harris, Medical Corps, who, upon being thus relieved, will proceed to Fort D. A. Russell, Wyo., for duty.

Each of the following named officers of the Medical Reserve Corps is relieved from duty at the Army Medical School, Washington, D. C., and will proceed to his home; upon arrival will report by telegraph to the Adjutant General of the Army, and will stand relieved from active duty in the Medical Reserve Corps, to take effect upon his arrival at his home: First Lieutenants Leo B. Allen, Sidney M. Bunker, William G. Gill, Charles P. Kennedy, William P. J. Ruddy, and Frank Suggs.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending February 3, 1912:

Charlton, C. F., Acting Assistant Surgeon. Appointed an acting assistant surgeon in the United States Navy, from January 26, 1912. **Davis,** R. G., Acting Assistant Surgeon. Appointed an acting assistant surgeon in the United States Navy, from January 26, 1912. **Duhigg,** J. T., Assistant Surgeon. Detached from the navy recruiting station, Cincinnati, Ohio, and ordered to Washington, D. C., for examination for promotion and to await orders. **Garrison,** H. A., Passed Assistant Surgeon. Ordered to the navy recruiting station, Cincinnati, Ohio. **Murphy,** J. F., Passed Assistant Surgeon. Detached from the Naval Hospital, Las Animas, Colo., and ordered to Washington, D. C., for examination for promotion, and to await orders. **Stibbens,** F. H., Passed Assistant Surgeon. Detached from the naval training station, San Francisco, Cal., and ordered to the *St. Louis.*

Births, Marriages, and Deaths.

Married.

Morris—Torbert.—In Syracuse, N. Y., on Saturday, January 27th, Dr. Austin G. Morris, of Rochester, and Miss Jane Torbert. **Rytina—Gier.**—In Washington, D. C., on Wednesday, January 24th, Dr. Anton G. Rytina, of Baltimore, and Miss Catherine Gier. **Toro—Duncan.**—In Brooklyn, N. Y., on Wednesday, January 24th, Dr. Jorge del Toro, of San Juan, Porto Rico, and Miss Sarah Frances Duncan.

Died.

Beckwith.—In Plymouth, Pa., on Tuesday, January 23d, Dr. James Fabius Beckwith, aged sixty years. **Beebe.**—In Corry, Pa., on Monday, January 29th, Dr. Fred A. Beebe, aged sixty-five years. **Berry.**—In New York, on Tuesday, January 30th, Dr. Inslee Hopper Berry, aged forty years. **Borck.**—In St. Louis, Mo., on Saturday, January 20th, Dr. Edward Borck, aged seventy-eight years. **Bradley.**—In Albany, Okla., on Thursday, January 25th, Dr. A. J. Bradley. **Cain.**—In Omaha, Neb., on Wednesday, January 24th, Dr. J. B. Cain, aged seventy-two years. **Clark.**—In Stockton, Cal., on Saturday, January 20th, Dr. Asa Clark, aged eighty-eight years. **Coan.**—In New York, on Saturday, February 3d, Dr. Thomas P. Coan, formerly of Baltimore, Md. **Cross.**—In Jenkintown, Pa., on Monday, January 29th, Dr. William A. Cross, aged sixty-two years. **Curtis.**—In Macclenny, Fla., on Tuesday, January 23d, Dr. J. Frank Curtis. **Czarnowski.**—In New Orleans, La., on Wednesday, January 24th, Dr. Oscar August Czarnowski, aged seventy-five years. **Friebis.**—In Philadelphia, on Friday, January 26th, Dr. George Friebis. **Haywood.**—In Lynn, Mass., on Saturday, January 27th, Dr. Isabel Pudham Haywood. **Henkel.**—In Farmersville, Ohio, on Thursday, January 25th, Dr. George C. Henkel, aged seventy-seven years. **Hotchkiss.**—In New Haven, Conn., on Tuesday, January 30th, Dr. Norton Royce Hotchkiss, aged forty-two years. **Koch.**—In Chicago, on Thursday, February 1st, Professor Waldemar Koch, of the University of Chicago, aged thirty-six years. **McMasters.**—In Pryorsburg, Ky. on Monday, January 29th, Dr. D. H. McMasters, aged forty-two years. **Maxson.**—In Syracuse, N. Y., on Friday, January 26th, Dr. Edwin Robinson Maxson, aged ninety-one years. **Moore.**—In New York, on Monday, January 29th, Dr. J. M. Moore, of Union, S. C. **Moore.**—In Brooklyn, on Sunday, January 28th, Dr. Thomas H. Moore, aged sixty years. **Oliver.**—In Washington, D. C., on Saturday, January 27th, Dr. Harry Oliver, of Lisbon, N. D. **Poole.**—In Evanston, Ill., on Wednesday, January 24th, Dr. Isaac Poole, aged seventy-four years. **Rennick.**—In Wellington, Kansas, on Thursday, January 25th, Dr. Charles W. Rennick, aged forty-two years. **Schwilk.**—In Poughkeepsie, N. Y., on Monday, January 29th, Dr. Elisha T. Schwilk, of Albany. **Smith.**—In Buffalo, N. Y., on Monday, January 29th, Dr. James S. Smith, aged eighty years. **Snyder.**—In Clinton, Miss., on Saturday, January 27th, Dr. Charles G. Snyder, aged forty-nine years. **Wichmann.**—In St. Louis, Mo., on Tuesday, January 23d, Dr. Herman L. Wichmann, aged sixty-nine years.

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Original Communications.

INDISCRIMINATE DRUG TAKING,*

BY ALEXANDER LAMBERT, M. D.,
New York.

Many of us are apt to consider that the times of our forefathers were better morally than those of our own, and to see in the present generation which we know intimately a deterioration from the morals of former times. True it is that the manufacture of synthetic drugs, that is, those which are made up deliberately with definite chemical compounds, is a process of modern times, and since this form of drugs has been on the market and the knowledge of their effects has become spread abroad through the community, the habit of indiscriminate buying and taking of drugs has largely increased. Former generations, without the synthetic drugs, naturally turned to the so called bitters and "yarb" concoctions, by means of which they thought to purify their blood in the spring, and to improve the humors of the body by more or less drastic catharsis, the style of bitters indulged in being popular in direct proportion to the amount of alcohol they contained. Many a good deacon of the church, endeavoring to be strictly temperate, considered that he was improving his blood and toning up his stomach as he went to the closet to take down the hidden bottle of bitters, and many an alcoholic habit was thereby engendered.

Chloral hydrate was the first synthetic drug to be formed, and was used to produce sleep. Thirty years ago the number of chloral habitués was not small, and it had become a well recognized habit and scandal. Many of those who had first taken it for insomnia had rapidly fallen into the condition of being unable to get along without it. In 1889 and 1890 a widespread epidemic of grippe occurred in the United States, and this was treated very largely with coaltar products to quiet pain, and from the experience gained at this time it was very evident that these medicines would reduce fever, relieve headache, and the pains produced by various diseases from various causes,—in other words, a mass of remedies having a narcotic action were at hand for the asking in the drug stores, without the old dangers of morphine, and the danger of a habit formation. This was the belief and is the belief among people generally to-day. I think all persons will agree with me, that there is no question that there is prevalent to-day a widespread and indiscriminate use of headache powders and pain benumbing drugs of all sorts. There may be harm, and there may be no harm in the use of these remedies in individual cases, and naturally each person thinks his own case the harmless one. Many of these drugs have as a basis aniline, and aniline combines with the blood so that when these drugs are persisted in continuously they bring about a very distinct anemia, which in turn injures the general nutrition of the body, and the patient, while perhaps free from pain, suffers a distinct deterioration thereby.

The danger of the formation of the habit of continually turning to some drug at the slightest pain, in the endeavor to benumb that pain, instead of finding out what caused it to arise, and taking the proper measures to remove the cause, is in reality a very great one. Because, as has been so often said, diseases are not separate entities, seizing the person in their clutches and holding him captive until one or other is overcome, but what we call diseases are really variations or perversions of the normal processes going on in the body, and one or more of these processes may become perverted or changed, so that the resulting condition brought about in the body is vastly different from the normal condition and becomes harmful, and the resulting symptoms are what we designate as a disease. For instance, we have just been speaking of the relation between these synthetic bodies and the blood. They destroy the contents of the red corpuscles, and the red corpuscles by means of their content carry oxygen to the various tissues; the various tissues need the oxygen for their chemical processes by which their nutrition is brought about. They lack it and the various minute cells of the body suffer, the general health becomes impaired, and we say that a person suffers from anemia. It is the morbid processes brought about by this condition which give the symptoms, and we cure that disease by stimulating the blood forming organs so that they form new corpuscles and add new red coloring matter to the individual red corpuscles.

Consider another example, that of headaches, and the numerous remedies advertised, bought, and taken for them; consider the many causes which give rise to headache; a disturbed digestion, sluggish circulation, tired out and overwrought nervous system, carelessness in personal hygiene permitting constipation, and various sicknesses or little ailments that constantly arise. If we remove the cause, the headaches will cease, and the great danger we have

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in turning to headache remedies is, that as the pain ceases we forget the cause, believing ourselves better, and go on permitting the morbid processes which caused the headache to persist in the body, until we have really allowed a little thing to run along until it may have become a serious condition. Beside the dangers to the blood from various of these aniline drugs, the incessant use is not without its dangers in habit formation. I have seen the phenacetin habit, in which the patient was ill nourished, pale, blue white, and with a naturally gentle disposition, turned into a cranky, ugly suspicious nature from the effects of the drug, making a pitiable picture in both body and mind; the antipyrine habit may also be acquired.

By habit I mean the taking of twenty, thirty, or fifty grains a day and being unable to go on without it, and I have often been made to realize that the cross, ill natured, home disturbing condition of mind and character that many people get into, is due to their incessant drugging to relieve some chronic condition, where the whole thing would cease were they to seek out the cause of the condition from which they are suffering, and give it proper attention. It is easier, however, to take drugs and be cross than go to the trouble of taking care of one's self and being good natured. I am not condemning here the occasional use of something to relieve a temporary condition, but remember, I am thinking of and discussing the persistent, indiscriminate use of drugs without a proper knowledge of the fundamental and underlying cause of the symptom for which the drug is taken.

Another cause which has brought about a widespread use of drugs is that of insomnia,—and the hypnotics or sleep producers are probably the most abundantly used of all. These drugs are very distinctly habit formers, and the condition of not sleeping, for which they are taken, is a habit in itself. Most of us go to bed and sleep in sheer thoughtlessness; we are tired, we lie down on the bed, and we sleep; but when for any reason we are disturbed and we hope to sleep, and worry lest we should lie awake, we are very apt to find that sleep flees from us. Somnos, the god of sleep, must have been a very perverse and cranky character, for the more he is wooed, the more prone is he to flee from us, while the more indifferent we are to him, the more likely he is to come and seek us. Such is the perversity of a tired mind, that the more it endeavors to sleep the less likely it is to do so. We must train ourselves to realize that the mere loss of sleep is not injurious to health, and that it is the excited, nervous, upset condition of one's mind from worry when one does not sleep, that causes the injury. The lack of sleep itself is not injurious. The same person who frets if he loses an hour or two of sleep, and worries all day because of the terrible loss of sleep he has suffered, will probably dance all night, or sit up playing poker or bridge or what not, and the next day throw out his chest and go about explaining how little he minds the lack of sleep, and then if for any reason he threshes round for one or two of the eight or nine hours that he is in bed, he feels that he has been cheated out of a nice rest, and that his health is rapidly going into a decline.

Many people, from nervous weariness, cannot relax, and are prescribed, or turn to hypnotics. It is the shortest route and the easiest one to obtain what they desire, but the persistent and indiscriminate use of these remedies brings with it its dangers, and they are real. I have seen many trional, medinal, sulfonal, and veronal habits; I have seen a person pale, tremulous, and childish, like the beginning of senile dementia, who was suffering only from the trional habit. I have seen fifteen grains of sulfonal make a person so unable to control his muscles that next day he walked like a person befogged with alcohol. I have seen twenty grains of medinal make a person absolutely demented for three or four days, and I have seen a charming, gentle, refined woman turned into an ugly, unreasonable termagant by ten grains of veronal. The symptoms of heavy headedness, perversity, and bad temper following the use of these drugs is common enough, and is usually put down to the fault of the individual, as being due to pure cussedness in their character, when in reality it is the poisoning from their drug. Three o'clock in the morning courage is very hard to find, and naturally these drugs sustain that weakened courage, and have taken the place of what, according to an old slang expression, was called "Dutch courage." It is very difficult not to lean on such simple things as a few grains of this or that and go to sleep, and there are times when it may be perfectly harmless, and not unwise to do so. But the persistent and indiscriminate use of these forms of drugs goes from bad to worse. All narcotics beget a desire for more of their kind, or more of some kind, to ease the discomfort and nervous irritability that the lack of the narcotic produces. The danger from incessant using is always the injury to the health that such indulgences produce, as well as the diminished mental power that follows.

A narcotic narcotizes some part of the brain. If it be alcohol, it injures the judgment first. The coaltar narcotics distort and poison and pervert the ideas of the individual in his relation to others. Whether it is that it destroys judgment concerning others, or whether it makes him so irritable that he becomes suspicious and misjudges the acts of others, it is not always easy to say, but it unquestionably does both. They are a distinct danger in that they leave the brain poisoned and thus make for the unhappiness of the individual and the unhappiness of those with whom that individual comes in contact. Life at best is hard enough to get through with well, and to increase our troubles and unhappiness by poisoning and perverting the judgment in our relationship with others is a dangerous and evil process, and this the hypnotics and narcotics do.

Fortunately, the pure food law now compels the labeling of certain drugs whenever they form the content of a preparation, and this has been of widespread benefit. The perfectly innocent looking and seductive pamphlets, which are scattered broadcast, offering remedies that will soothe or cure all the ills of mankind, must now have printed upon them some of the contents that occur in the mixture—that is, opium and its derivatives, cocaine, and some of the coaltar narcotics. What is done now in taking these mixtures must be done with open eyes, and

there is not the former excuse of buying a highly recommended but unknown remedy.

There is another form of indiscriminate drug taking which is particularly the habit of those suffering from some subacute or chronic disturbance, for which it is much easier to drug, following every new suggestion that is made, than to work out the fundamental reason and endeavor to remedy it by the slow and patient process of intelligent treatment. Take the name rheumatism. What a multitude of conditions that name conjures up. There is such a thing as rheumatism. It is an acute, painful disease with a fever, inflaming with intense pain and swelling the larger joints, and often affecting the heart, but under its name is placed in the lay mind every pain and ache that can possibly occur in joints or bones or tendons or muscles. Many of the things called rheumatism are not true rheumatism, although many members of the medical profession carelessly so name the condition. All gouty manifestations, the different infections following various diseases, such as scarlet fever, etc., which inflame the joints, all wrenches and strains and the various joint troubles in old age caused by malnutrition are all grouped under the useful name of rheumatism, and the indiscriminate drugging that results, simply because the label of the so called remedies advertised proclaims that it is good for rheumatism, is beyond computing. Any rheumatic medicine is usually considered to be good for any pain in joint, muscle, or bone.

The belief in rheumatism is also combined with a widespread belief in uric acid and the necessity of dissolving out and getting rid of this perfectly normal constituent of the breaking down of cellular tissue in the body. The idea that because all gouty people pass a lot of uric acid, hence uric acid is the cause of gout, was one of those jumps at a conclusion which has obtained great credence, although there was nothing in the facts that ever bore out the truth of this statement. The ordinary wear and tear of cellular tissue in the body produces a pretty constant excretion of uric acid, which is normal for that person. It is brought to the kidneys and they filter it out. A varying additional amount of uric acid is excreted by the kidneys every day, depending upon the amount of cellular tissue that is consumed in the food. If glandular tissues, such as sweetbreads, are partaken of, the uric acid output is enormously increased. The intake of alcohol increases the amount of uric acid output, but the cause of gout or rheumatism is not to be found in a normal constituent of the chemical metabolism of the body. It is not in that which is excreted, but in the unknown, half broken down, chemical products that the danger lies. I do not pretend to say what these are. The uric acid fallacy is an excellent one to aid in putting out plausible advertisements for large numbers of drugs and nostrums to appeal to a gullible public, and it will be many years before the idea that it is a universal causation of all aches and pains can be eradicated from the minds of men. True it is, that the medical profession have been slow in differentiating between the various conditions called rheumatism, and have been equally slow in giving up what has been an easy and useful name for the aches and pains for which they could not find the cause, as uric acid and rheumatism.

But that is not the point under discussion. What we have to consider is the enormous amount of useless remedies for these conditions that are consumed with futile results. Recently the lay press has come out with a new announcement of a cure for rheumatism. It is copying a medical article, and may prove to be of great benefit to suffering humanity. It is a new form of salicylic acid, which is the sheet anchor for the relief of pain and shortening the disease in true rheumatism. This new remedy has not yet proved its efficacy, and whether or no it will do so, remains for the future to decide. Nothing but an increase of knowledge in the lay mind will suffice to remedy this indiscriminate drugging for ordinary aches and joint pains. The public must be educated to the fact that many aches and pains are not rheumatism, that many conditions called rheumatism have in reality nothing to do with it, and that the only chance for thorough recovery is through an accurate and careful diagnosis and an adequate treatment for the different ailments and causations which are commonly grouped together under this name.

It is not my province here to make differential diagnoses and differential treatments, but if some one person will take to heart this warning that all the aches and pains in legs and arms and backs are not rheumatism, and every crick in the joints or ache in the head is not caused by uric acid, and will endeavor to find out what the causation is, and will cease to make a mixing tank of his or her stomach, I shall not have spoken in vain.

The crusade against tuberculosis has had one very good result in that it has held up to proper condemnation the enormous mass of fake "cures" that were gathered together and doled out as panaceas for this disease. The endeavor to learn how to care for one's self, and by self denial and self restraint to cure a perfectly curable disease in the early stages by right treatment and judicious living, was not nearly so attractive as to do as one chose, and, by taking bottles of some preposterous mixture, doled out with equally preposterous claims and statements, thus dodge all personal responsibility. But the sad effects of this indiscriminate drugging have finally impressed the public mind in recent years as to the worthlessness of these so called "cures." The widespread knowledge as to how these patients should live and what they should avoid has saved many a breadwinner for his family, and protected many a family from such a loss.

Another prolific source of revenue to the manufacturers of fake cures is the large number of people who imagine that they are suffering from Bright's disease. This term covers many different conditions of the kidneys, curable and incurable, but as in rheumatism they are not separated in the average mind. All pains in the back are by the average person assigned to the kidneys, and the slightest increase or diminution in the urinary flow is looked upon as a warning of great import, or the slightest precipitation of any crystals out of concentrated urine is laid, not to the usual cause of overeating meat, but to some fatal Bright's disease. The constituents of the urine which are really

significant of disease are shown by chemical or microscopical tests, and are not visible to the unaided eye. It will take many years to break down the enormous amount of ignorance now prevalent concerning the kidneys and their functions, and until that is accomplished, unlimited drugging will continue. On no other organs of the body does the strain of overeating and drinking and worrying come as on the kidneys. Temperance in all things will do more to preserve these organs in a healthy condition than all the drugs of the pharmacopeia. Most of the really beneficial medicines and drugs are in certain doses poisons to the body, but that is no reason why they should not be used in the beneficial doses; but it requires knowledge of what such doses are, and it requires wisdom to know when and how best to use them.

It is useless to go on and take up each organ of the body and discuss its diseases, real or imaginary, and the various kinds of remedies that are vouched for as cure-alls for whatever ills may arise. The dangers of indiscriminate drugging may be summed up as follows: It is often harmful, and usually unintelligently useless. The drugs in themselves frequently do harm, to say nothing of the waste involved in pouring in enormous quantities of these remedies to no purpose, since the reasons for which they are taken are often incorrect. Many of these remedies do harm, in that they actually injure and pervert the normal processes of the body. It is like the old Persian proverb concerning opium, which runs, that while opium may cure a disease it also produces one. All narcotic drugs, those which benumb pain and the like, have the danger of real habit formation connected with their use, and when once a person is addicted to these drugs, the condition in which he finds himself is worse than the previous one for which they are taken. It is an old, trite saying of the medical profession that he who diagnosticates well will cure well, and this applies to each and every individual, whether he has taken a degree in medicine, or whether he has not, and certainly the indiscriminate drugging to which the human race is to so great an extent addicted to-day is not based on principles of good sense and intelligence.

36 East Thirty-first Street.

SOME USEFUL HOUSEHOLD MEDICAMENTS.*

By Solomon Solis Cohen, M. D.,
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The work of the committees on public health education appeals to me as a practical means of disseminating useful knowledge, and your invitation to partake in the merit thereof has been accepted gladly. I have been asked to talk about "useful medicaments."

I shall speak only of drugs that are suitable for use as household remedies, and perhaps not all of these, and shall make some observations upon their application to domestic needs. Your chairman has accused me, very courteously and flatteringly, it is true, of having written an eleven volume work on remedial measures *other* than drugs; and I may therefore be supposed in some measure to oppose medication. The truth is that I did *edit* such a work; and that I do oppose the indiscriminate and needless use of drugs; but let me add, as I did in the Foreword to that *System of Physiologic Therapeutics*, that I have a robust faith in the efficacy of the right drug, given to the right person, in the right quantity, at the right time; and that not only drugs but also medicinal baths, or light, or heat, or electricity, or manipulations, or any other form of remedial application, will do harm if used in the wrong case or the wrong way. Now, when any person, physician or layman, undertakes to medicate himself he is almost sure to use the wrong drug, and he is certainly prescribing for the wrong person. I will admit, however, that few physicians are guilty of taking their own medicine. As regards that, they follow Scripture strictly; they are convinced that "it is more blessed to give than to receive."

It will be clear then, that I have not come to play the rôle of *advocatus diaboli* in opposition to my friend, Doctor Lambert. There is nothing which he has said against self medication to which the slightest exception can be taken, even by one who has as much confidence as I have in the remedial influence of drugs intelligently used; for in order to use drugs intelligently one must understand the conditions under which they will be harmful, as well as the conditions under which they will be helpful. He must understand not only the full effect of the drug itself upon the human body and the human mind, but he must also know enough of the working of the body and the mind in health and in disease, to recognize when drugs are *not* needed, as well as when they are needed.

Now, while I am not prepared to say that all physicians know so much as this, or that any physician can determine all the points without error in every instance, I have no hesitation in affirming that no layman is thus equipped. Doubtless you have heard of Hippocrates, from whom scientific medicine traces its descent, and who lived in the time of that other great Greek thinker, Socrates. The method which Socrates applied to philosophic problems, Hippocrates applied in a measure to those of medicine—with this difference, however, that while Socrates questioned men, Hippocrates questioned Nature; and that where Socrates dealt with ideas or words (dialectics), Hippocrates dealt with the facts of experience (empirics). Hippocrates laid down as the first rule of the medical art, "Do good—or do no harm." That rule has never been superseded, and never will be. If it is binding upon students of disease and remedies, how much more binding should it be upon those who have not so studied?

Be sure, O physician, says Hippocrates, in effect, that what you are going to prescribe for the sick person—be it a drug or some other form of remedial application—will do good. Otherwise do not prescribe it. Above all, be profoundly sure that what you are about to recommend or to do will

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work no harm; for one may be excused from doing good who has not the power, but he can never be excused who works harm, because he has always the power to withhold his hand. Yet some who are not physicians will rarely hold their hands—or their tongues—in the presence of disease about which they know nothing, from giving or advising remedies of which they know less! I was glad to hear what Doctor Lambert said about rheumatism—how diseases of the spinal cord, and the nerves, and the blood, and the bones, and I might add the lights and the liver, can be mistaken for rheumatism. Rheumatism is painful, but every pain is not rheumatic. I am in the habit of propounding this conundrum to my students: When is rheumatism not rheumatism? There are two answers. One is: "When it is something else." A better one is "Nine times out of ten."

However, while the prescription of drugs for rheumatism or anything else had best, under most circumstances, be left to the physician, there are occasions when simple household measures may obviate the necessity of sending for a physician, or may make the physician's task easier when he arrives. Among these household remedies are certain drugs.

Let me repeat that before laymen—or laywomen—undertake to give these drugs, they must be sure that they understand the circumstances. They must be double sure that they are not going to do harm. With this surety, they can resort to the use of such drugs as are not likely to be directly poisonous, unless given in excessive quantity; but they should not give or take drugs like opium, belladonna, bromides, strychnine, aspirin, phenacetin, acetanilid, and the like, unless they have received explicit directions from a physician, when and how to use these powerful medicines.

First in rank among household remedies is the good old standby of childish days:

How dear to one's heart are the scenes of his childhood,
Which fond recollection brings back to his view—
Oh, the apples so tempting and green, that the child *would*
Ingest, though his mother had told him not *to;*
Oh, the pangs of remorse; Oh, the very sick feeling
That griped the insides of that penitent elf;
Oh, the blessed relief from that wellspring of healing—
The castor oil bottle that stood on the shelf;
The good old reliable castor oil bottle;
The castor oil bottle that stood on the shelf.

For the removal of irritating matters from the bowel, a dose of "oil," which may be a teaspoonful or a tablespoonful, according to age—or a few drops for an infant—is effective, and under most circumstances harmless. We can leave it in the hands of the mother without fear. It has at least one great advantage, that there is little likelihood of its giving rise to the formation of a "habit." A castor oil "fiend" has never, to my knowledge, been made the subject of a medical report. It is, of course, conceivable that harm might be done by this, as by any other laxative, in cases of actual intestinal obstruction, or in cases of ulceration of the bowel and other conditions in which it is advisable to avoid what we call "peristalsis," that is to say, muscular contractions of the bowel wall. But that is only to repeat what has already been emphasized, that whatever is capable of doing good is likewise capable of doing hurt, and that one must be "sure of his facts before he acts."

At the beginning of most fevers, or of so called "colds" (which, you know, are usually infections of some kind), in cases of acute indigestion from improper food, in cases of ptomaine poisoning, in certain kinds of acute diarrhea, especially the so called "summer diarrhea" of infants, and the like, it is always well to begin treatment by what the old doctors used to call "clearing the *primæ viæ*," cleansing the stomach and bowel. Of course, this can be done—and very well done in many instances—by what is called *lavage,* or washing out; but measures of this sort are not included in our discussion this evening, and so I will speak only of drugs. There are other purgative substances, especially the "mild" mercurous chloride, or calomel, as it is usually termed, and even "blue mass," metallic mercury, which may, when one has been properly instructed by the physician, be used as domestic remedies, but, on the whole, castor oil is the most valuable for household purposes. Its administration is not always easy. The taste may be disguised by saccharin and peppermint or cinnamon when it is not to be used too often (for saccharin does harm when taken repeatedly); and you know how the druggist mixes it with soda water and some flavored syrup, usually lavender or vanilla. It is sometimes enclosed in elastic capsules, which are not extremely difficult to swallow. A convenient and effective method is to mix equal quantities of castor oil and spiced syrup of rhubarb—another good household remedy. It imparts so pleasant a taste to the mixture that among many of my very young friends it goes by the name of "the candy medicine." Their mothers give it to them as a reward for good behavior. Even adults like it; one dear old lady I know, licks the spoon. When a physician prescribes this mixture he will sometimes add to each dose a few drops of paregoric (the camphorated tincture of opium), which further improves the flavor and tends to prevent griping. This is not a necessary addition, however, and I do not advise the household use of paregoric. In some cases of diarrhea and so called summer complaint, after the castor oil and rhubarb mixture has emptied the bowel pretty thoroughly, physicians will advise the use of paregoric or other opiate, or perhaps bismuth, in appropriate doses. In other cases the sedative is not needed, for the cleansing may bring the irrtation to an end, or the astringent after effect of the "candy medicine" be sufficient. At all events, an opiate or other "binding medicine" should not be used until Nature's hint to get the bowel clean has first been acted on. But let me repeat that no form of opium should be taken at any time, except by medical advice. "Opium," says an Arabian author, "is the finger of God. It smites and it heals." And right here it may be well to emphasize once more the possibility of "smiting"—of death—which lurks in so called "soothing syrups." Most, if not all of them, contain either paregoric or some other preparation of opium. Children have been killed with them—soothed into an eternal sleep. Even when death is escaped, harm may be done in many ways. Thus it is quite possible to lay the foundation of an opi-

um habit with these *concoctiones diaboli.* You see we had to get the Old Gentleman in somewhere! But seriously, the restlessness and crying of the child habitually soothed with these unspeakable preparations, may simply be a sign of craving for its accustomed "dope." And yet people who make and sell and advertise the stuff consider themselves respectable. They may even be church members and philanthropists—or civic reformers.

Quinine is another drug which may well find a place in the home medicine closet. It is not devoid of possibilities of harm, among which are loss of sight and hearing. Some persons are so susceptible to its influence that they break out in hives, or have headache and dizziness, or even fever and delirium, with a rash resembling that of scarlet fever, upon taking even a small quantity. Most persons, however, can bear a single dose of five grains, or even ten grains, very well; and in case of a sudden chill—a real fit of shaking, with chattering teeth and blue lips, and a sensation of intense cold all over the body—especially in these days when pneumonia is so prevalent, I tell my patients to risk the chance of taking a good dose of quinine unnecessarily, and to do it at once, without waiting for the arrival of the doctor. Timeliness counts for a great deal in such emergencies. So, too, in the presence of vaguer sensations of chilliness, and at the beginning of so called "colds," moderate doses of quinine may well follow the castor oil or calomel "physic." The question of repeating the dose may be left to the doctor. In malarial infections—"ague," "chills and fever," etc. —quinine has to be given promptly and in sufficient quantity. Residents of malarial countries, for example, the Isthmus of Panama, are usually advised to supplement the precautions against mosquitoes by taking five grains of quinine daily. So, too, when influenza, or grippe, as it is called, is epidemic, another derivative of the cinchona bark, cinchonidine salicylate, taken in doses of five, ten, or fifteen grains daily, according to circumstances, may serve to protect one who has to move in the midst of wide spread infection.

And that brings to mind other salicylic compounds, such as salol, salophen, aspirin, etc., salicylic acid itself, and salicin derived from willow bark. All of these may be classed among useful medicaments when properly used in rheumatic conditions, in so called colds, in tonsillitis, in influenza, and so on; but all of them are likely to do a great deal of harm in inexperienced hands, or when the conditions present do not call for them. The question of whether a medicine is to be called "good" or "useful," or the reverse, depends very much upon the *when* and *why* and *how* of its use. A battle ax in the hands of Richard Lionheart might be called a useful implement to perform an amputation at the shoulder joint, or perhaps above the collar bone. Still, surgeons have better tools; and no one, surgeon or knight in armor, should use a battle ax to pare corns.

Tincture of iodine is a good old household friend. Applied externally, by painting the skin over beginning inflammations and sores of various kinds, it is often very useful. Nowadays, surgeons, when called upon to operate hastily, without time for the elaborate aseptic preparations which have made modern surgery so brilliantly successful, will apply a diluted tincture of iodine over the skin covering the area of operation, and excellent results are reported. It is also a good counterirritant over painful areas. In cases of beginning erysipelas, or what looks like erysipelas, while waiting for the doctor to come, no harm can be done by painting the healthy skin for about one half an inch around and beyond the inflamed area with tincture of iodine, and sometimes it does good by limiting the spread of the infection. One should not paint up to the very edge of the inflamed part, however, because the doctor will want to see this clearly without any alteration of its color by the iodine, in order to make his diagnosis.

One should not, however, apply to an inflamed area any of the patented or proprietary salves which are advertised in the papers or recommended by druggists. Some of them may be all right, but most of them are all wrong. There is one product, however, with which little harm can be done, and it may be used in an emergency, when a physician cannot be obtained promptly—that is ichthyol, about twenty-five per cent. in an ointment. The various bland petrolatum products, simple cerate, or cold cream, oil of birch or wintergreen, and benzoinated zinc oxide ointment may also be placed in the comparatively harmless class and sometimes do much good as local antiseptic, protective, or sedative applications.

Another remedy which deserves mention is the compound tincture of benzoin, at one time known as "Turlington's balsam," and before that as "Friars' balsam." My brother, who was assistant surgeon to the Twenty-sixth Regiment of Pennsylvania Volunteers, which guarded Washington in 1861, before and after the battle of Bull Run, tells me that for a long while a box of Turlington's balsam, sent by a Philadelphia druggist, constituted his entire stock of medical supplies—except some bandages sent by his girl friends, and all carefully hemmed! He learned the virtues of benzoin thoroughly.

In domestic practice it is a most useful article for external applications and inhalations, with which harm can rarely be done. Like cinchona or "Peruvian bark"—the source of quinine—which was originally known as "Jesuit's bark," because the knowledge of it was brought from Peru by the missionary fathers, who had learned its virtue from the Indians—the benzoin preparation was brought to Europe by priests. Hence its old name. Quinine came from the West; benzoin from the East. It is one of our beneficent heritages from the crusades, which, by bringing barbarous Europe into contact with the civilization of the Saracens, became, in a measure, the means of introducing science and the love of letters, as well as household comfort and elegance, into the Western world. In cases of sore throat of various kinds, especially that which affects the windpipe or the larynx, a teaspoonful of compound tincture of benzoin with a teaspoonful of paregoric may be thrown upon the surface of steaming water in a bowl or pitcher, and the vapors inhaled through the smaller aperture of a funnel or of a hollow cone,

formed of a folded towel, placed over the mouth of the vessel. This should be employed, however, only as a means of temporary relief, and should not be allowed to postpone the procuring of medical attention. For the sore throat may be severe tonsillitis, or diphtheria, or the beginning of scarlet fever; and if the larynx is involved, it may be that membranous croup is present or impending. Hence it is even better to go without the relief that the benzoin may give, than to neglect the diagnosis that a physician only can make, and the early and skillful attention that may be needed to save life.

Chapped hands, slight cuts, and bruises of various kinds may be painted with the tincture of benzoin, and as this is an alcoholic solution of a resinous or gummy substance, it leaves a protective, antiseptic covering upon the part, when the alcohol evaporates. Of course, in the case of a cut or wound of any kind, one must be sure that it is clean—that is to say, free from dirt or foreign bodies of any kind—before it is sealed up with benzoin. Also, in cases of punctured or torn wounds, wounds which are not clean cut and open to the air, or wounds made by rusty nails or Fourth of July pistols, etc., or which have been contaminated, directly or indirectly, by the ground, it is necessary to look out for tetanus—lockjaw. To gum them up with benzoin and neglect proper surgical treatment, and perhaps the use of antitoxine, is to invite disaster.

Constipation is so frequent, that no household medicine closet would be complete without some comparatively innocuous laxative. We have already spoken of castor oil and the mild mercurials. In addition, there are various "salts," Epsom salt, Glauber's salt, Rochelle salt, sodium phosphate, etc., and also more expensive preparations of these salts known as "mineral waters." The various "bitter waters" differ very little in their composition; the chief difference is in the cost of the bottle and the label. So called "Carlsbad salt" is commonly sodium sulphate—that is, Glauber's salt. Now, while any of these may be used occasionally without a physician's advice, yet they all do harm in cases of a chronic costive habit. Not only do they lead to neglect of the measures that will correct the condition—such as regulation of the diet, exercise, massage if necessary, and above all, the taking of a regular hour for evacuation, so that the alarm clock may be properly wound up and go off at the proper time—but also they tend to bring about a relaxed, soggy condition of the mucous membrane of the bowel, and an atony or sluggishness, almost a paralytic state, of its muscular coat. They should be taken, if at all, only by the advice and under the direction of a physician, who prescribes the manner and the quantity in a definite way. Even so common and supposedly innocent a substance as the ordinary Epsom salt—magnesium sulphate—may exert a poisonous action under certain circumstances. Dr. S. J. Meltzer, of the Rockefeller Institute,—I wonder, by the way, how many of you know that Doctor Meltzer is one of the great men of the world and that the work he and his colleagues are doing at the Rockefeller Institute has already been of the utmost benefit to science and humanity, and promises even greater results hereafter—Doctor Meltzer has shown that Epsom salt possesses the power of paralyzing certain parts of the nervous system. Now, when there exists an obstruction of the bowel, and Epsom salt is given and does not pass out, but is absorbed into the blood in sufficient quantity, it may produce paralysis or convulsions, unconsciousness, and even death; and it is quite possible that some of the cases of death which have been supposed heretofore to have been the consequence of some intestinal trouble, have in reality been owing to the Epsom salt that has been given before the diagnosis was made. Magnesium sulphate, in concentrated solution, I may here add, is an excellent and also a harmless *external* application to burns and inflammations of the skin, and may even relieve the pain of inflamed joints, as in some cases of rheumatic fever. Other magnesium compounds, the citrate, oxide, carbonate, and a liquid preparation called "milk of magnesia" are well known and useful in domestic practice as laxatives and antacids. Magnesium peroxide is a good tooth power. And, by the way, another useful application to burns is sodium bicarbonate, ordinary "baking powder"; olive oil and lime water is also useful; and so is ichthyol; and so is plain salt water, sterilized of course, about one teaspoonful of salt to the pint of water.

But to return to purgatives, the preparations of senna, of which the most popular is the so called "compound licorice powder," may be used in the house, as also rhubarb in various forms, of which the compound rhubarb pill is one of the best. "Compound cathartic pills," pills of aloin, strychnine, and belladonna, which are sold under various names, phenolphthalein, and the like, should be taken only upon physician's prescription. Emetics are sometimes needed. Mustard with lukewarm water is one of the best. Alum is sometimes ordered by physicians, and frequently, mixed with syrup of ipecac. But these and others still more powerful had best be left to the doctor—to prescribe.

Spirit of nitrous ether, or, as it is called in the household, sweet spirit of nitre, a few drops, given preferably in a large quantity of hot water or lemonade, is often quite useful to allay the discomfort of fever, and may be given in cases of eruptive diseases while waiting for the doctor. Its great benefit is its action upon the skin and kidneys.

Saffron tea, sage tea, and the like, which used to be given to children suffering with measles and scarlet fever, did good, not because of the saffron or the sage, but because of the large quantity of hot water which was thus given, and which is always useful under these circumstances.

Sodium borate, that is to say borax, and boric acid, while not to be given internally, except by a physician's orders, are useful as gargles and mouth washes, and sometimes with camphor water or in simple solution, as eye washes. Boric acid is also useful as a powder for chafed places, and for excessive sweating, especially with infants. Zinc oxide powder, zinc stearate, starch powder, powdered talcum, magnesia, and similar substances are useful in the same conditions, and two or three of them are sometimes mixed together in prescriptions.

Spirit of camphor and the aromatic spirit of am-

monia may be given, a few drops in water, to allay distress in the stomach; and the camphor in hot water is especially useful in cases of flatulence and belching. Spirit of turpentine, five or ten drops on sugar, may be used for like purposes. But, again, these are only temporary expedients. An accurate diagnosis must be sought and proper measures taken under medical advice. The symptoms may mean little or much.

Both aromatic spirit of ammonia and camphor spirit in water are useful stimulants in cases of faintness; or the old fashioned smelling salts, which consisted largely of a preparation of ammonia, may be used under like circumstances. When, however, the faintness is of a serious nature, it is not well to depend upon household remedies; the physician should be sent for at once to determine its cause. In cases of accidental poisoning by irritating or corrosive substances, it is well to give white of egg promptly and freely. When acids have been swallowed some alkaline preparation, as milk of magnesia, lime water, or diluted ammonia water, should be given; on the other hand, when strong ammonia water or lye has been swallowed, vinegar or lemon juice should be given to neutralize it. Meanwhile the doctor should be summoned, and he will determine whether or not to wash out the stomach or give an emetic, or what antidote or antagonist to give, if any. It is not well to depend on one's own understanding—or misunderstanding—of "first aid manuals" and similar publications.

There may be some other remedies appropriate and safe for household use, but they are not many. They will scarcely fill a "five foot shelf"—and my time is up. Yet, I must take one minute more for the most important thing I have to say.

Two remedies which I have not yet mentioned may be considered as standing apart from all others, and they are easily obtainable. The first is a compound of hydrogen and oxygen, known chemically as hydrogen monoxide, H_2O—not peroxide, that is another story—and in every day speech as *water*. It should be used freely, both internally and externally. If it is not known to come from a pure source, even if it appears to be clean, it should be boiled. Domestic filtering improves its appearance but does not always remove the germs. The other is likewise a preparation of oxygen, but a mixture rather than a compound. It consists of one part of oxygen, four parts of nitrogen, with traces of certain rare elements, such as argon, neon, xenon, helium, and others, and a varying proportion, which ought to be as little as possible, of carbon dioxide—in plain English, it is called *air*. It not only helps to cure, but what is more important, it tends to prevent disease. When we become truly civilized our houses will be built so that it will be impossible for any one, however timorous, to poison himself and his housemates by excluding fresh air, whether by day or night. Dr. Jacob Holt, of blessed memory, professor of anatomy and physiology in the Central High School of Philadelphia, when I was a student there, used to say apropos of "night air," "The only air there is at night time is night air. There are two kinds of it: Fresh night air and stale night air. Open the windows!"

1525 Walnut Street.

MASTURBATION IN THE ADULT MALE.

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No apology is offered for again calling attention to this disease. The writer had somewhat touched upon this subject in a previous paper (8) and has received so many inquiries that he has determined that the subject should be treated more exhaustively.

It is a pity that so much of this subject is made by the medical quacks and their advertising literature, and so little attention paid to it by the regular physician. "Of what use," says Vecki (2), "to a man who suffers from weakening pollutions is a physician, who, following the example of renowned clinicians, laughs at him and sends him home with some insignificant and useless prescription?" The same may be said of masturbation. It is no wonder that the patients go to the quacks, when the average physician does not care to bother with him or always treats the condition as a mere neurosis. I know of one physician who sends his patients to the mountains for masturbation, treating it as a neurotic condition. At the other extreme, I have spoken to the head keeper (not a physician) of one of our largest public reformatories, who told me that he "treated" this condition by placing the culprit in a dark cell for a week, where, beside the total absence of light, he receives only one meal in the twenty-four hours, consisting of a loaf of bread and a pitcher of water. "But so bad are the boys," he added, "that even this treatment does not cure them." Comment is unnecessary.

There is still another and very important reason why the subject of masturbation should be thoroughly discussed and understood. Many a young man enters into illicit connection and becomes infected with venereal disease, because he believes that coitus is the only relief for masturbation. There are physicians who advise "careful" coitus to patients who masturbate, and there are also physicians who advise patients who, on account of religious or other scruples, do not wish to violate the seventh commandment, and who have, however, strong sexual feeling, to relieve themselves by masturbation.

I have elsewhere (8) given my views and discussed the relationship between masturbation and illicit coitus and will therefore not repeat them here. In addition to the many authors cited, I will cite one more author as an example of some medical advice which is very common. Vecki (2) says:

> In the treatment of onanism the individual has to be carefully studied; not every child, nor youth, nor even man, has sufficient will power to combat successfully this evil so difficult to conquer. In many cases the object will be attained by incessant watching, or ultimately by the application of a suitable preventive apparatus, which the child must wear day and night. Mature individuals should be advised to satisfy the sexual instinct in a natural way, and no notice must be taken of the cry of horror uttered by pharisaical medical authorities or by those who, although possessed of great scholarship, are nevertheless destitute of experience. The notion that whoever has once enjoyed natural copulation will not feel tempted

to return to onanism is an error that is somewhat prevalent. Only copulation that is practised regularly, satisfying every strong and real desire, can cure onanism; while copulation enjoyed at long intervals only, would rather incite to more frequent onanism, beecause pleasing recollections are near at hand.

This is certainly a very pleasing way of treating onanism and ought to be very popular, and in addition ought to bring to the author not only many cases of onanism, but also many cases of gonorrhea and syphilis as well.

I will not discuss masturbation as it occurs in idiots, imbeciles, or in the insane, but limit my discussion to the ordinary cases as we meet them in every day life.

With very few exceptions, masturbation is not a nervous disease. It is not a disease of the imagination. It is a real disease, and no amount of talking, whipping, or laughing will cure it. Those who say that the patient should be talked to, and his will power and self restraint cultivated, his general health improved by tonics, outdoor sports, etc., have very little experience with this disease. *When masturbation has been firmly established you can no more talk your patient out of masturbating than you can talk a child suffering from scabies out of scratching. The latter is caused by an irritation in the skin and the former by an irritation in the prostatic urethra.* On the other hand, so definite is the disease, so specific is the treatment, and so positive is the cure, that it is not even necessary to obtain the patient's confidence or cooperation, from a purely therapeutical point of view. In the treatment of the disease no demands are made upon the patient's will power or self restraint, because we recognize that the patient has little say in the matter; it is not a question of self control. Also, the application of restraining apparatus is worse than useless, for in the first place it concentrates the patient's mind on his genitals, and in the second place, to return to our comparison with the child suffering from scabies, this method of treatment would be similar to tying the hands together of such a child to prevent it from scratching. It would not scratch, not because it has been cured of its scabies, but because it is mechanically prevented from so doing. In treating this disease we should recognize that we have a definite pathological condition to treat, and not an imaginary disease, and the treatment should be undertaken in the same spirit as that of a surgeon when he undertakes the treatment of a fracture in an otherwise healthy person; if he gets the fragments in correct apposition and keeps them so by plaster of Paris or other splint for the necessary time, that bone will knit and the limb become normal, *whether the patient has confidence in the treatment or not.*

SYMPTOMS OF MASTURBATION.

As stated before, it is a pity that because so many medical quacks have, for their own personal interest, so exaggerated the symptoms of masturbation in the "literature" which they scatter broadcast, many regular physicians consider themselves bound, in order to offset this bad influence, to deny any importance to the subject, which seems to have just the opposite effect on the patient, to wit, it has the tendency to drive the patient to the very quacks who ought to be avoided.

For a study of the symptoms of masturbation we must *not* look to the genitourinary clinics. I have looked over the statistics of the first 1,000 cases treated in the genitourinary classes of Mt. Sinai dispensary, and have found only fourteen cases of masturbation. In order to study this condition, as well as cases of the other sexual neuroses, to be reported at a later date, I have through the kindness of Doctor Abrahamson, of the neurological department of Mt. Sinai Hospital, associated myself unofficially with the neurological class of Doctor Abrahamson at the Mt. Sinai dispensary, and I take this opportunity to thank him and his staff for their kindness in allowing me the privilege of examining these patients. I have a special room set aside adjoining one of the neurological rooms, where I make a complete genitourinary examination of all cases sent me. Besides taking a complete history of the case and palpating the external genitals, and the prostate and seminal vesicles per rectum, I examine the anterior urethra with the ordinary endoscope and the posterior urethra with the Wossidlo-Goldschmidt posterior urethroscope. These patients do not come to Doctor Abrahamson complaining of masturbation. They come complaining of various neurological symptoms, and Doctor Abrahamson, after going into the history, determines or suspects that there is some genital cause for their trouble and refers them to me for examination of the genitals, and if suitable, for treatment by me. It is in this way and not through the genitourinary clinics that I have been at times and still am connected with that I have come to make a special study of masturbation, seminal emissions, and impotence. I think this plan of having a genitourinary examining room in connection with a neurological department a very excellent one, and not, as I have so often seen in other neurological clinics, where these patients are simply dismissed with a dose of bromides without even a pretense of an attempt at a genitourinary examination.

In giving the symptoms of masturbation it is hard to take the middle course and avoid the exaggerations of the quack on the one hand and the indifference of many physicians on the other. There are some physicians, however, especially among the Germans, who seem to be so carried away with the importance of the subject, that in their enthusiasm they outdo the quacks and refer every ailment under the sun to the evil results of masturbation. Listen, for instance, to Steinbacher (1), who gives in his work as the results of masturbation the following ailments: Insanity, blindness, indigestion melancholia, hyperchondriasis, squint, sleeplessness; headache, dizziness, itching, abnormities in the senses of taste and smell, stuttering, angina pectoris, palpitation of the heart, a dry cough that may be mistaken for tuberculosis, asthma, pains in the feet, knees and hands, epilepsy, chorea, spasms or paralysis of the muscles of the bladder, impotence, etc.

Those who have studied the subject from every possible point of view can understand how a reputable physician and an author can obtain this long list of dire complaints as a sequence to masturbation. I have elsewhere (8) already pointed out the mistakes in these authors, but this particular p int

is so important that I may be pardoned for repeating it here. Masturbation is so very common in early childhood that if we take, for instance, the histories of a large number of cases of insanity or chorea, or almost any other trouble, we will find a very large percentage of early masturbation, but this by no means means that the masturbation was the cause of the insanity, etc. It is in this way that enthusiasts allow themselves to be betrayed into blaming everything on masturbation. I am certain that if we were to take the histories of 100 of the greatest geniuses we would find in over ninety per cent. of them a history of masturbation.

Again, in taking the histories of these cases there is still another error which we must be careful to avoid. We must not suggest any symptom, but allow the patient to tell his own story without interruption. We will then often find that he repeats them by rote as he has read them either in the advertisement of some quack in our public newspapers, or from one of the many books that are so freely distributed in the city. It will therefore be evident that the symptoms just heard in such a case cannot scientifically be put down as the symptoms of masturbation, and it is to detect this possible source of error that I never interrupt my patient, so that I may be able to recognize the symptoms suggested by what he has been reading.

After deducting all these exaggerations and sources of error, we will still have certain symptoms and conditions and sequelæ of masturbation which are genuine and real and not the result of imagination or suggestion. I cannot help repeating here that the symptoms and sequelæ of masturbation actually exist, and it is harmful to imagine that they can be talked out of the patient and are only imaginary. I shall now attempt to describe them calmly and without exaggeration as I have actually seen them in my clinics and in private practice.

The patient, as before stated, according to our arrangement is first seen by the neurologist. It is significant in itself that he picks out the neurological rather than the genitourinary clinic. He presents himself complaining of various nervous symptoms, very often not knowing or suspecting what the cause is. After the neurogloist determines that there is no organic nervous trouble, and from the history suspects that there may be a genital cause for the symptoms, he is referred to me for examination as to his sexual organs. Doctor Abrahamson informs me that the symptoms which make him suspect, in the absence of other causes, masturbation as the etiological factor are those of cerebral exhaustion, to wit, delayed or at times incoherent associations, difficulty in recalling names or things; inability to express themselves as well as before; frequent loss of the thread of thought, and incapability of continued effort. The feeling tone is changed and they are disagreeably affected by slight and insufficient causes.

The patient is then referred to me, and various patients complain of different nervous symptoms, but there are certain symptoms that almost all of the patients complain of, and which seem to be almost characteristic of the disease.

The most prominent of these is *loss of memory*. There are few masturbators who, if they complain at all, do not complain of it. I have often made a psychic investigation of this very common symptom and have come to the conclusion that, strictly speaking, there is really no loss of memory whatsoever, but that the events are crowded out of the brain by the day dreams or self consciousness of the patient. The masturbator is essentially a dreamer, and in using this term I do not at all wish to use it in the spirit that the term dreamer is often used; I do not mean the word dreamer as it is often applied to men of great ideals, but I mean it in its literal sense. The masturbator is shy and bashful, exceedingly self conscious; he thinks everyone can read his condition, becomes a recluse, and he compensates for the loss of outside society by self communion, in other words, by day dreams. This introspection absorbs his entire attention, and outside events pass him by hardly noticed, or receive slight attention. It is for this reason that he thinks his memory at fault, but the real reason is, not that he forgets, but that he does not observe, or pays too little attention to things outside of his self thoughts. That there is no real loss of memory is proved by the fact that the masturbator can remember if he wants to. I have had many cases of masturbation among college students and upon inquiry have found that they rank just as high in their work as the average, in fact, some have received honors and prizes for their work, whereas if there were any loss or serious impairment of memory they could not have got along at all. As a matter of fact, masturbation is not incompatible with great genius.

Another symptom that many complain of is *pain* or *weakness* in the muscles of the thigh and legs. Still another common symptom is *pains in the eyes*, also *headache* and *dizziness*. One must be careful to interpret these symptoms correctly, or else harm may be done. For instance, while there are very many masturbators who complain of eye pains and dizziness, so that these can often be ascribed to the disease under consideration, we must not so ascribe them, in any individual case, until the eyes have been examined by a competent ophthalmologist to exclude errors of refraction. And so it is with all the symptoms complained of; before we blame them on masturbation we must be certain that there is not a more real organic basis for them. As stated before, it is just a neglect of this precaution that leads writers into the error of ascribing a long list of ills to masturbation. It must be remembered that the masturbator is exceedingly introspective and likes to blame every trouble he has on his "youthful sin." If he is constipated, or has distress after eating or anything else, he is sure to blame it on masturbation.

Coming now to the symptoms of the genitourinary tract, we find first and foremost a marked hyperesthesia of the entire urethra, and especially of the prostatic portion. This condition is always present and is almost pathognomonic of masturbation. I have in the course of many genitourinary examinations seen many urethræ, but in no condition of the urethra, whether due to the presence of a foreign body, to the irritation of a very strong injection, to a tight stricture or what not, is the sensitiveness as evinced by the pain it caused

to be at all compared to that which we find in the chronic masturbator. This sensitiveness is very important not only from a symptomatic point of view, but also from a therapeutic and prognostic point. The sensitiveness is our most important guide to the frequency of treatment, to the strength of solution to be used, and also to the cognizance of cure or cessation of all treatment.

Hand in hand with this hyperesthesia of the urethra, and dependent upon the same cause, is the hyperesthesia of the prostate gland as examined per rectum. Here again the hyperesthesia is extreme, even if the gland is not markedly enlarged. I have made it a point for many years to examine the prostate per rectum as a routine in every genito-urinary examination. I have thus made many examinations in acute and chronic urethritis, in acute and chronic prostatitis, in prostatic abscess, etc., but in none of these conditions is the prostate as sensitive as in cases of masturbation. As a general thing the prostate is enlarged, but not necessarily so, but it is *always* hyperesthetic.

It is a very common error to consider that masturbation is always accompanied by pollutions, using this latter term in a general popular sense, without distinctions whether spermatozoa are present in the discharges or not. I cannot, however, too emphatically emphasize that masturbation and pollutions are entirely distinct conditions and have nothing to do with each other, although they very often coexist. While a good many masturbators also suffer from pollutions, still in a very large number of cases patients may masturbate without ever having had pollutions.

It is also a mistake not to think of masturbation because the patient is a married man. In a small percentage of cases married men masturbate in addition to performing sexual coitus. I have one patient who is so passionate that during the time his wife is indisposed he relieves himself by masturbation. There are also married men who experience more pleasure from masturbation than from regular sexual intercourse. There are also masturbators who get married or practice illicit connection, upon advice medical or otherwise, with the idea of curing their masturbation, but this does not succeed and they continue their practice in addition. This is a very important point and will be again referred to under treatment. There are also married men who, while their wives are temporarily absent, practise masturbation.

Again it is a mistake not to think of the possibility of a chronic gonorrhea in a case of masturbation. This is also important, for, if we do not recognize it, we may, by treating the patient for masturbation, light up his old gonorrheal infection and make matters worse. There are masturbators who, as previously stated, think of curing their trouble by coitus and thus acquire gonorrhea.

But all these special symptoms, which we have tried to analyze in detail, give but a poor and inadequate picture of the confirmed masturbator. The confirmed masturbator is apt to be a physical coward, a man who will stand all sort of insult, who will run away rather than fight or stick up for his most obvious rights. All the spirit of manhood seems to be crushed out of him. He is very often praised for his gentleness, for his saintlike demeanor, his humility, etc., but if we carefully study our patient, if we dive into his thoughts and make a psychical study of them, we will find that these traits are not virtues. We will find that he feels his wrongs as keenly as another, that he makes plans of revenge in his mind which he would fain carry out, but which he has not the energy to undertake and is too much of a coward to attempt. He is good, not because of any virtue, but because he is too much of a coward to be bad.

As before mentioned, the masturbator is essentially a dreamer, that is, he is very much occupied with his own thoughts and is very shy and bashful in his relationship with the outside world. He is especially bashful in the presence of females. He feels his condition keenly. Sometimes he attempts coitus with a view of curing his condition, and is often unsuccessful. Very often instead of masturbating with his hands he masturbates with his brain, that is, he calls up vivid pictures (psychic masturbation) and so causes erection and ejaculation. These cases of psychic masturbation are the most difficult cases to cure and the psychic form lasts for some time after the regular way has been abandoned.

And so he continues year after year; the number of times he masturbates varies greatly with the individual, but it is astonishing sometimes to hear how many times a day and for how long a period he can keep it up. It is this frequency and the fact that he needs no special preparation or place of convenience that constitutes one of the great differences (but not the only one) between masturbation and normal coitus. It is really remarkable how much insult the sexual apparatus will stand before it rebels. If coitus were practised nearly as often as some of these patients masturbate, the result might possibly be much more disastrous.

But after a while he comes to that stage where he masturbates, not because he likes it, but because he *has to*. He has that awful irritation in his deep urethra, and he simply must masturbate. The periods of previous excitement (pleasure) become less and less, as does also the amount of fluid ejaculated. Then there comes a time when he *cannot* masturbate. He has the irritation, he has the impulse to masturbate, but no matter how he manipulates his penis or how he excites his brain, he can neither obtain an erection or an ejaculation. He is indeed in a most wretched condition.

But long before this stage is reached his nervous system has been severely affected. He has tremor of the hands, excessive perspiration, pains all over, various mental symptoms (*vide supra*), in fact, the amount of reflex nervous disturbance is most various. His digestion suffers, he becomes morose and inattentive. He tries coitus and finds himself impotent, but may however contract venereal disease. He has tried many times to break himself of the habit, but invariably fails. He may have made the rounds of the various advertising quacks and finds no relief. He then falls into despair and thinks there is no remedy for him and that he is doomed to perpetual suffering. It is useless to talk to a confirmed masturbator of self control, because he *cannot* control himself

I have attempted to describe without exaggeration the course of masturbation as I have seen it in dispensary and private practice. It is, however, not every case that goes on to this very last condition. The disease may be halted at any stage by treatment. I have attempted to give a general description, but no one description will fit every case. The number of reflex phenomena are as numerous as the various functions of the nervous system.

PATHOLOGY.

The pathology of masturbation is quite simple and directly in harmony with the prognosis and treatment. It shows that there is no new element introduced, but that it is simply an exaggeration of a perfectly normal process. As pointed out by Bangs (3), with every irritation of the urethra, there is a corresponding irritation of a certain portion of the brain, which irritation excites the person to increased sexual desire; this increased sexual desire leads to masturbation and further increases the local hyperesthesia in the deep urethra. A vicious circle is thus formed. We thus see that the entire pathology is essentially and in the beginning but an exaggeration of what takes place in normal sexual intercourse. At the beginning, the child manipulates his penis, this act sends an impulse to his brain, which sends another impulse to his muscles of erection, etc., and also causes a congestion of the deep (prostatic) urethra. So far the condition is like normal coitus. But this act frequently repeated leads to a hyperesthesia of the prostatic urethra, so that impulses are constantly sent to his brain, which again in response sends impulses to the prostatic urethra, still further increasing its hyperesthesia, and thus the vicious circle is formed. In other words, there is in time formed such an irritation in the deep urethra that the patient is compelled to masturbate. The difference between masturbation and normal coitus is, in the first place, that it is initiated in the young person at or even before puberty, when the sexual apparatus is still in an imperfect and developmental state, when the brain cells appertaining to this function are also being developed, are immature and more irritable and in short when the whole body is undergoing profound chemical, physical, and psychological changes, and in the second place that the act is repeated much more frequently than normal coitus could be. It is this combination that causes the dire results. Even if a normal adult with fully developed normal sexual organs were to attempt coitus as often as some of these children masturbate, the result would also be a final inability to perform the act; but when we consider that the act is accomplished with immature and undeveloped organs, with an over irritable brain, and at a time when all the energy is needed for body development not only in this particular field, but in every function of the body, we can easily understand why the results are so profound. We can also understand how a dose or large amount of bromides cannot cure the trouble, as it begins at the wrong end. It does not cure the hyperesthesia of the prostatic urethra, but simply dulls the brain cells, so that they cannot receive impressions from the deep urethra. It is analogous to dosing a child suffering from scabies so that it cannot feel the bites of the insect and is thus less liable to scratch. As long as the insect is not removed, we have not cured our patient, even if we prevent it from scratching. We can also see how useless it is to appeal to his self control. It must be understood that in this paper I am only referring to the adult confirmed masturbator. It is true that at the beginning, when the child first begins to masturbate and before there has been formed the hyperesthesia of the prostatic urethra, the child can be coaxed to stop the habit; but in the adult, when there has already been formed the vicious circle already referred to, with the marked hyperesthesia of the prostatic urethra, no amount of self control can have any effect upon this hyperesthesia, just like no amount of self control can remove *Acaris scabiei* from the scabietic. We can also see why coitus cannot cure the confirmed masturbator. Masturbation being due to a congestion of the prostatic urethra, anything that increases the congestion must be harmful. This fact I have often noticed clinically, that many of these patients who attempt coitus, even if successful in the performance of the sexual act, still continue to masturbate. In some of these patients the very act of coitus degenerates into an act of masturbation. I have very carefully questioned some of my patients about this, and have found that in some the sexual act consists simply in the rubbing of the penis against the vaginal walls just as they rub it against a pillow in masturbating. Even Vecki (2), who is one of the strongest *opponents* to the idea of continence in young men, has stumbled on the truth, and in an extract already quoted is forced to admit that in his experience masturbation cannot be cured by coitus.

TREATMENT.

Before commencing treatment for the disease proper, it is necessary to determine, or have determined by competent authority, if some or most of the reflex symptoms are due entirely to masturbation or are caused by some other, possibly more important organic condition. I remember a good many years ago seeing a patient who had been treated by one of our advertising "specialists" for "lost manhood" and whose chief symptoms were loss of weight and energy and marked perspiration, but who, in fact, although a masturbator, was well advanced in pulmonary tuberculosis, which was the real and more important cause of his symptoms. In the same way pains over the eyes and headache may be due to errors of refraction, palpitation of the heart to organic heart disease or tobacco, etc., or the patient may be a psychopath or neurasthenic.

It is also advisable, if there is a history or suspicion of gonorrhea, to examine the entire urinary tract, using the anterior and posterior endoscopes if thought necessary to determine if there exists any pathological condition of the canal. Where there is absolutely no suspicion of gonorrhea, the use of the endoscopes as well as all unnecessary instrumentation of the canal had better be omitted. Needless to say, the urine should be examined as a routine matter in every case.

The treatment of masturbation proper which I have employed for many years with excellent results is as follows:

The patient always presents himself with a full bladder; this is important for two reasons, in the first place so that the patient can urinate immediately after his prostate has been massaged and so expel the mucus that has been expressed from the follicles, and, in the second place, it is better to have his bladder empty after the injection presently to be described has been given so that he may refrain from urinating for some time after the injection. Again, if the bladder is not full it is also harder to reach the prostate and more difficult to massage it, and in addition we also get an entirely wrong idea of the size of the prostate if palpated per rectum with the bladder empty. So that if the patient presents himself with a full bladder, it is easier to palpate his prostate, easier to massage it, and easier for him to empty his bladder after the massage. The patient then stands with his buttocks toward the physician, and the index finger, protected by a finger cot, is carefully and slowly introduced into the anus till the prostate is reached, and the prostate is then *gently* and slowly massaged. The prostate will be found at the first examination to be exquisitely tender and must be handled very gently, remembering that the object is *not* to squeeze out every drop of mucus from the prostatic follicles, as we attempt to do in certain cases of chronic gonorrhea, but the object is to massage it. The first massage should only last a few seconds, and on subsequent visits the prostate will generally be found less and less sensitive, and the length of time of massage, as also the pressure employed, should be greater. The amount of pressure employed, as well as the length of time of massage, is entirely regulated by the sensitiveness of the organ. As soon as the prostate has been massaged the patient is directed to urinate, but he will have some difficulty in starting the stream. This fact is noted whenever the prostate is massaged for any condition whatsoever, that the patient with a full bladder, which is just bursting to pass water, will, after the massage, not be able to pass it and have little desire to urinate. It may be necessary for the physician to leave the room or else have the patient go to a regular toilet room before he is able to start the stream.

After the patient has emptied his bladder, he lies down upon the table, his meatus is cleaned, and with a Bangs sound syringe a one to 3,000 silver nitrate solution is instilled into his deep urethra. These sound syringes come in sizes corresponding to the regular sounds. There are some who recommend instead the passage of a cold ordinary sound. I have tried both methods, and have found the sound syringe so far superior to the cold sound that I have given up the latter since many years. The sound syringe must be lubricated with some substance that will not interfere chemically or mechanically with silver nitrate; by mechanically I mean it must not coat the walls of the urethra with an impervious substance. Vaseline is absolutely useless for this purpose. I use preparations of Irish moss. As little as possible of the lubricant should be put on the instrument. The instrument should be introduced *gently* and *slowly* into the urethra till its tip is well within the prostatic urethra. The urethra, especially the prostatic urethra, will be found very sensitive. Those who have not learned the art (and it is a great art) of introducing an instrument *slowly* into the urethra had better not make their first attempt on patients who have masturbated; let them first practise on some old insensitive stricture case.

You cannot go *too* slowly. When the instrument is in place, a few drops of the solution are deposited in the deep urethra; there is absolutely no harm if some of the solution should get into the bladder; then the instrument is withdrawn a trifle and a few more drops are instilled, and so on. Most of the contents of the syringe are instilled into the prostatic urethra, but as the instrument is being withdrawn, a little is injected all along the anterior urethra also. This is all that is done. The patient is told to retain his urine as long as possible after the treatment and to report in five days. He is cautioned to avoid tea, coffee, beer, all alcoholic drinks, also eggs and oysters.

At first a very small size sound syringe is used, as well as a very weak solution of silver nitrate. As the case progresses larger size sound syringes should be used till we get it as large as the meatus will stand. The strength of the silver solution is also increased as follows: one to 3,000, one to 2,500, one to 2,000, one to 1,500, one to 1,000, and one to 500. Our chief guide as regards the size of the instrument used, as well as the strength of the silver solution, is the sensitiveness of the urethra as judged by the amount of burning and reaction produced by the last injection. I never make it stronger than one to 500. Those who have little experience in genito-urinary therapeutics will be surprised to discover what power exists in *weak* solutions of silver nitrate.

The patient is seen every five days if possible, until we have reached the strongest solution of the silver nitrate and the largest size sound syringe, then once a week, once every two weeks, once every three weeks, once a month, and finally two or three months are allowed to elapse without treatment and if nothing happens he is pronounced cured. The entire treatment, including the long intervals, takes about six months, but the number of visits made by the patient is very small, as toward the end the intervals of treatment are very long and take up most of the six months.

COURSE AND PROGNOSIS.

As a general thing, between the time of the first and second treatments, the patient experiences once the desire to masturbate, but is able to resist the desire. Already after the second treatment the patient does not even experience the desire to masturbate. The prognosis is therefore excellent. The psychic form of masturbation continues somewhat longer, but that too yields after a few treatments. It is wonderful how patients, who for years have had that terrible pressing need to masturbate, will, in only the small space of one or two weeks, indeed already after the first treatment do entirely without it. But of even more importance than the genital effect of the treatment is the effect on the character of the patient himself. His whole character changes. He now finds delight in the society

of women. To take a morose, underfed, ill natured man and transform him in a little while into a jolly, good-natured fellow, full of the spirit of life, is indeed something to be proud of. But this is not the exception but the rule. The only reason for keeping up the treatment for six months is not so much for fear of a relapse, but that it takes that time fully to restore the prostatic urethra to its normal condition.

It is advisable from the very beginning of treatment to explain to the patients the dangers of illicit sexual intercourse, and this warning should be repeated again and again, especially as the patient is getting well. As the patient is getting well, his new enjoyment of life, his new interest in the society of women, his greater general intercourse with society, theatre, dances, etc., often beget in him a normal desire for sexual intercourse, which can easily be restrained by a few words of advice. It has already happened that patients have been cured of masturbation, only to come back later to the dispensary with a gonorrhea, which some seem to be especially proud of their ability to obtain.

There are some physicians with whom I have spoken who, while admitting the good results of the treatment, aver that the treatment is merely psychic. Even if this were so, it would be no argument against the treatment. But I am certain that the treatment is not psychical for the following reasons. In the first place, the hyperesthesia of the urethra actually exists, as can easily be demonstrated by the passage of instruments. And in the second place, many of these patients had been previously subjected to treatment which would have had a greater hold on their imagination than the treatment above outlined, but without any result whatsoever. Many, for instance, have had electricity applied to various portions of their genital tract, including the deep urethra, without any benefit. Some have had purely psychical treatment, even including hypnotism, Christian Science, and the like, without benefit. I must repeat that I am referring only to the confirmed adult masturbator, and not to the child that has just been taught to manipulate his penis. As stated before, the latter can, before any hyperesthesia of the deep urethra has been produced, be simply coaxed out of the habit, but the confirmed masturbator is uninfluenced by any talking or psychic treatment.

CONCLUSIONS.

Masturbation is a real disease, causing real discomforts, and is not an imaginary condition.

Do not blame every symptom the patient complains of on his masturbation, as they may be due to pathological conditions in other organs.

Masturbation and pollutions are distinct conditions, although they may coexist.

Masturbation is dependent upon a pathological condition of the prostatic urethra and not upon imagination on the part of the patient.

Coitus will not cure masturbation and is a dangerous experiment.

Masturbation is to be treated by removing the pathological condition in the prostatic urethra, and not by punishment or talking it out of the patient or appealing to his self control.

Masturbation is a curable condition.

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CRILE'S RESEARCHES IN REGARD TO SHOCK;*

Some Clinical Facts Tending to Confirm His Conclusions.

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In the earlier days of medicine three great causes of death held the surgeon's hand and prevented his doing most of the major operations now safely performed every day. These three great lethal obstacles were hemorrhage, sepsis, and shock. Hemorrhage was at first the most dreaded of the three, until Ambroise Paré with simple clamps and ligatures showed how it could be controlled.

Sepsis then became a comparatively greater danger; but Pasteur disclosed its cause, and opened the way for its prevention. Lister, Koch, and many others contributed to its mastery. Shock remained, and became relatively the greatest cause of death in surgery, shock, often not recognized and called by another name, but still shock. Now, one of our own associates has at least opened the way for the prevention of shock. He has opened it as clearly as Paré did the way for preventing hemorrhage. I refer to Dr. George W. Crile, who is the first to give shock a clear definition and definite entity; the first to clear the subject of mystery, put it on a scientific footing, and point the way for robbing it of its danger.

Crile has correlated the work of others and added much to it by his own researches and experiments, and has demonstrated conclusively that shock is a condition of the brain cells, susceptible to microscopic definition, and consisting mainly in a shrinking of the cell nucleus and a dissipation of the granular matter of the protoplasm.

We may now regard shock as the exhaustion, by excessive discharge of nerve impulses, of certain chemicals from the cell that are necessary for its activity. And these substances may be restored, under favorable conditions, provided their exhaustion is not too complete and the cell disrupted. This knowledge of itself is of great importance, for it is the key to what has been for years a mystery. There is no more mystery now than about the using up of plates and fluid in a storage battery; in either case the exhaustion may be rapid or slow.

Immediate exhaustion may occur under powerful stimuli and conditions which remove all resistance to discharge, or the same result may be reached under a succession and summation of slight stimuli.

But Crile has gone much further. He has, by

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patient and careful experiments, actually produced this condition in animals, both by the rapid and the slow method, and demonstrated the change in their brain cells with the microscope. He has determined with considerable certainty what conditions will produce these changes, and that these conditions are not the same for all animals, and probably not the same for different types of human beings.

He leaves no room for doubt that shock is not caused by direct action upon the brain cells; but by impulses brought to them through afferent nerves, impulses calling for violent action or effort. They are impulses suggesting evil to the organism, nocuous or noci impulses, calling for strong efforts of defense or escape; calling for tremendous discharge of nerve impulses from the cells of the brain regulating the mechanism of escape or defense.

Pain, fear, and the pulling upon important viscera are among the more important causes of shock. But fear seems to enter as a potent factor into all the causes; conscious or subconscious fear. It is not so much pain that is past, or even present pain, as the fear of its continuance, or repetition, that causes an animal to struggle in the grip of its captor, or a patient to squirm under a painful operation. The cumulative effect of repeated paroxysms of pain, or the fear of it, is very noticeable when we are removing a large number of stitches from a long incision and in cases requiring daily painful redressings for a long period. The first few stitches or redressings are bravely borne; but the summation of slight pains frequently causes complete loss of nerve after a time; for, though the muscular response to pain or fear may be inhibited by the will, the brain cells continue to discharge impulses of escape or defense.

For years it has been thought that chloroform and ether prevented shock during the period of anesthesia. Crile's experiments show that this is not true, even in the slightest degree; though nitrous oxide does diminish it to a marked degree, possibly by inhibiting the transmission of efferent impulses and diminishing cell activity through a diminished supply of oxygen. Ordinary anesthesia, however, while it inhibits the muscular response, does not prevent the brain cells from receiving afferent noci suggestions, and discharging in response powerful impulses that exhaust the cells as quickly as if the muscular actions of escape or defense were fully carried out.

Noci impulses are not necessarily painful in the ordinary sense; but may be only suggestive of great harm to the individual through philogenetic association. Tickling over the ribs or abdomen, or pressing upon these regions with a smooth point resembling a canine tooth, is not painful in the usual sense, but will cause most powerful and *uncontrollable involuntary* efforts at escape. Crile suggests that this is due to the philogenetic association or suggestion of animals' teeth digging into the ribs.

I have seen a hysterical condition bordering on shock produced in this way on several occasions, and know of some cases where the shock from a short period of tickling was quite severe and lasting. Even in the average person, I know nothing that will cause more violent action than boring a finger into the rib region; some individuals are excessively susceptible, and could no doubt be fatally shocked in this way. Indeed, it would only be a question of time with any person. It is an important fact in this connection that while the brain changes in shock are similar to those of prolonged voluntary muscular activity, it is only under the goad of extreme necessity that voluntary exertion is ever carried to a point of exhaustion constituting shock, as we now use the word. Man, lost in a desert, in pursuit of water, or chased by wild beasts, may continue his efforts until exhausted to a degree constituting profound shock. But such efforts are hardly voluntary; they are made under the goad of thirst and fear; fear of thirst, and fear of death, and fear of pain. Ordinarily shock is never produced by voluntary exertion. It results from the more powerful involuntary discharge of nerve impulses under the stimulus of noci association or suggestion.

Crile has shown that these noci suggestions are always received by a peripheral receptor, a specialized nerve terminal or organ of special sense, such as the eye or ear, and carried to the brain by afferent nerves. He says the brain itself has no noci receptors and for this I shall offer presently the support of clinical observations. But no matter how brave or stoical a patient may be, nor how profoundly under the influence of ether, the automatic suggestion of danger may reach his brain through a specialized mechanism and automatically discharge his brain cells exactly as if he were in an actual struggle for his life. Special systems of noci receptors and transmitters, we may well believe, were developed during the period of our evolution when adverse environment made them a life saving necessity, and even now, while some of the systems are more troublesome than useful, we could not afford to dispense with the greater part of them.

Yet there is surely a more highly organized set of such receptors and transmitters in some persons than in others, just as there is this difference in animals.

It has been shown that animals fully protected by armor have no sense of fear and no fear of receptors. Their response to a suggestion of danger is simply to surround themselves with a shell of bone, as in the case of the turtle and armadillo, or a still more effective shell of odor, as in the case of the skunk. Such animals are almost immune to shock.

The carnivora respond by vigorous muscular defensive efforts and are, naturally, more susceptible to cell exhaustion.

Animals depending, like the rabbit and deer, upon fleetness of foot for their safety are constantly exercising eye, ear, and nose for a hint of danger, and have developed a splendid set of noci receptors. Such animals Crile found to be very susceptible to shock through fear alone. Some persons are much like skunks in this respect as well as in others, and some are more like rabbits; or it might sound better to compare them to armadilloes, and deer or gazelles.

Further experiments showed that division of the afferent nerve paths between the seat of an injury

and the brain, or blocking the nerves with cocaine injections, does prevent shock in animals, even when the trauma is prolonged and of a nature to cause it in extreme degree. This led Crile to his anociassociation operation, and the practical demonstration that shock can be almost entirely prevented in some severe operations, even in the most susceptible patients, e. g., those suffering from Graves's disease. I have frequently in the past noted certain clinical phenomena for which I had no explanation until it was furnished me by Crile's papers. These facts also strongly tend to confirm some of his deductions and conclusions. I had long noted that persons, brought into the hospital unconscious and operated upon immediately, had little or no nausea, alteration of pulse, or other symptoms of shock, unless the operation involved extensive abdominal exploration. Patients with fractures of the skull that needed trephining, crushed limbs needing amputation, broken bones requiring open operation and wiring, surprised me, over and over again, by their easy convalescence when operated upon within a few minutes of receiving an injury. This was especially true of patients operated upon while unconscious from cerebral concussion. Some of the concussion patients had severe headache for days, or even weeks, but no weakness, rapid pulse, or symptoms of shock. Concussion of the brain may at times be confused with shock; but the two conditions are entirely distinct. The reason these patients had no shock, I now believe, is that the brain itself has no noci receptors and the operations were really anociassociation operations. I would not recommend this method of preparing them, and yet if a man were suddenly and unexpectedly knocked unconscious with a club, his sciatic and crural nerves blocked with cocaine, his hip might be amputated without the least shock. It would be a typical anociassociation operation. Even when patients are not unconscious, and when ether is used, I am sure they do much better if the operation is done within a few minutes of the injury than if they are allowed to wait an hour or a day expecting and dreading some terrible ordeal. The quick, easy convalescence of emergency patients in general has forced itself upon my notice, and seems to me to be in strong contrast to the slower recovery, greater general discomfort, and greater shock, in patients carefully prepared for operation, though this depends to some extent unquestionably upon whether the patient resembles most the armadillo or the deer. The most brilliant results from anociassociation operations should be in women who most resemble, let us say, gazelles. Patients who resemble skunks should have little shock from ordinary operations.

I have been struck also with the easy convalescence following brain operations. Some years ago I reported to this society twenty-eight operations for epilepsy in most of which very extensive exploration of the cranial cavity and brain itself was made, and noted the recovery of all the patients with remarkable freedom from shock, or even the ordinary malaise and discomfort usually following other operations. Since then I have repeatedly observed the same thing after even more daring operations for tumors or bullets in the brain. The explanation is furnished by Crile. The brain has no noci receptors, and these observations also tend to confirm that statement. In abdominal work, shock, as we know, is comparatively great, and is in direct ratio to the time and extent of exposure and the rough handling of viscera. Crile has given us an excellent explanation of this in philogenetic association. There is less chance here for blocking noci associations than in other regions, for both hereditary and anatomical reasons. The noci impulses are stronger and the afferent nerves unduly diffused. We may, however, avoid aggravating the condition by a prolonged series of suggestive preparations, and may do much good by keeping the patient in a proper frame of mind and by the injection of morphine and atropine before operating, and also by quick and delicate technique.

I feel sure that the next decade will bring a great advance in this direction, and the causes of shock being so much better known, the remedy will follow.

At present, we should at least do as much as possible to prevent preoperative noci suggestions. Where this has been done, either accidentally or by intention, I am sure I have noticed the diminution of shock. This is done for us, by nature, in infants. And my own observation has been that infants have much less shock than adults under similar conditions, provided little blood is lost. It is hard to believe that hemorrhage is a direct cause of shock; but it certainly aggravates it, probably by causing a lack of material from which exhausted cells may refill, and a poorer circulation to carry away nocuous waste products from the cells. High forceps delivery is a splendid example of anociassociation operation. The infant knows no sense of danger. He has no noci receptors sufficiently developed to carry impulses to his brain, and none in his brain. Consequently, his brain may be mashed into grotesque shape, compressed, even lacerated, without a single impulse for defense or escape, and he arrives strong and vigorous and without the slightest shock. My colleague, Dr. A. R. Shands, who has had a large experience in operating upon young children, tells me that he also has been greatly impressed with the lack of shock following serious operations upon them, and also that many negroes and ignorant persons, who have confidence in the doctor and no fear of the operation either for that reason or because they cannot realize its serious nature, have little or no shock. All these things strongly tend to confirm the conclusion that Crile's observations have led to, namely, that fear in some form is the chief factor in producing shock, and that the impulses of fear, or dread, acting upon the brain cells, previous to operation, are often more potent than the subconscious associations and suggestions during the actual operating.

This may occur even though outward evidence of fear is controlled by inhibition of the will. The idea of being "cut into" with a knife is especially abhorrent to many individuals, and the idea of having important viscera handled or removed is a real terror to many. I have had to assure some patients that I should not use a knife, and substitute scissors, before they would consent to operation. The fear of pain is usually greater than the

fear of death, and patients cannot conceive of large wounds without pain. They dread the pain they feel sure must follow operation, and if they do have postoperative pain, dread its continuance and increase.

The lesson is that we should give as little suggestive preparatory treatment as possible. Starving and excessive purging and scrubbing are fortunately obsolete, but it is still common practice to leave a patient on the carriage in the anesthetizing room half an hour or more, waiting for the anesthetic to be started, often practically unattended and unoccupied, and free to develop noci associations at a tremendous rate. We should assure our patients that the average operation is about as safe as the average railway journey, and much safer than a trip on some roads. One may promise that there will be no pain during the operation and little or none following it; and see that these promises are kept. The first is easily kept, and the second usually possible without risk or harm to the patient. In this way we may usually bring patients to operation in a cheerful and comparatively comfortable frame of mind, and a little extra care and time spent in this way will be well repaid. In grave operations upon patients of the rabbit or deer class, whenever possible, Crile's plan of anociassociation should be fully carried out. With more experience along these lines, I believe we shall be able to master shock, as we have mastered hemorrhage and infection, and that there will be few deaths following any operation, except those done upon really moribund patients in a forlorn attempt to prolong their lives.

Even more important than this will be the placing of surgery upon a more humane basis, and the saving of any immense amount of mental as well as physical suffering to many patients. For opening the way and giving us a long lead in this direction, surgery owes Doctor Crile a great debt.

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LOCAL ANESTHESIA IN MAJOR SURGERY.*

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The purpose of this paper is to point out the possibilities of local anesthesia when applied to major operations.

Although this form of anesthesia is accepted without question for minor surgical work, in this country, at least, it has not received the consideration that it deserves in its relation to major surgery. In fact, there seems to be a widespread disbelief in regard to the success of local anesthesia when applied to such operations, yet, in my opinion, there are many major operations, for which general narcosis seems to be considered essential, that could be performed with far greater satisfaction under local means than can the incision of an abscess, the opening of an infected finger, or the curettage of a carbuncle—operations for which we are commonly taught to employ local methods. This general distrust of the efficiency of local anesthesia is by no means unfounded, but is based on the unsatisfactory results which follow the use of cocaine and allied drugs as ordinarily employed. Failures to obtain favorable results are in the majority of instances due to improper solutions, to ignorance of the newer methods of producing local anesthesia, and to a failure to appreciate its limitations; much also depends upon the operator and his method of operating.

While a number of different drugs have been recommended from time to time for local anesthesia, I am most familiar with cocaine, having employed it almost exclusively, and will therefore confine my remarks to this drug. To obtain a fluid isotonic with those of the body, the cocaine should be dissolved in normal salt solution. Such a solution produces neither swelling of the tissues as plain water does, nor shrinkage of the cells, as is the case with the more concentrated saline solutions, and therefore causes no pain and has no injurious effect upon the tissues. As solutions of cocaine are apt to decompose, they should always be freshly prepared; likewise the effectiveness of the solution is increased by using it at about the body temperature and by the addition of a few drops of adrenalin chloride. The latter, through its vasoconstricting action, increases as well as prolongs the analgetic effect of the cocaine; at the same time, by preventing capillary oozing, it gives a much drier field of operation. When using adrenalin, however, there is some danger of secondary hemorrhage if the blood vessels are not sought for and properly secured, for, owing to its styptic action, even arteries and veins of some size may be prevented from bleeding at the time and so be overlooked.

As a rule, cocaine is used in solutions of too great strength; weak ones have been found quite as effective and less toxic. For skin infiltration, one fifth of one per cent.; for deeper infiltration, one tenth of one per cent.; and for nerve blocking, one half per cent. will be found amply strong. Used in such strengths and with the precaution not to allow more than three fourths of a grain of cocaine to remain unconfined in the tissues, there need be no fear of toxic symptoms. Of course, where a large proportion of the solution escapes, or where the circulation is impeded by constriction, a greater quantity may be used with safety. I think, however, that the subject of cocaine poisoning has been somewhat exaggerated and that many cases reported as such are simply psychic, the symptoms exhibited being due to apprehension or nervousness. In my service at the City Home for the Aged and Infirm I have been using local anesthesia extensively for the last few years, until now over half of all my operations there are done that way, and I have never seen a case of cocaine poisoning. Yet these patients are advanced in years, frequently being over seventy, and are nearly all suffering from some organic lesions.

Of the several methods of anesthetizing the tissues infiltration anesthesia probably has the largest

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field of usefulness. Properly to infiltrate a given region the fluid must be literally packed into the tissues, carefully avoiding important vascular structures, but without special reference to nerve trunks. The resulting anesthesia is partly due to the direct action of the drug upon the terminal nerve branches and nerve endings, partly to the pressure of the fluid, and also to interference with the blood supply. With proper infiltration the whole field of operation is changed into a tumorlike mass that is perfectly anesthetic.

Another method consists in blocking the nerve or nerves supplying the field of operation so that no impulses can pass up or down. The anesthetic may be injected into the tissues surrounding the nerve, spoken of as "perineural infiltration," or directly into the nerve, a method know as "endoneural infiltration." The successful employment of either of these methods presupposes, naturally, an exact knowledge of the course and distribution of the sensory nerves.

Lastly, Bier's venous anesthesia should be mentioned. This is suited only to operations upon the extremities. It consists essentially in rendering the limb bloodless by means of an Esmarch bandage applied from the extremity to a point well above the site of operation, and then isolating the field of operation from the circulation by means of tourniquets applied above and below the area to be anesthetized. One of the larger veins in the space between the two tourniquets is then exposed and opened under infiltration, a cannula inserted as in an intravenous infusion, and the solution (Bier recommends a one half per cent. novocain solution) injected under considerable pressure and in such quantity that the veins of the isolated area are completely filled. What is termed "direct anesthesia" rapidly develops between the two bandages, while, somewhat later, after the anesthetic has had time to act upon and paralyze the nerve trunks, the anesthesia extends to the entire limb beyond the bandage. This is termed "indirect anesthesia."

By means of one of these three methods, or a combination of one or more of them, any operation suitable for local anesthesia may be performed. Later, I will speak more about the indications for each method.

As to the preparation of a patient for a local anesthesia operation, but little is required outside of the usual preparation of the bowels. If it is doubtful whether the operation can be completed without the aid of a general anesthetic, the patient's stomach should, of course, be empty; otherwise a light meal may be allowed one and one half to two hours before operation. If the operation is to be at all extensive, one sixth to one fourth of a grain of morphine should be given by hypodermic injection half an hour beforehand, unless there is some contraindication to its use. The morphine serves several purposes; in the first place, it allays any nervousness on the part of the patient and thus removes the psychic element; it also deadens sensibility somewhat, and, although not usually mentioned in textbooks, it acts as a prophylactic against cocaine poisoning. In cases where the patient is especially nervous or unusual difficulties are expected, it is of advantage to combine with the morphine one one hundredth grain of hyoscine. This combination should be given at least an hour before the operation.

With this very brief consideration of matters of technique, I will pass on to the question of what operations are feasible under local anesthesia.

In considering the possibilities of this form of anesthesia it is important to bear in mind the degree of sensibility of the different tissues. The skin is very sensitive. The subcutaneous tissues and muscular tissue, while not in themselves endowed with sensation, give passage to nerve trunks and terminal nerve branches and so must be anesthetized. Most tendons, bone, and cartilage are without sensation, but their coverings are quite sensitive, hence it is necessary to anesthetize tendon sheaths, periosteum, and the synovial lining of joints when operating on these structures.

It can thus be readily seen that for the removal of benign growths, such as lipomata, wens, cysts, benign growths of the breast, and for the removal of superficial glands, local anesthesia is quite sufficient. When the growth is encapsulated it is only necessary to infiltrate the line of skin incision and the tissues in its immediate circumference. The skin is then incised down to the tumor; the latter is split through the centre to its base, and each half is gently shelled from its bed. For nonencapsulated growths, where a free dissection is necessary, much more thorough infiltration of the tissues in the neighborhood of the growth is required. Whether tuberculous glands of the neck should be attempted under local anesthesia will depend upon their extent. If we can be sure that there are but one or two superficial glands it may be readily done, but in my opinion it is rarely possible to define the extent of those operations beforehand, and it is not an uncommon experience in apparently simple cases when the field of operation is thoroughly exposed to find a chain of matted glands requiring deep and wide dissection for their removal. For the same reasons, for the removal of malignant disease local anesthesia is not as a rule suitable, as the disease must be widely removed, often requiring such extensive dissection as to preclude its use. An exception, however, to this statement may be made in the case of superficial epitheliomata and rodent ulcers. These I have frequently removed from the faces of old people under cocaine. As an example, I will cite a recent case of an ulcerating epithelioma, two by three inches in size, over the scapula of an old woman, in which the growth was removed and a plastic flap operation to fill in the gap readily performed under simple infiltration.

Another operation involving the superficial tissues that may be successfully carried out under local anesthesia is skin grafting. Grafts may be removed under simple infiltration of the skin or by perineurally injecting the external cutaneous nerve at a point just internal to the anterior superior spine and then removing grafts from the outer aspect of the thigh. The only objection to local anesthesia in this operation is, that in some cases of hyperesthetic ulcer the area to be grafted cannot be as thoroughly curetted as one might wish.

Many operations upon bones, such as wiring and plating fractures and rib resections, may be painlessly performed if the periosteum, as well as the

superficial tissues, are rendered insensible by proper infiltration. Thus fractures of the lower jaw, clavicle, olecranon, and patella may be readily operated upon under local means. The latter operation is especially satisfactory on account of the superficial position of the bone and the scarcity of sensory nerves in this region. To my mind, rib resection for drainage of empyema is an operation that should always be done, except in young children, under local methods to avoid the danger of a general anesthetic upon a patient whose circulatory and respiratory organs are already embarrassed. In performing this operation it will be necessary to infiltrate the superficial structures down to and including the periosteum. After the periosteum is incised and reflected, the rib may be exsected without pain. The parietal pleura, however, like the peritoneum, is very sensitive and requires separate infiltration before it is cut. To illustrate what may be done along this line, I will mention a case of Dr. J. H. Potter's with an abscess of the lung which was opened after exsecting two inches of rib under cocaine. In spite of the fact that six or seven exploratory punctures were made through the lung before the abscess was located, the only complaint was when we attempted to enlarge the opening in the abscess cavity sufficiently to insert a large drainage tube, and to accomplish this it was necessary to give a few whiffs of gas. This patient was in such poor condition that I feel sure a prolonged general anesthesia would have proved fatal.

While many of the operations about the scalp, lips, face, tongue, mouth, jaws, and neck, such as suturing scalp wounds, removal of tumors and cysts, the ligation of blood vessels, thyroidectomy, tracheotomy, and even procedures requiring opening into the brain, may be performed by simple infiltration, yet for most of the extensive operations blocking of the nerves supplying the region of operation gives greater satisfaction. I need only mention such examples as Halsted's anesthesia of the teeth and gums after blocking the inferior dental nerve as it enters the inferior dental foramen and Matas's historic case of resection of both upper jaws after cocainization of the second division of the fifth nerve, to call attention to some of the possibilities of local anesthesia in this region.

Upon the extremities almost any operation may be performed without general anesthesia. In May, 1897, Crile painlessly amputated a leg after cocainization of the sciatic and anterior crural nerves. Shortly after, Matas, of New Orleans, in ignorance of Crile's work, did a partial amputation of the hand after cocainization of the median, ulnar, and musculospiral nerves at the bend of the elbow. Since then such operations have been performed many times when general narcosis was contraindicated. Other operations may be performed upon the extremities by applying the same principles. In Bier's venous anesthesia, however, I think we now have a more rapid and as satisfactory a method as nerve blocking. I have used it in eight or nine operations to date, including a case of osteomyelitis of the bones of the foot, one of tuberculous tenontosynovitis, and in five amputations—four of them above the knee and one of the forearm for an epithelioma involving the hand. These amputations of the leg were all upon old people for gangrene, the last such operation being upon a patient of nearly eighty years with senile gangrene of the foot. One may judge of the small amount of shock following this operation when I say the patient was able to sit up the next day.

A common operation upon the lower extremity, that for varicose veins, may be done under simple infiltration, if one wishes to perform the sectional excision or multiple ligation methods, but the more radical operation, such as Mayo's, which requires considerable pulling and tearing of the tissues, is not suited to local anesthesia.

In abdominal surgery, unfortunately, local anesthesia is of more limited use. It is not that there is any difficulty in entering the abdominal cavity—this can be very readily done under careful infiltration of the various layers of the abdominal wall, as I have demonstrated upon numerous occasions, with entire absence of pain—but the trouble is in meeting the various complications that may be present. From the well known experiments of Lennander, as well as clinical experience, it is evident that the abdominal organs in themselves have no pain sensation and may be cut, burned, etc., without discomfort to the patient, but the parietal peritoneum is exquisitely sensitive, especially when inflamed. The separation of adhesions and procedures that require dragging upon the mesentery are likewise painful. However, such operations as exploratory laparotomy, colostomy, gastrostomy, simple drainage of the gallbladder and appendiceal abscess, suprapubic cystotomy, suture of the intestines following a typhoid perforation, appendicostomy, and *some* interval operations for appendicitis which require but little intraabdominal manipulation, can be readily performed without a general anesthetic; but, when extensive manipulation is required with the separation of adhesions and more or less pulling upon the mesentery, local anesthesia is certainly contraindicated. Furthermore, in abdominal surgery complete muscular relaxation is generally required to secure the necessary wide retraction, and this cannot always be obtained under local methods. Still, some very extensive abdominal operations may be performed if small amounts of a general anesthetic be administered to tide the patient over the more painful procedures, thus avoiding a prolonged narcosis. I employed this method recently in a case of partial gastrectomy for pyloric cancer, opening the abdomen under cocaine and then administering a very light anesthesia of chloroform and ether to control the pain caused by traction upon the attachments of the stomach during its actual removal. This patient, a woman of sixty years, was fearfully emaciated and weakened from starvation and was in no condition for a prolonged general anesthesia.

There is one abdominal operation that is, in my opinion, above all other operations suited to local anesthesia, namely, that for inguinal hernia. For the cure of this condition local anesthesia is ideal, on account of the superficial position of the structures involved and the definite position and course of the three sensory nerves supplying the region of operation. The infiltration method is employed until the

aponeurosis of the external oblique is reflected, when the iliohypogastric and the ilicinguinal nerves, and the genitocrural nerve when found, are blocked. The rest of the operation is performed without additional cocaine, except occasionally infiltrating about the neck of the sac. In a paper published in the New York Medical Journal for October 17, 1908, I described the technique of this operation as worked out by Bodine and reported about twenty cases. Since then the number has increased to over one hundred. In these cases practically all the usual complications common to hernia have been satisfactorily met—such conditions as those requiring separation of adherent gut and omentum, removal of the appendix, ligation, and amputation of omentum, resection of intestines, etc. I believe, furthermore, that in hernia operations local anesthesia is of especial advantage, as it lessens the danger of recurrence. In the first place, the nausea and vomiting of a general anesthetic are avoided, consequently there is no danger of the stitches being separated or torn loose under the strain of retching. In the second place, the nerve supply of the inguinal region is preserved. Cutting a nerve, as is well known, produces thinning and atrophy of the muscles supplied, and I am convinced that many of the recurrent hernias are the result of destruction at the time of operation of the nerves supplying the lower fibres of the abdominal muscles, resulting in thinning of the newly formed muscular wall. To forcibly emphasize this statement, I need only point to the effect of cutting the genitocrural nerve in varicocele operations, the effect being atrophy of the cremaster and sagging of the scrotum on that side and to the development of right sided inguinal hernia after operations for appendicitis through the McBurney incision where the iliohypogastric nerve was destroyed.

Femoral, umbilical, and ventral hernia may also be done under local anesthesia by the infiltration method, but not with the entire satisfaction obtained in the inguinal variety.

For strangulated hernia of any variety, local anesthesia should, in my opinion, always be used. The additional strain of an anesthetic upon these patients, already poisoned, frequently produces more depression than they can withstand, and, as there is no need for haste, abundance of time may be taken in attempting to restore the circulation in gut of doubtful vitality without adding a particle of danger to the patient.

Quite extensive operations about the rectum have been performed by some operators, but here muscular relaxation is essential to the proper dilatation of the sphincter, and this cannot be readily obtained under local means. Furthermore, this is one of the most sensitive regions of the body. For these reasons, I think local anesthesia has but a small field of usefulness in this particular locality. However, simple operations, such as those for fissure, external, and thrombotic hemorrhoids, and straight uncomplicated fistulæ are well within its scope.

Other operations that may be mentioned are repair of the cervix and perineum, external urethrotomy, circumcision, and any of the operations about the scrotum. Varicocle, castration, and the various operations for hydrocele are easily performed by a perineural injection about the cord as it escapes from the external ring combined with infiltration along the side of the incision.

It has not been possible in this paper to review all that can be accomplished under local anesthesia; the operations I have enumerated are chiefly those I have had experience with myself. But this list I think gives a fair idea of the possibilities of the method.

It may well be asked why, if local anesthesia suffices for such a variety of operations, is it not more generally made use of? There are several reasons for this. In the first place, operating under local and under general anesthesia are two entirely different problems. Under local methods, cleanly cut dissection only can be employed; all blunt dissection, rough wiping, careless pulling with retractors, or tearing of the tissues must be avoided, as such acts are liable to cause pain by pulling on structures outside the anesthetized area. For this reason, with some operators, the use of local anesthesia will be impossible unless a radical change is made in their operative technique. For example, an operator who is accustomed to do rapid work upon an unconscious patient where it is unnecessary to pay attention to sensitive regions cannot employ these methods in his work under local anesthesia. Furthermore, the matter of time is important. There is no doubt that it requires more time to operate under local than under general anesthesia, and that it necessitates the possession of unbounded patience on the part of the operator. This is well expressed by Matas when he says: "It is this tax upon the operator's attention and the vigilance required to keep the inhibitory powers of the patient under control, and the time consumed in the anesthetizing procedures that will prevent cocaine and the local analgetics from gaining ascendency in the crowded amphitheatres of popular teachers where quick and brilliant work is expected by an impatient audience."

In conclusion, I should like to state my belief that local anesthesia has a field of usefulness far greater than is generally recognized at the present time and that nearly fifty per cent. of the operations now performed under general narcosis could be just as successfully done under local means, intelligently used. I think we have become accustomed to depend too largely upon general anesthesia. While it is true in the average case in good condition, the dangers from a general anesthetic in the hands of a skilled anesthetist and competent operator are very small; yet it must be remembered that under similar conditions local anesthesia, producing less shock, no kidney, heart, or lung complications, no blood changes, and no gastric disturbance, is still safer, and I feel, if an operation can be satisfactorily and thoroughly performed under local means, then local anesthesia should be offered to the patient, if for no other reason, simply to avoid the well known unpleasant after effects of general narcosis, regardless of whether the particular operation is classed as a major or minor one.

222 West Seventy-second Street.

THE MATAS OPERATION IN THE TREATMENT OF TRAUMATIC ANEURYSM.*

By Walter C. G. Kirchner, A. B., M. D.,
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Aneurysms, whether spontaneous or traumatic, are among the most important of the pathological conditions with which the physician or the surgeon has to deal. If left to itself and without treatment, the aneurysm enlarges and directly or indirectly results either in the sacrifice of an extremity or in the death of the individual. On account of the importance of the subject, additional information is always desirable, and I wish therefore to report briefly four cases in which a favorable result was obtained.

In general there are two types of aneurysms, 1, the true aneurysm which is associated with arterial disease, and, 2, the false variety which is of traumatic origin. It is rare to have the aneurysmal sac formed by all the layers of the vessel with which it is associated, and usually the sac wall is composed of fibrous tissue or of connective tissue, lined by a thin membrane which is continuous with the intima of the vessel from which it originated. In the traumatic arterial aneurysm, the vessel has usually been injured by bruising, gunshot, or by stabbing, and aneurysms of this type are not uncommon in modern warfare. The sac may contain dense white or the softer red clot and liquid blood, or both varieties of clot may be encountered at the same time. In the fusiform sac, there are two separate openings communicating with the main artery, while in the sacciform aneurysms, there is only one opening through which the blood flows in and out. Traumatic aneurysms are usually of the latter type.

The surgical treatment consists in methods of ligation or constriction of the affected bloodvessels, or in the radical procedures in which the sac is incised, aneurysmotomy (the operation of Antyllus), in which the sac is extirpated, aneurysmectomy (the operations of Philagrius or Purmann), or in which the sac is treated from within, endoaneurysmorraphy (the so called Matas operation). According to the type of aneurysm, we employ, 1, obliterative endoaneurysmorraphy, 2, restorative endoaneurysmorraphy, or, 3, the reconstructive endoaneurysmorrhaphy.

In the Matas operation, the sac is regarded as a serous space and is not removed. The control of hemorrhage and the methods of reconstruction are applied from within the sac, and the sac itself is obliterated by folding upon itself. Primary union of the wound may be obtained with the least possible disturbance to the main or collateral circulation. The entire subject of aneurysms with the methods of operation has been fully and most excellently treated by Dr. Rudolph Matas in volume five of Keen's *Surgery*, and the reader is referred to this article for more detailed information. In three of the following cases, I have applied the principles of the Matas operation to traumatic aneurysms with good results.

Case I. E. M., white, aged twenty-three years, a cook by occupation, when first admitted to the hospital was suffering from a gunshot wound of the right arm, the bullet entering near the inner condyle and ranging through the fleshy portion of the biceps. The radial pulse could not be felt, but circulation in the forearm was maintained. He was observed for a week, and the arm remaining in good condition, he was allowed to leave the hospital. Three weeks later, January 4, 1909, he was returned to the hospital with a swelling in the elbow which resembled an abscess. The arm was painful at times, sensation in the hand was lost, and he was unable to fully extend the forearm. The mass, which was as large as an orange, was discolored and was growing rapidly. It pulsated and had the usual signs of aneurysm.

Under general anesthesia, an incision was made on the inner side of the biceps and down on the forearm. The biceps was isolated and separated from the tumor mass. Great care was taken not to injure the vessels, so that the anastomosing arteries would not be destroyed. The aneurysm had originated either from the inferior profunda, or, owing to its size, from a bifurcation of the brachial artery. A fusiform aneurysm about three fourths of an inch in diameter had formed, and his sac having ruptured, a dissecting aneurysm resulted, forming a mass as large as an orange. The aneurysmal sac, which was composed of fibrous tissue, contained a recent blood clot.

It was impossible to approximate the ends of the injured portion of the vessel, nor was the wall of the aneurysm of sufficient resistance to permit of repair by methods of reconstruction. It was necessary, therefore, either to suture or ligate the vessel, or to fill the gap by transplantation. The latter course was decided upon, and for this purpose, a section of the basillic vein was taken. The sac having been removed, the section of vein was slipped over the severed ends of the artery, and the vein was secured to the artery by means of mattress sutures. The free margins of the vein were then sutured to the outer portion of the artery. The procedure was similar to Murphy's invagination method of arteriorraphy. When the Esmarch bandage was removed, the vein became distended, but it was difficult to make out pulsation in the distal portion of the artery.

The anastomosis having been made, the muscular structures were approximateed with catgut and the skin with silkworm gut sutures. A small rubber tube was used to provide drainage of the accumulation of blood in the wound. The wound healed by first intention and although the pulse was not obtainable at the wrist, the patient was able to extend the forearm and had good use of the extremity.

Case II. S. S., white, aged thirty-two years, was admitted to the hospital July 7, 1909, with the history that five weeks before, while working in a cordage factory, he sustained an injury to the lower portion of the left brachial artery. The wall of the artery was severed, causing arterial bleeding from the wound. Upon examination a tumor about the size of an egg and having all the characteristics of a brachial aneurysm, was found in the lower portion of the arm.

Under ether anesthesia, an Esmarch bandage having been applied, an incision was made over the tumor and efforts were made to isolate the vessels. The vein and nerves were found to be densely adherent to the sac which was fairly well isolated. The sac was opened and was found to contain mostly dark colored clot. At the base of the sac, a slitlike opening was found which was closed over Lambert fashion with a row of interrupted silk sutures, which was reinforced by a second row of sutures. According to the Matas method, the walls of the sac were folded in and the sac was thus obliterated. The wound was closed without drainage.

After the operation the pulse could easily be detected. The patient's convalescence was uneventful except that in the beginning there was considerable pain in the arm. The wound healed by first intention and the patient obtained good functional use of the arm.

Case III. G. W., white, male, aged sixty-five years, laborer, entered the hospital, March 17, 1909, stating that three and one half years before he had sustained a severe wrench of the right arm, while holding a crowbar upon which a hammer descended obliquely. He had also noticed a small opening on the inner surface of the right arm at the junction of the lower with the middle third, which allowed the escape of blood. The region became greatly swollen and a physician applied a tight bandage to

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the arm to control the hemorrhage. Gradually the swelling became less, until it was as large as an English walnut. It remained this size and "throbbed" and not giving him any difficulty he returned to his work. Four months before coming to the hospital he began to experience pain in the right hand, and later the swelling increased, causing pain and numbness in the hand and inability to extend the forearm.

The patient was well developed, but showed evidence of age and exposure. The cardiac area was normal and there were no organic lesions. All the palpable vessels showed sclerotic changes. There was a pulsating swelling in the lower third of the right arm, most prominent on the inner side. The measurement around the arm over the tumor was thirteen and one half inches, while at a corresponding point on the left arm measured only nine and one half inches. The tumor was expansile in all directions. On auscultation bruit was heard and a distinct thrill could be felt. The tumor was fusiform and as large as a grapefruit. The radial pulses were not synchronous, although the right radial was nearly as strong as the left. The right hand showed passive congestion with clubbing of the finger tips. A radiograph was made which showed the tumor, no bone erosion, and a piece of metal about the size of a pea at the apex of the tumor.

Under general anesthesia, the Matas operation for aneurysm was undertaken. An incision was made over the site of the tumor through the skin and directly into the sac, which was opened up along its entire course. Hemorrhage was controlled by pressure on the brachial artery. Upon examination, it was found that there were two communicating cavities, one on the right of the artery about the size of a hen's egg, and one to the left about the size of an orange. The aneurysm had dissected its way along the humerus, so that it was freely exposed for a distance of three inches. The sac contained thick blood and a moderate amount of fibrinous deposit. The opening in the artery was found to be a slit, about a quarter of an inch long. This was closed over a row of silk sutures, and reinforced by a second row of sutures. The sac was obliterated by dissecting away a portion from the skin and folding the sac in upon itself. Dependent drainage with rubber tube was established on the inner side of the arm. Deep sutures were used to obliterate dead spaces. The patient stood the operation well and was returned to bed in a good condition.

Immediately after the operation, the radial pulse was reestablished. Convalescence was uneventful, and the wound healed by primary union. Satisfactory pulse tracings were obtained, and the patient's arm was restored to usefulness. The obliterated sac remained hard and firm and there was no indication of the return of the aneurysm.

Case IV. D. M., white, male, aged thirty-seven years, nativity Hungary, a leather worker by occupation, was admitted to the hospital April 6, 1909, for aneurysm of left thigh. The patient had been accustomed to hard work and occasionally used alcohol to excess. His family history had no bearing on the case and his previous health had always been good. Upon close questioning after the operation he recalled that about two years previously he had received a blow on the left hip from some thugs, but he suffered no inconvenience, and had never given the matter any special attention. He also stated that at the age of ten years, he was struck in the region of the tumor with a pitchfork.

The patient was well developed and on account of pain and tumor in the left groin was compelled to hold the left thigh in a flexed position. The cardiac dullness was slightly increased, apex beat palpable in the fifth interspace and internal to mammary line. Heart sounds were clear, there being no murmurs or accentuation. Pulse was of fair volume and tension. Pulse 96, respirations 34, temperature normal. Abdominal wall was relaxed and there was no abdominal tenderness or rigidity.

On the inner and anterior aspect of the thigh, near Poupart's ligament there was a tumorlike mass about eight inches long and five inches wide. The tumor expanded with every heart beat and in all directions and on auscultation a bruit was heard over it with every systole. The pulse at the foot was scarcely perceptible. A radiograph of the tumor region was made which showed the presence of a foreign body, most probably some metallic object in or near the aneurysm.

Incision was made over the femoral vessels in the region of Scarpa's triangle. The femoral glands were removed and efforts were made to ligate the femoral artery at the femoral ring, but this procedure, owing to size and location of tumor, was not possible. The incision was now extended above Poupart's ligament and a retroperitoneal dissection was made exposing the external iliac vessels. Lying over the vessels and just internal to Poupart's ligament, a gland three inches long and an inch wide was found, which was removed. The artery was isolated and the blood current was temporarily controlled by means of a clamp. The incision was then prolonged over the entire tumor mass, which was as large as a child's head. The aneurysmal sac was freely opened and dark clots of blood and fluid blood were removed. The sac also contained a broken and rusty knife blade two inches long which, no doubt, had produced injury to the artery.

Examination showed a slit in the bottom of the sac at the site of the vessel. The slit was about half an inch in length and an eighth of an inch in breadth. It was difficult to control the bleeding in the sac, owing to the collateral circulation. The opening in the artery was closed, Lambert fashion, with fine silk sutures. The line of sutures was then reinforced, and this was found advisable on account of the friability of the sac. When the clamp which controlled the blood supply was removed it required but a single suture to effectively control the hemorrhage.

The pulsation above the repair of the vessel was distinct; below it, however, the pulsation was very feeble. The walls of the sac were dissected free from the overlying tissue. They were sutured in such a way that the sac was turned in upon itself, silkworm gut mattress sutures being used and the pressure controlled by tying over a roll of gauze. Other through and through silkworm gut sutures were used to obliterate dead spaces, and in the dependent portion of the sac through a supplementary opening a rubber tube was placed to drain away accumulation of blood. The skin wound was closed with interrupted sutures. After the operation pulsation could not be felt in any of the arteries of the foot. The extremity, however, was warm and there was evidence of retarded circulation. The operation, on account of the dissection required and the hemorrhage in the sac, was considerably prolonged. The patient, however, stood the operation well, and was put to bed in a fairly good condition.

Five hours after the operation the temperature was 101° F., and on the following day it rose to 102° F. and then gradually returned to normal. For some days he had severe pain in the thigh, but this gradually subsided. No doubt, some of the pain was caused by the tension sutures, which after a few days were gradually loosened. The extremity was kept warm by wrapping it in cotton. A slight infection took place, which, however, did not interfere materially with his convalescence, and the prospects for a useful limb were good. The patient left the hospital in the fourth week after the operation and was able to attend to his usual occupation.

In the first case reported the aneurysm resulted from a gunshot wound of the artery, the original sac being of the fusiform type. Inasmuch as the sac wall was thin and friable, obliterative endoaneurysmorrhaphy was indicated. Instead, however, desiring to preserve the continuity of the blood stream through the artery, and the ends of the vessels being too widely separated after extirpation of the sac, a complete biterminal vein transplantation was performed. The operative result was satisfactory, and encouraged me in the use of this procedure when indicated in deficiencies of larger and more important arteries.

In the second and third cases the aneurysm was sacciform and resulted from stab wounds of the artery. In these instances the opening in the vessel is found to be slitlike or ovoid, or to resemble a groove. This type of aneurysm is well adapted to the Matas operation, and excellent results are obtained.

In the fourth case the aneurysm was interesting on account of its size, its location, and from the fact that it contained a foreign body. The preliminary clamping of the external iliac by the retroperitoneal route was found easy in this instance and was a great aid in the operation, although hemorrhage through the collateral circulation was quite active and lengthened the time of operation. In other instances, where multiple aneurysms of the femoral had caused gangrene of the extremity, I have found the transperitoneal ligation of the external iliac to be of greater service preparatory to disarticulation at the hipjoint. The Matas operation is especially applicable to these large aneurysms, because by its simplicity it limits the amount of trauma and therefore decreases the danger of infection.

Matas, in his article in Keen's *Surgery*, reports on 110 cases of aneurysm treated by the intrasaccular method. The mortality was 2.3 per cent. He has recently collected 180 cases that were operated in by his method. Relapses occurred only in the restorative operations (28.9 per cent. of the group), and this fact emphasizes the great care that is required in operations of this type. When the operation is performed at a suitable period and under favorable conditions, I believe the reconstructive operation as devised by Matas is of the greatest value, especially in sacciform aneurysms of traumatic origin.

508 Metropolitan Building.

ARTIFICIAL STERILIZATION BY ACTIVE IMMUNITY WITH SPERMATOZOON FROM THE SAME SPECIES.

By Leonard Keene Hirshberg, A. B., M. D. (Hopkins),
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Early in the year 1906, Henry L. Mencken, in the course of a conversation about such topics as euthanasia and eugenics, suggested that experiments conducted along the lines of artificial, active immunization, might lead to a means, of course under the strict supervision of a properly constituted body or bodies, of producing sterility.

With this discussion fresh in mind, and adopting the hint then thrown out by Mencken, I undertook, toward the end of that year, and throughout the four years that have since elapsed, to leave no effort unapplied to bring about, if feasible, just such a condition of sterility.

After a painstaking search throughout the literature of Germany, France, Italy, England, and America, I concluded that Mencken's dramatic conceit was without parallel so far as any experimental data were to be discovered.

METHOD OF THE RESEARCH.

My first observations were made with freshly amputated testicular tissue from guineapigs and rabbits. The testicles were ground thoroughly in a mortar, and under major surgical asepsis macerated with first three times, then twice, and in the last inoculation tests once, with sterile normal salt solution.

Injections were made with one cubic centimetre of the saline testes inspissated pulp at intervals of four days. This was gradually increased to two, three, five, ten, and even fifteen c.c. Some of the animals were injected daily, at times with only one c.c. doses, others with gradually larger quantities. The controls were always from the same litters as the experimental animals, and as nearly the same weight and color as possible.

Later experiments with kittens and puppies have also been made with freshly milked spermatic fluids, with surgical cleanliness and at incubation temperature.

Inoculations were made into the peritoneal cavity in one group of cases, into the abdominal muscles in a second series, intravenously in a third set, and via the gastrointestinal tract by way of eating in a last, hopeless batch.

There were five female guineapigs thus immunized over a period of three months, through the abdominal cavity, with emulsified testes. All of these became pregnant, and went the full term without mishap. Curiously enough, one of the five controls remained sterile and one aborted.

Five others had the mixture introduced into the belly wall; these and the five controls bore litters of young. Insertion of spermatazoon were continued in the former for a period of six months.

Two guineapigs were used to insert the viscid fluid intravenously, and both of them died, one of embolism of the heart, and the other possibly embolism of the heart and coccidiosis. An epidemic of coccidiosis at this time necessitated a temporary cessation of the work. After one year's time it was resumed with rabbits.

Of twelve female rabbits into which saline emulsions of incubation testicular extract was introduced (obtained, of course, from males of the same species), ten of these gave birth to normal numbers of young, one had a strange stricturelike vaginouterine vestibule, and the other died, exactly like one of the controls, without exhibiting any evidence of impregnation.

The rabbit experiments were conducted over a time averaging for all about fourteen weeks. These were all intramuscular insertions.

Two bitches of a mongrel type and two nearly analogous controls were kept and were inoculated with freshly milked spermatic fluid from the male that made one of the controls have a litter of six. These were also made into the abdominal muscles. One of the controls and one of the experimental animals became pregnant.

Perhaps my technique was at fault, or the testicular mixture was too viscid, not dilute enough, but a cat, inoculated into the jugular vein, died under the anesthetic (chloroform).

Finally, three guineapigs, a dog of the near fox terrier variety, two rabbits, and two kittens were fed daily amounts of ten cubic centimetres of the spermatic mush, for from one month to four months. The kittens disappeared, so their subsequent history is a mystery (though I suspect from the hydralike multiplication of the feline species round about that the result was possibly the same). The other females of the species, as well as the controls, all became happy mothers. The experiments,

I take it, are not vitiated by the fact that no fox terrier was available as a control.

From these experiments, extending over a period from 1906 to 1911, it may be concluded that such acquired conditions, as are possible by inoculating the female of a species, with whole spermatic fluid from the male of the same group, cannot produce sterility.

Perhaps this might be put paradoxically in a burlesque way by stating that the Mendelian law is again substantiated in these cases; for acquired sterility cannot be either produced or "thereby transmitted to the offspring."

1937 Madison Avenue.

CHRONIC URETHRAL PRURITUS.

By Geza Greenberg, M.D.,
New York,
Clinical Assistant, Genitourinary Department, German Hospital, Outpatient Department.

Urethral itching is a relatively common symptom to which very little space is given in the textbooks and in other modern medical literature; but I have been fortunate enough in my practice to meet with a number of cases and have classified them according to their causative factors.

Etiologically, we may divide the cases into local and constitutional.

Local Causes. 1. Of the local causes, polypi in the urethra are the most frequent factors. They are generally situated in the pendulous urethra about two inches behind the meatus. Next in frequency is the navicular fossa; then in the bulb and the posterior urethra.

2. Fibrous and resilient strictures often cause itching. Granulations in the urethra, cysts, and foreign bodies, urethritis of gonorrheal origin are sometimes accompanied with a certain amount of itching, particularly at their inception; chronic posterior urethritis, prostatitis, and seminal vesiculitis may give rise to it.

3. Abnormal constituents in the urine and normal constituents in large quantities irritate an already inflamed or sensitive mucous membrane. Of the abnormal constituents, albumin, sugar, and the acids, such as oxybutyric acid, diacetic acid, and acetone; of the normal constituents, large amounts of urates, phosphates, oxalates, carbonates, etc., and other products of abnormal metabolism.

Constitutional Causes. These are rheumatism, gout, and neurasthenia (particularly the latter), gastrointestinal disturbances, masturbation, alcoholism, and drug habits.

Symptoms. As a rule, itching is not the sole symptom depending upon the nature of the lesion and its location. There may be a viscid discharge and burning sensation during micturition and a bifurcated stream where there is a papilloma in the anterior urethra; in fact, when other symptoms are present, the pruritus seems less marked, and vice versa, according to the concentration of mind on one particular symptom, and again, when itching accompanies a group of other symptoms which persists long after the disappearance of the other causes. When the papilloma is located in the posterior urethra, there usually exists frequency of urination with irritation and urgency; bleeding rarely occurs without provocation, as the following history shows:

Case. W., aged forty-five years, had recurrent attacks of gonorrhea. Present history dated back a few years. The chief complaint was frequency and urgency of micturition; this became so marked that it was impossible for him to sit, without evacuating his bladder three or four times, through a performance at a theatre. He had a number of attacks of urethral bleeding without apparent cause. Examination revealed a stricture of about twenty calibre French, within the first inch of the urethra. This yielded readily to dilatation with some improvement as to frequency, but the urgency was as marked as before. Further examination by means of Burger's cystourethroscope, revealed a polypus in the posterior urethra; cystoscopic examination of the bladder showed only a normal viscus.

Another class of patients complain of soreness and itching; some of them, particularly the neurasthenics and masturbators, introduce foreign bodies in the urethra when itching becomes intolerable. This aggravates the inflamed condition of the urethra. Others, again, are relieved by urination. The site of the pruritus does not always designate the real seat of trouble, as it may be a reflex from either the deeper portion of the urethra or its annexa. Such patients complain also of anal itching, particularly when the prostate is involved.

Treatment. The treatment must be applied to the removal of the cause. The itching from acute gonorrhea disappears with the subsidence of the acute inflammation. Polypi in the urethra should be removed with the curette and the base cauterized or, better still, for quicker results, treated by fulguration by the high frequency current. Strictures should be dilated and cut when resilient. Granulations may be destroyed with the galvanic needle or by twenty to thirty per cent. silver nitrate solutions, preferably the former. In chronic posterior urethritis without prostatitis, the verumontanum should be touched up with strong solutions of silver nitrate once a week and dilatation of the prostatic urethra by means of Kollman's dilator may often be resorted to with advantage. In others, cold sounds must be used through a metal catheter for one half hour at each séance. The faradization of the prostatic urethra gives great relief to some patients when other methods fail. In very intractable cases, where we cannot determine the cause of the itching, relief of symptoms is obtained with an ointment consisting of

℞ Ichthyol, ... ℥i;
Resorcin, ... grs. x;
Quinine urea hydrochloride, ... ℥ss;
Wool fat, ... ℥ii.
M. ft. unguentum. Sig.: To be applied to the urethra by means of an ointment sound.

When the prostate and the seminal vesicles are at fault they should be attended to by massage, faradization, cold psychrophore, and high frequency applications.

Constitutional Treatment. Rheumatism, gout, and other metabolic diseases should be treated. The diet should be simple, nonirritating, and easily digestible; fruits and vegetables containing large amounts of acids (such as oxalic acid) should be avoided; likewise condiments and all other stimulants, including alcohol. The skin must be attended to by daily baths and brisk rubbing, particularly in neurasthenic patients. The bowels should be regu-

lated by salines or mineral waters, followed by large draughts of water.

Patients thrive well on a starchy diet, which should include oatmeal and rice; red meats should be eaten sparingly. Intestinal autointoxication should be combated by appropriate means, the therapeutics being directed toward rendering the urine bland, and the nervous system must be properly taken care of.

63 Second Avenue.

ACUTE POLIOMYELITIS WITH UNUSUAL MANIFESTATIONS.

By Max Greenwald, M.D.,
Jersey City.

On September 18th I was called to see a twenty-one months old child supposedly suffering from indigestion. The history of the case presented nothing extraordinary.

Case. She was normal at birth, breast fed, and, with the exception of occasional indigestion and one attack of bronchopneumonia at thirteen months of age, was free from any diseases. The child vomited a few times during the day, seemed somewhat drowsy, and refused food, had a temperature of two degrees above normal. I prescribed a few doses of calomel and sodium bicarbonate and learned the following day the patient had improved greatly. I received another call the next day and noticed that the child was unable to move the right arm; sensation was intact. The infant was lying upon its bed, deeply imbedded in pillows with its head retracted and the spine arched backward, giving the impression of opisthotonos, but as I lifted the baby from the pillow, I found the head swaying laterally and anteroposteriorly, representing the typical "head drop" as illustrated by Doctor Sheffield in his *Modern Diagnosis and Treatment of Diseases of Children.*

The diagnosis was now very evident. I ordered an ice bag to the head and spine and internal administration of two grains of hexamethylenamine every three or four hours. As the parents were financially unable to keep the child at home, I advised it to be taken to the Rockefeller Institute the next day. The paralysis rapidly spread to the respiratory muscles, especially the diaphragm, and the baby died at the institution two days later from a hypostatic pneumonia.

304 Montgomery Street.

INTERSTITIAL ECTOPIC GESTATION.*

By Charles R. Robins, M. D.,
Richmond, Va.

In 1,324 cases of ectopic gestation collected from literature by Rosenthal there were less than three per cent. of the interstitial variety. The specimen which I present furnishes a very beautiful example and is the only case which has occurred in my own practice. The patient gives the following history:

Case. Private records: 16-569. Aged twenty-seven years, colored, female, III para, one miscarriage. Her last menstruation occurred in June, since which time there had been no bloody discharge. In the early part of July she was taken with sharp pains in the lower abdomen, worse in the right iliac region. After this for a while she would have a severe attack of abdominal pain every night, felt on both sides, and radiating to the shoulder on the right side. She later would have recurring attacks and a few days after an attack could feel a mass in right side. She was confined to bed for five weeks and then got up for four or five days, when she had another severe attack and was forced to return to bed. Her pains were severe all over the body; she was covered with a cold sweat and had a chill. At this time the pain settled in her right side and remained there constantly ever since. She suffered from marked constipation for four months. Urination was frequent and burning.

At the time of the examination she had a temperature of 101° F. The patient was quite fat, but a tumor could be made out in the lower abdomen half way to umbilicus. The recti muscles were somewhat rigid and there was marked tenderness over the right iliac area. On bimanual examination the uterus was made out although not sharply defined, the enlargement being greater on the right side. The size of the uterus corresponded to about a three months' pregnancy. There was no bloody discharge and the patient said that she had had none since June.

A diagnosis of ectopic gestation had been made by my associate, Dr. I. T. Gorsline, but the possibility of an appendicitis complicating pregnancy was considered. There was a leucocytosis of 17,000, but no differential was made.

On September 7th an exploratory McBurney incision was made and the abdomen found full of fluid blood. A median incision was then made, the clots were cleaned out of the pelvis, and the uterus was delivered. The right side was found enlarged with several points of rupture and with the membranes showing through. The uterus was removed by a supravaginal hysterectomy.

Section of the specimen shows an unruptured sac with hemorrhages between the membranes and the walls of the gestation cavity, the chorionic villi well developed and a perfectly formed embryo. The tube on the right side and the cavity of the uterus are both intact, the latter containing a well developed decidua. The case is unusual in not presenting uterine bleeding at any time.

*Read before the Southern Surgical and Gynecological Association, December 12, 13, and 14, 1911.

Correspondence.

LETTER FROM LONDON.

Insurance Act a Rebuff to the Insurance Commissioners.—Dinner of West African Medical Staff.—Death of Sir Henry Butlin.

London, England, *February 9, 1912.*

An event of some significance has occurred in connection with the new insurance act. The insurance commissioners arranged to hold a conference on Friday, February 2nd, with representatives of the medical profession in order to discuss the formation of an advisory body composed of members of the various professional associations to aid the commissioners in their work. They sent out invitations to the various professional associations, asking them to send representatives to meet the insurance commissioners. The bodies invited and the number of representatives they were asked to send are as follows: General Medical Council, six; the three medical corporations of England, two each; the three Scotch corporations, two each; the three medical defence societies, two each; the Incorporated Society of Medical Officers of Health, two; the National Medical Union, two; the British Medical Association, twenty; the British Medical Association Reform Committee, two; the Imperial Medical Reform Association, two; the Association of Registered Medical Women, two. All these bodies, with the exception of the last named, refused the invitation of the commissioners. The last of these at first accepted, but later withdrew.

Under the circumstances no conference was held. Several of the medical bodies in refusing the invitation offered to help in the passing of an amendment of the bill in the next session. If the commissioners are ill advised enough to hold the conference at another date, without consulting the profession, it cannot be accepted as in any sense representing or expressing the opinion of the profession or binding it in the smallest degree. The Royal College of Physicians discussed the invitation for a long time, and it was decided to refuse the invitation on the ground that the act, as it stands, or even after any modification in it, which the act empowers the insurance commissioners to make, is not adapted to secure the benefits of insurance against loss of health and the prevention and cure of sickness which it was its purpose to provide, and that the cooperation of the medical profession in carrying out the operations of the act is not possible under the present bill without inflicting grave injury on the profession. The significance of this step will not be lost on the insurance commissioners and Mr. Lloyd George, who will now see that the profession as a whole stand shoulder to shoulder in their opposition to the insurance act and that nothing short of an amending bill granting the six cardinal points will be acceptable. This is the first opportunity the profession has had of showing its strength, which has been sufficient to make the government officials abandon a conference—a painful necessity, as there was no one with whom they could confer. This fiasco will give Mr. Lloyd George rather a rude awakening.

A very interesting event occurred a few days ago, the dinner of the West African Medical Staff, which took place at the Trocadero. D. W. T. Prout, C. M. G., of the Liverpool School of Tropical Medicine, presided, and the guest of the evening was the Right Hon. L. Harcourt, secretary of State for the colonies. Among the other guests were Sir Roland Ross, K. C. B., Dr. R. M. Forde, principal medical officer, Sierra Leone, and Dr. F. Manning, of Northern Nigeria.

Doctor Prout, in proposing the health of Mr. Harcourt, said he felt it was almost an impertinence to attempt anything in the way of a speech in the presence of one who was accustomed to the flights of oratory which he was credibly assured was the daily nutriment of the House of Commons. They welcomed the secretary of State not only as the head of the colonial office, but because they recognized in him the actual head of the West African Medical Staff, the final arbiter to whom all questions connected with their profession on the coast must finally be referred, and by whom they must be decided. It was a source of gratification to them that he had found time amidst the many claims of a busy official life to show his appreciation of their work by honoring them with his presence. It would be an act of presumption on his part to attempt to refer to the multifarious duties and responsibilities of a secretary of State for the colonies, but there was one direction which closely affected them, namely, the attitude which a colonial secretary might take up toward the great question of medical research and tropical hygiene, and it was a matter for congratulation that they had had at the colonial office a succession of statesmen who had fully realized the vital importance of putting these matters in the foreground. He (the speaker) had had, as a member of the advisory committee of the colonial office, many opportunities of becoming personally acquainted with the keen interest which Mr. Harcourt took in these matters, and would instance as an example the Nyasaland Commission on Sleeping Sickness, which was largely due to that gentleman's personal influence. If he might be permitted for a moment to dream, he foresaw in the advisory committee to the colonial office the nucleus of a vast imperial health organization, with its headquarters at the seat of the empire, but with ramifications extending over the whole globe. There would be departments to deal with different diseases, to collect statistics, to collate information, and to stimulate research and the health of that great empire of which we were so proud, would be promoted.

In responding, the secretary of State for the colonies said: "I esteem it an especial honor to be the guest of the West African Medical Staff and I am deeply grateful for the terms in which your chairman has proposed this toast. Never since the days of Daniel has there been witnessed such an act of signal courage as the presence at this moment of a Cabinet Minister at a dinner of doctors. Perhaps I ought to attribute the hospitable immunity I have so far enjoyed, to the fact that in West Africa, a land of ordinance rather than of legislation, there is, for the present at least, no insurance bill. A colonial secretary, whatever his tastes, however deep his ignorance, must by his daily experience and anxieties become a *médecin malgré lui*. I do not, however, admit myself to be altogether an ignoramus. It has been one of my relaxations in life—I do not say it as a commendation to you—to have been in medicine a judicious mixture of the quack, the empiric, and the amateur. You will no doubt, after such a description, wonder why I have not long ago appeared before the coroner. The reason is that in the last resort my valor has been so subject to my discretion that in anything more serious than a common cold I have generally sought the advice, and paid the fee, of those who are qualified to give the one and receive the other. Perhaps I may be permitted the harmless gratification of saying in my own justification that I was one of the first if not *the* first now thirty years ago to experiment with the leaves of Erythroxylon coca (then a little known plant obtained for me from South America by the editor of the *Lancet*), and with the tincture, I myself made the cocaine. If I could have retained an exclusive knowledge of its effects on the vocal cords, how much trouble and suffering I might have saved by its secret administration in my present profession to opponents and colleagues. In the colonial office one must be or ought to be Molière's Involuntary Physician. I say this because perhaps the saddest incidents of an anxious day are the telegrams which pour in on me from all quarters of the globe of yellow fever here, plague there, blackwater fever somewhere else, malaria almost everywhere, sleeping sickness in ill defined and extending regions."

Sir Ronald Ross also briefly responded.

With the death of Sir Henry Butlin, Bart., which occurred on January 24th, after a short illness, the medical profession in this country has suffered a great loss. He was consulting surgeon to St. Bartholomew's Hospital and had numerous titles and honors conferred on him. He was president of the Royal College of Surgeons, president of the British Medical Association, and the author of many medical works, some of which have become classics.

Therapeutical Notes.

Treatment of Endometritis.—In the recently issued second edition of his work, *Practical Gynecology,* Montgomery states that in cases of lacerated cervix, the presence of endometritis, with marked eversion and hypertrophy of the mucous membrane, indicates the use of special measures before trachelorrhaphy is undertaken. The patient's diet should be regulated, constipation corrected, and measures instituted to relieve the accompanying anemia. She should be permitted to take twice daily a vaginal douche of hot water containing an ounce of rock salt to the quart. The cervix should be scarified or punctured and all obstructed Nabothian glands entered and their cavity painted with Churchill's tincture of iodine, a combination of iodine tincture and creosote (two to one), iodine crystals dissolved in ninety-five per cent. phenol, silver nitrate or zinc choride (one drachm to the ounce), or a solution of argyrol or pyroligneous acid. The superfluous material should be sponged away and a tampon applied beneath the uterus, consisting of plain sterilized gauze and cotton, or gauze medicated with iodoform, phenol, boric acid, or thymol. The tampon may be medicated with preparations of glycerin, a fifty per cent. solution of boroglyceride, the official iodoform ointment, a ten per cent. solution of ichthyol, or twenty-five per cent. of ichthyol in hydrated wool fat.

The local treatment, with the tampon, should be employed twice a week, and the tampon removed at the end of forty-eight hours, to be followed twice daily by a vaginal douche of one half gallon of hot salt water (110° to 120° F.). Where the cervix and neighboring tissues contain much inflammatory exudate the bulb (Davidson) syringe, by the force of its current, exercises a salutary influence in promoting absorption. Intracervical or intrauterine applications should not be made unless the cervical canal is quite patulous, so that the fluid or increased serous discharge can escape readily. If the canal is obstructed by hypertrophied and everted mucous membrane, gauze packing or the use of a laminaria tent will render the application more effectual and safe.

Irregular bleeding or profuse leucorrhea indicates the use of the sharp curette and dilatation. The uterus should be irrigated during or after curettement with a solution of bichloride, one to 3,000; formalin, one to 1,000; a hot salt solution, four drachms to two pints, or, preferably, with one per cent. salt solution, and swabbed with a saturated solution of iodoform in ether. If much bleeding follows the curettement the uterine canal should be packed with iodoform gauze.

Treatment of Sycosis.—Sabatié, in *Progrès médical* for December 23, 1911, discusses the local treatment of sycosis under two headings: 1. That of the suppurative process; 2, that of the dermatitis remaining after suppuration has been overcome. The first phase of the treatment consists of cutting the hairs close to the skin and applying antiseptic measures, such as ten per cent. resorcin solution, sprayed on the parts three times daily, and wet dressings of boric acid solution, kept in contact with the skin throughout the day and night and renewed five times in the twenty-four hours. In sycosis of trichophytic origin the parasiticidal action of iodine should be utilized; it may be used either in the form of applications of iodized alcohol (tincture of iodine, one part; alcohol, ten parts) or irrigations with iodopotassium iodide solution (iodine, one gramme; potassium iodide, two grammes, in a litre of water). Where the hair follicles show deep suppuration the resulting pustules should be opened, either with an appropriate pointed instrument or by pulling out the central hair. Where the pustules are very numerous depilation of the entire area, either by means of the x rays or with forceps, is indicated. Antiseptic measures should then be continued until the acute process has subsided; if necessary, depilation may be practised again, three weeks or a month later.

In the succeeding period of simple dermatitis, the following preparations are useful:

℞ Styrax ointment, ...1 part;
Oil of sweet almond, ...2 parts.
M.

or

℞ Calomel or turpeth mineral, ...1 gramme;
Zinc oxide, ...3 grammes;
Petrolatum, ...30 grammes.
M.

Where these ointments are insufficient, various agents used in eczema, such as tar, oil of cade, salicylic acid, etc., may be tried. Thus:

℞ Salicylic acid, ...0.5 gramme;
Resorcinol, ...1 gramme;
Oil of cade, ...5 grammes;
Zinc oxide, ...10 grammes;
Petrolatum, ...30 grammes.
M. Ft. unguentum.

Sulphur preparations, too irritating in acute forms, may be used in the more sluggish cases:

℞ Precipitated sulphur, ...1 to 3 grammes;
Tannic acid, ...1 gramme;
Zinc oxide, ...2 grammes;
Petrolatum, ...30 grammes.
M. Fiat unguentum.

In altogether chronic cases, with thickening and induration of the skin, linear scarifications may be resorted to.

Cane Sugar in Cardiac Failure.—H. Dingle (*British Medical Journal,* January 13, 1912) reports a hopeless case of heart failure in which absolute rest, suitable diet, and drugs failed to relieve. Cane sugar was given in the daily dose of five ounces with beneficial results. The patient's abdomen had been tapped previously on two occasions, when twenty-two and sixteen pints of fluid respectively had been withdrawn. Since the cane sugar treatment cardiac drugs were needed only for a few days and further tapping had not been required.

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THE PRESENT STATUS OF OBSTETRICAL EDUCATION IN AMERICA.

There is a remarkable awakening at present on the part of State examining boards and of the trustees of our best medical schools to the discreditable teaching facilities in obstetrics too prevalent in this country; to the fact that a greater responsibility is assumed in this department of medicine than in any other by the young physician, and that his career is influenced most of all by the success or failure of his obstetrical practice. Two incidents recently brought to the writer's notice illustrate these statements. A young physician lost thirteen mothers in childbirth in a town of eighteen hundred people. He was obliged to leave. In the last three months the writer has seen six cases of perforation of the uterus by the insertion of instruments, with four deaths. Tragedies like these all over the country and the example of the older civilized countries of the world have at last aroused State and school authorities to a sense of their duty. A number of States now make an explicit demand of an applicant for a license to practise medicine that he shall have attended five or six women in confinement; Pennsylvania, Ohio, Iowa, and Missouri are among the number. Others like New Jersey, Alabama, and Rhode Island, by stating that they adopt the standard of the Council on Medical Education of the American Medical Association, indirectly require attendance on five cases, for that is the minimum number to be furnished by a reputable medical school according to the standard of that body. Moreover, it is required that a certain number of hours, varying from 160 to 195, shall have been devoted to the theoretical and practical study of this subject in the curriculum of an acceptable medical school. But far too many States launch into practice a young physician with the seal of the State's approval on him, although the examining board has no better guarantee of his fitness to assume the grave responsibilities of obstetrical practice than his ability to answer ten questions on paper. Heaven knows how many unfortunates fall victims to his lack of skill among the very members of the community who most require the protection of the State! Even the most progressive of our States require a practical training far below that of other countries. The Oxford and Cambridge man in England must have personally attended fifty cases of obstetrics and have spent a month as resident in a maternity hospital before he graduates. In all Germanic countries the student must have attended forty cases, have been a month in the hospital, and have attended clinical lectures and demonstrations two hours a day from one year to two and one half years.

We have made a beginning, however, in our State board requirements which is encouraging, and the best of our medical schools are rapidly developing their facilities for obstetrical instruction. The College of Physicians and Surgeons in New York has a combined department for obstetrics and diseases of women that would be a credit to any medical school in the world. The University of Pittsburgh is about to obtain under the Magee foundation, a hospital for teaching obstetrics and diseases of women that will not be surpassed in America. The University of Pennsylvania has in its obstetrical department, a hospital with more than 800 admissions of all kinds a year, an out patient department of twelve hundred cases a year, and three ambulatory dispensaries, aggregating something like two thousand cases a year, illustrating not only the complications of childbirth proper, but all its pathological consequences immediate and remote. Other schools might also be cited as satisfactory. Another encouraging feature of the present day is our emergence from the crude, provincial era of medical instruction in which obstetrics was taught as the art of a midwife, without consideration of the surgical treatment of its emergencies and consequences. Many of the best medical schools in America, such as Harvard, Columbia, Ann Arbor, Rush, and Washington, have dispensed with a separate de-

partment for teaching diseases of women, and the others will eventually do the same, following the example of the rest of the civilized world in incorporating that department with obstetrics. This plan avoids unnecessary duplication of teaching, advantageously correlates it, and insures in the head of the obstetrical department an expert of sufficient clinical experience and surgical ability to practise and teach his subject as it must be taught if our standards are to equal the best in the world.

On the whole, the outlook is encouraging. A movement has begun which is certain to gather force. With the conscientious and intelligent support of the State boards of the country, with a determination to develop their resources on the part of our medical schools, the time is not far distant when we can compare our teaching of this important branch of medicine with that of other countries without a feeling of shame and humiliation.

BARTON COOKE HIRST.

PARATHYROID APOPLEXY IN INFANTS.

The relationship between adrenal hemorrhage and sudden death in infants, though one of the most obscure of clinical phenomena a few years ago, is now familiar to every one who keeps at all in touch with progressive medicine. Apart from the cases witnessed in the newborn, which may often be traced to delay, pressure, or injuries during delivery, there occurs, somewhat later in infantile life, a syndrome of adrenal origin in which, without any appreciable premonitory symptoms, the infant suddenly becomes very ill, grayish pale, and refuses to nurse; the respiration as promptly becomes shallow and rapid; the temperature rises a couple of degrees, the pulse becoming somewhat faster. An hour or two later, perhaps, there appear reddish or purplish spots of purpura, especially on the face, neck, extremities, and buttocks. The child then grows rapidly worse; cyanosis and perhaps convulsions occur, and death soon follows. The only lesions found in these cases—of which the foregoing is but one of several clinical types—are situated in the adrenals. The purpura serves as an index to the causes of the hemorrhagic lesions, i. e., some toxemia leading to an intensely high blood pressure which the friable structure of the relatively large adrenals in the infant cannot withstand. That we are dealing here with a frequent cause of sudden death in the course of toxemias of all kinds is suggested by the fact that Loeper and Oppenheim, in the course of 250 autopsies in the newborn, found adrenal hemorrhage, microscopical or macroscopical, in forty-five per cent.

Another type of sudden death in infants due to hemorrhage into ductless glands is not as well known: that in which the parathyroids are the seat of the hemorrhagic lesions. The scarcity of available material does not permit as yet the identification of a specific symptom complex, but the few signs noted are nevertheless such as to afford a promising clue to the nature of the sudden lethal trend. The infant may show some of the characters of status lymphaticus, of deficient development, or even a predilection to infantile convulsions. Suddenly shallow and rapid respiration occurs, soon followed by cyanosis; the *rectal* temperature rises considerably, while the surface and the extremities become cold. Convulsions sometimes precede death. In some instances, death occurs instantaneously, without warning. In the cases reported so far and carefully examined post mortem, no organ other than the parathyroids showed lesions; the glandules, however, were not only greatly enlarged, but were also the seat of copious hemorrhagic infiltration.

Helpful for the elucidation of this question are the investigations of Yanase, of Tokio (*Sei-I-Kwai Medical Journal*, September 30, 1908). This investigator, in a study of the irritability to the galvanic current in infants, found that the twelve out of twenty-two in which overirritability to the anode had been noted during life coincided precisely with the cases in which the autopsy showed hemorrhage into the parathyroids. In the ten infants in which normal irritability occurred these organs showed no evidence of hemorrhage. Thus we have in excessive irritability under anodic stimuli a possible sign of *deficient* activity of the parathyroids. The familiar toxemic tetany that follows parathyroidectomy explains this abnormal irritability; the hemorrhagic parathyroids keep the infant on the threshold of tetany.

The need of watchfulness in the detection of these cases for purposes of study—leading perhaps to prophylactic measures—is self evident. The galvanic irritability of an infant suspected of parathyroid insufficiency should be ascertained; a careful history should be kept, and in case of death the parathyroids should, with all other organs, receive scrupulous attention.

VENEREAL DISEASES AND THE SANITARY AUTHORITIES.

Although sanitary authorities have long realized the enormous havoc wrought by the venereal diseases, comparatively little effective work has been done to combat them; this is due mainly to the enormous difficulties which beset the problem and

to the prejudice of the public against any frank discussion of the subject. It is conceded that prostitution is mainly responsible for the great prevalence of these diseases; at the same time it cannot be doubted that much confusion has been caused by constantly associating the two problems. No matter how they are acquired, the fact remains that syphilis and gonorrhea are infectious, communicable, and preventable diseases, and as such should be dealt with by the public health authorities.

Speaking before the Conference of Sanitary Officers of the State of New York some time ago, in this city, Dr. Hermann M. Biggs outlined the campaign against venereal diseases which the Board of Health is about to inaugurate in New York. Briefly summarized, the plan embraces a system of notification and registration, a hospital devoted especially to venereal diseases, the free bacteriological or serum diagnosis of suspected infections, and last but not least, an educational campaign. The subject is to be handled solely from the sanitary standpoint, the moral problems involved being considered to be no concern of the sanitary authorities.

So far as notification and registration of the cases are concerned, this will probably be compulsory at first only for cases treated in public institutions, but reports will be requested of private physicians. Norway has had compulsory notification for years. No names are reported, only sex, age, occupation, address (street and number), disease, when infected, and, if the patient cares to give it, the source of infection; a note on the report blank asks the physician whether in his opinion any action on the part of the public health authorities is desirable. In the Danish Law of 1906 conditional compulsory notification of cases of venereal disease is provided for. California and Utah have also recently provided for the notification and registration of these cases, and the reports are treated as strictly confidential, and not as public records.

The notification and registration of venereal cases, however, is useless unless facilities are also provided for properly caring for them; moreover, at least one hospital for the cases must be under the control of the department of health. Conditions here are exactly the same as in tuberculosis or in the contagious diseases. The persons who are most undesirable as patients are frequently those who constitute the gravest menace to others if left at large. Some hospital must be provided where such undesirables, refused by, or discharged from other institutions because of bad habits, etc., will be accepted. There must also be power to retain such persons in the hospital until the danger of spreading the infection has passed or at least markedly diminished. This power has long been exercised by the Board of Health in dealing with other communicable diseases, and has proved most valuable in securing compliance with sanitary regulations. These considerations led the Board of Estimate to grant the request of the Board of Health for funds to build a hospital for the care of venereal infections, and plans are now being prepared for a building with sixty to seventy beds.

The plans of the Board of Health also include the free bacteriological diagnosis of gonorrheal infections, and the making of Wassermann tests under certain conditions. The enormous aid thus afforded the public will, it is hoped, gradually help to overcome the present prejudice against any form of notification. The plan of the educational campaign has not yet been worked out, but there is little doubt that the time is ripe for frank public discussions of venereal diseases from the public health aspect. The lecture courses of the department of education appear to offer one very valuable forum from which to present the subject. Workingmen's clubs, labor unions, and the like might also well be utilized in this way.

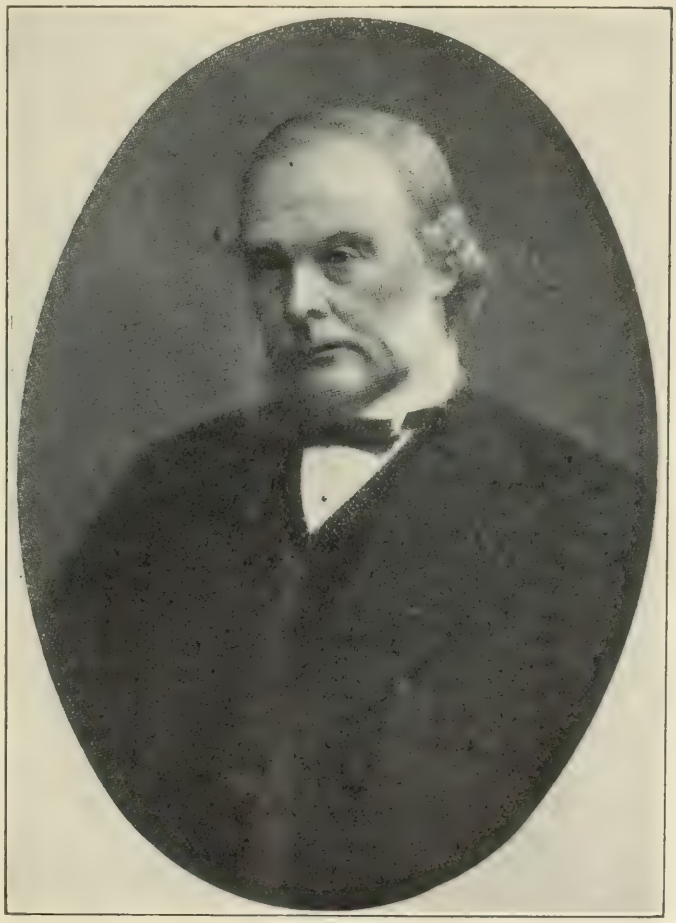
The campaign thus outlined seems practicable and deserves the hearty support of the medical profession.

LORD LISTER.

On Sunday, February 11th, died at his home in London, Joseph, Lord Lister, one of the greatest benefactors of mankind. Beside Pasteur, there is no other medical man whose name has become so well known as Lister's, not only to the medical profession, but also to the laity.

Long ago it was suspected that certain bodies or organisms were the causes of pyemia. Oliver Wendell Holmes and Ignaz Philipp Semmelweis maintained this with regard to puerperal fever, while Louis Pasteur, in 1862, proved by filtration that air contained small living bodies which would produce sepsis. To exclude, therefore, the air with its pus producing organisms from a wound and so prevent pyemia was the logical aim of Lister's researches. In 1864 he found that phenol had the property of preventing pus formation, and since 1867 he taught that it should be spread over every wound from the first step of the operation until the last, and not only the operative field, but also the instruments and the hands of the surgeons and their assistants were to be carbolized. Furthermore, he distinguished between asepsis and antisepsis and demonstrated that asepsis could only be achieved by

the use of an antiseptic material. The theory of sepsis has, since 1867, undergone many changes. The antiseptic fluids have been improved upon and the aim of all surgeons is no longer antisepsis but asepsis; but to Pasteur and Lister mankind owes a debt which never can be paid. The tracking down of the causes of malaria, yellow fever, diphtheria, meningitis, and many other diseases is due, it must not be forgotten, to the blazing of the path by Pasteur and Lister. The eventual discovery of the cause and cure of cancer will probably add indirectly to the laurels of these men. It is not too much to say that we should still be grappling helplessly with a multitude of surgical problems that now give us no concern, were it not for the vision of Lister, and not even Morton more thoroughly revolutionized surgical practice.



LORD LISTER.
1827-1912.

Born on April 5, 1827, in a suburb of London, Lister served as professor of surgery in the universities of Glasgow and Edinburgh and in King's College, London. The Glasgow Royal Infirmary was the place where he conducted his experiments with carbolic acid, the reports of which apeared in the *Lancet* for March 16, 23, and 30, April 27, and July 27, 1867. In these essays Lister gives due credit to Pasteur, stating that his attention was called in 1864 to carbolic acid as a disinfectant, describes his own researches and his experiments, reports the history of eleven patients treated by his method, and describes his carbolic acid paste. He also speaks of the occasional effect of carbolic acid poisoning on the skin.

In 1883 Joseph Lister was knighted, retired into private life in 1892, was raised to the peerage in 1897, and defended as a member of the House of Lords in 1898, in a splendid speech, the necessity of vaccination.

SALVARSAN IN OPHTHALMIC DISORDERS.

Dolganoff (*Berliner klinische Wochenschrift*, November 6, 1911), from a very considerable experience of his own and a review of the recent ophthalmic literature concerning the value of salvarsan in ocular disorders, concludes as follows: It is undoubted that in many cases salvarsan is not only equal to, but quite surpasses mercury in curative effect. In some cases it is, like mercury, without effect. Relapses are not at all rare and sometimes come on quite soon after the treatment, as shown in three of his cases. Michaelis figures out thirty per cent. of relapses. Relapses are mentioned by the following ophthalmologists: Kalt, Cohn, Axenfeld, Fischer, Fleming, Antonelli, and Galezowski, and all state that salvarsan injections do not necessarily protect against an eye affection in a hitherto sound eye. Davis describes an iritis after salvarsan injection which disappeared rapidly after a second injection. Stern maintains that salvarsan attacks by preference the muscular system. Finger observed an affection of the optic nerve, which he considered due to the use of salvarsan. Richter considers it a nerve poison and observed anisocoria.

Like complications have been seen by Kowalewski, Rille, Wechselman, and others. Tobias and other supporters of the method retort that the cases detailed are no absolute proofs and the development of complications may as well be laid to the original disease as to the arsenobenzol.

Finger returns to the charge with three cases of severe optic neuritis which he ascribes directly to the influence of salvarsan. All of these were of recently acquired syphilis; the syphilitic symptoms disappeared quickly after salvarsan, but in their place serious symptoms appeared in the optic

nerves. These Finger regards not as nerve relapses, but as pure optic nerve intoxications.

Dolganoff himself is inclined by his studies to deny the deleterious influence of salvarsan. His belief is that salvarsan is a great ally of mercury in ocular disorders; that in some cases it increases its efficiency and in others overcomes the disease by its own action. Unfortunately, as he aptly says, in the present state of our science, it is impossible to separate these two classes of cases beforehand, and it therefore seems the part of wisdom to use the remedies conjointly.

A DIGEST OF THE LAWS AND REGULATIONS RELATING TO THE REPORTING OF CASES OF SICKNESS.

Assistant Surgeon General John W. Trask has compiled a very useful manual on the laws and regulations of the various States and Territories relating to the reporting of cases of sickness, which was prepared by direction of the surgeon general and appeared as *Public Health Bulletin No. 45*. Such a manual should be much appreciated by the profession, as it is the first of its kind, especially as there is a considerable variation in the regulations of the different States and as to the authority to whom reports are to be made, also the time when such reports are to be delivered. The first part of the book is arranged alphabetically according to States and is followed by a table giving the diseases reportable in each of the States and Territories. An appendix gives the State and Territory laws regulating the subject.

Medical Law.

X. THE PHYSICIAN AS WITNESS.

The dual capacity in which the physician is required to attend court as a witness has from time to time given rise to two questions; first, as to his rights to refuse to attend and testify; and, second, as to the amount of compensation to which he is entitled when attending as a witness to facts within his knowledge, and when attending as an expert witness to give his opinions solely.

The physician who has personal knowledge of a fact is, like all other people, required to respond to a subpœna upon the payment, or tender, of the regular witness fee and mileage, and testify to what he knows, excepting when such knowledge is a privileged communication, but supposing when on the stand he is asked a question as an expert witness, which calls for an exercise of his professional knowledge and skill as a physician; or, supposing further, he is served with a subpœna to testify, and the ordinary fee and mileage are tendered him, for no other purpose than requiring him to appear and testify as an expert witness, may he decline to testify as an expert, and what are his rights as to compensation?

Dr. John H. Gleason, in our issue for January 20, 1912, states that the physician cannot be compelled to testify as to matters of opinion, that he is in the position of any professional man consulted in relation to a subject upon which his opinion is sought, and that he may refuse to give it unless his terms are complied with. This same view was also expressed by the learned and scholarly John Ordronaux, about forty years ago, in his work, *The Jurisprudence of Medicine*. After this time there was a gradual change in the attitude of the courts upon this subject. Rogers, in referring to the subject in 1890, says that the question whether the expert is entitled to extra compensation or merely the fees of an ordinary witness, is one upon which the courts are about evenly divided.

A present examination of the decisions of the courts shows that Mr. Rogers's statement is no longer correct. For while the Supreme Court of the State of Indiana has held that a physician may not be required to testify as an expert witness without the payment of additional compensation, the courts of other States, which have passed upon the question, hold the contrary, that the physician will be required to appear in court and testify as an expert witness on the payment of the ordinary witness fee. The force of the Indiana decision above referred to, is overcome by a statute, subsequently passed, which requires an expert witness to appear and testify to an opinion without any payment to him of any compensation other than "per diem allowed by law to witnesses."

The statutes of several of the States have expressly provided that extra fees shall be payable to expert witnesses, the amounts of such fees being in some States left to the discretion of the court, such statutes have been passed in Iowa, Louisiana, Minnesota, North Carolina, Dakota, Rhode Island, and Wyoming, and perhaps in other States.

While the rule at present established by the courts that the expert is required to appear and testify upon the payment of the regular witness fees and mileage, appears to be an unjust hardship, yet in the practical working out of the matter, the rule very seldom does create a hardship. The law requiring the expert to appear and testify imposes upon him only the duty of giving impromptu answers to such questions as may be put to him on the witness stand. He cannot be required to consult with the attorney before trial or especially to prepare or qualify himself for the occasion; nor can he be required to make special study or investigation of the case or to attend during the whole trial and listen to and consider the testimony given by both sides, so as to be better qualified to give an opinion representing mature reflection and better calculated to withstand cross examination. If these things are desired, as they nearly always are, then special arrangements must be made with the expert by which he is at liberty to stipulate that he shall receive full value for the time and thought that he expends upon the case.

The question has been raised whether or not such arrangements would not be irregular and disqualify the witness. This question was presented to the general term of the Supreme Court of New York in a case where the district attorney consulted a specialist in mental diseases and procured the specialist to make an examination and render an opinion and paid him $500 for so doing, and for going to the place of trial and attending as witness and testifying. Upon the propriety of the arrangement the court expressed itself as follows:

"This district attorney, it is true, might have required the attendance of Dr. H. on subpœna, but that would not have sufficed to qualify him to testify as an expert, with clearness and certainty, upon the question involved. He would have met the requirements of a subpœna if he had appeared in court, when he was required to testify, and given proper impromptu answers to such questions as might then have been put to him in behalf of the people. He could not have been required, under process of subpœna, to examine the case and to have used his skill and knowledge to enable him to give an opinion upon any points of the case, nor to have attended during the whole trial and attentively considered and carefully heard all the testimony

given on both sides, in order to qualify him to give a deliberate opinion upon such testimony as an expert in respect to the question of the sanity of the prisoner. Professional witnesses, I suppose, are more or less paid for their time and services and expenses, when called as experts in important cases in all parts of the country. The question, what amount is paid or agreed to be paid in such cases cannot affect the regularity of a trial. It may, perhaps, properly affect the question of their credit with the jury."

It should be borne in mind, however, that the view just expressed by the court would not apply in a case where the arrangement was such that the compensation of the witness would be commensurate with or dependent upon the success of the party in whose behalf he testified. Not only would such a contract if it should become known in the course of the trial deprive the testimony of the witness of substantially all of its value, but would be absolutely unenforceable by the witness after the trial of the case. This, however, would not be the attitude of the court in a case where a physician made a contract for a fixed sum to prepare himself as a witness and where the attorney afterward without paying him the agreed price, subpœnaed him to appear as a witness and tendered him merely the ordinary witness fees. In such a case the physician would be required to appear and testify, but he would afterward be able to bring suit and recover the agreed price for the work he did in especially qualifying himself.

In the case of People v. Sampo, 118 Pacific Rept. 957, it appeared from the autopsy that deceased had a linear fracture of the skull back of the right ear, and a large clot of blood, approximately the size of an ordinary base ball pressing on the right side of the brain. A large rock was produced on the trial and there was some evidence tending to show that deceased was struck with it. The physician who testified as an expert stated that the fracture caused the clot of blood, and the pressure of the latter on the brain caused death; he also testified that the fracture could have been caused by means of the rock.

Mr. Justice Hart, in expressing the opinion of the court as to the propriety of permitting the expert witness to testify as to the means by which the injury could have been inflicted, said:

"Nor was it error, it may be observed in this connection, to permit the physicians to testify that the wound could have been inflicted by means of said rock. The physicians were not asked by whom the wound was inflicted, nor whether the wound was caused by the use of the rock exhibited to them, but were simply asked whether, in their opinion, such a wound as the one they found on the head of the deceased could have been inflicted by means of the rock found by Mrs. Callandri. People vs. Bowers, 18 Pac. 660; People vs. Olson, 1 Cal. App. 22. Opinions of medical doctors as to the means which might have been employed in producing wounds upon the human body are always receivable in evidence as those of experts upon that proposition, and we know of no principle to which the admission of such testimony is repugnant. The manner by which a wound is produced is as much within the range of subjects as to which opinions of experts may be given in evidence as is the proximate or approximate cause of death, and no one will dispute the competency, as evidence, of the opinion of a physician as to the direct or remote cause of one's death."

News Items.

National Confederation of State Medical Examining and Licensing Boards.—The twenty-second annual meeting of this organization will be held in Chicago on Thursday, February 29th, at Congress Hotel, under the presidency of Dr. Charles A. Tuttle, of New Haven, Conn. The following practical subjects will be discussed: The good a federation of medical boards can do; what should be the qualifications for membership in a federation of medical boards; methods of conducting State licensing examinations; medical school equipment and State board license examination; the organization of a federation of State medical boards. A cordial invitation to attend this meeting is extended to all who are interested.

The Harvey Lectures.—The ninth lecture in the course will be delivered this evening at the New York Academy of Medicine by Professor R. H. Chittenden, of Yale University, on Current Views Regarding the Nutrition of Man.

McKees Rock, Pa., Medical Society.—The following officers have been elected to serve for the year 1912: President, Dr. Joseph G. Steedle; vice-president, Dr. George R. Wycoff; secretary, Dr. George A. Cartwright; treasurer, Dr. Walters Beane.

A Medical Reserve Corps for the Navy.—A bill has been introduced into Congress providing for the establishment of a medical reserve corps in the United States Navy, under practically the same provisions as those providing a medical reserve corps in the army.

American Climatological Association.—The annual meeting of this association will be held in Hartford, Conn., on June 10th, 11th, and 12th, under the presidency of Dr. A. D. Blackader, of Montreal. Dr. Guy Hinsdale, of Hot Springs, Va., is secretary and treasurer of the association.

To Restrict the Sale of Wood Alcohol.—At a meeting of the Department of Health of the City of New York January 23, 1912, the following section was added to the sanitary code:

Section 66a. No person or corporation shall have, sell, or offer for sale, any food or drink which contains methyl alcohol (commonly known as wood alcohol) or any preparation or mixture of any kind whatsoever containing the same, intended either for internal or external use by man; nor shall methyl or wood alcohol, or any preparation or mixture containing the same, be used upon or applied to the person or body of another.

Personal.—Dr. Carl von Noorden, of Vienna, has accepted the invitation of the New York Postgraduate Medical School and Hospital to deliver a series of lectures on problems of metabolism, at the hospital, next October.

Dr. John W. Wainwright, of New York, has purchased the *American Practitioner and News*, a publication which was founded forty-five years ago by Dr. David Yandell, and has been for a number of years the organ of the Louisville, Ky., Medical School. The publication offices of the journal will be moved from Louisville to New York.

Dr. S. R. Klein, of Valhalla, N. Y., will sail for Rome, Italy, on April 1st, to attend the Seventh International Tuberculosis Congress, which will be held in that city from April 14th to 20th, under the presidency of Dr. Guido Baccelli. Doctor Klein will read a paper at this congress.

Dr. Joseph J. O'Connell, of Brooklyn, has been nominated by Governor Dix for the position of Health Officer of the Port of New York, to succeed Dr. Alvah H. Doty. The nomination has been sent to the Senate for confirmation.

Dr. A. C. Stokes, of Omaha, Neb., has been elected president of the Elkhorn Valley Medical Association.

Serodiagnostic Test for Syphilis and Gonorrhea.—The research laboratory of the health department is prepared to make the serodiagnostic test for syphilis and for gonorrhea. In gonorrhea the test is useful in chronic conditions following an acute attack where the bacterial examination fails to show the presence of cocci. Apparatus and directions for drawing the blood may be had on application. Only glassware specially prepared by the research laboratory may be used. With the apparatus is sent also an outline for the history of the patient. All data obtained in connection with these cases will be for laboratory use only and not accessible to the public.

As a rule these tests will be made only for those patients who cannot afford to pay for an examination. When arrangements are completed, treatment will be administered also under certain conditions, to the same class of patients. These tests will be made only at the request of the physician in charge to whom reports will be sent. If desired, blood will be drawn at the research laboratory. Patients must be sent on *Monday* and *Thursday* between the hours of 10 and 12 only. Usually a positive reaction is not obtained in syphilis within six weeks to three months from the time of infection, nor within six weeks in cases of gonorrhea. A negative reaction does not exclude the possibility of specific infection either before or after treatment.

Ingestion of alcohol, within twenty-four hours of the collection of the specimen of blood, interferes with the accuracy of the test.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

February 1, 1912.

1. E. A. CODMAN: Diagnosis of Diseases of the Stomach and Intestines by the X Ray.
2. ALFRED WORCESTER: Past and Present Methods in the Practice of Medicine.
3. ROBERT M. GREEN: Blood Pressure in the Toxemias of Pregnancy.
4. IRVING SOBOTKY: Infiltration Anesthesia in the Submucous Resection of the Nasal Septum.
5. J. HARPER BLAISDELL: Cases from the Skin Department of the Massachusetts General Hospital.
6. HENRY B. HART: Myiasis.

3. Blood Pressure in the Toxemias of Pregnancy.—Green refers to a prior communication on this subject made in April, 1910, in which he classified the toxemias of pregnancy into several distinct groups, each of which he thinks represents the mode of action of a different toxine, developed in the maternal organism as a result of fetal metabolism, but for some reason imperfectly eliminated, and therefore producing a definite train of toxic symptoms in the mother. He reports six cases in the present paper and wishes to add two more groups to those recorded in his first. 1. Post partum eclampsia, which is a condition of cumulative toxemia in which the resistance of the patient's central nervous system prevents outbreak of symptoms till after labor. 2. Cases of pernicious vomiting, with fairly normal blood pressure, in which the condition progresses to a fatal result, with rising ammonia coefficient, unless the uterus is emptied.

4. Infiltration Anesthesia in the Submucous Resection of the Nasal Septum.—Sobotky suggests the hypoperichondrial injection of a normal salt solution to which a few drops of adrenalin have been added. The technique is as follows: A weak cocaine solution, either a two or four per cent., is applied to the mucous membrane on either side of the septum to render painless the introduction of the needle of the syringe through the membrane into the cartilage. Four minims of a one to 1,000 solution of adrenalin chloride is aded to ten c.c. of a sterile normal salt solution. There are four principal points of injection: 1. Anterior—on the septum—just posterior to the junction of the skin and mucous membrane; 2, opposite the lower turbinate and low down, at the junction of the septum and the floor of the nose; 3, opposite anterior end of middle turbinate; 4, posterior—on septum—at beginning of superior meatus. The last can be omitted where there is only an anterior deflection. Approximately one c.c. of the solution is injected at each point and the line of demarcation of the wheal produced is a good guide for the next injection. Injections must be made on both sides of the septum, and must be made through the perichondrium.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

February 10, 1912.

1. RICHARD R. SMITH: A Study of Children with Reference to Enteroptosis.
2. W. A. EVANS: Legal Powers of Health Departments.
3. FREEMAN ALLEN: Nitrous Oxide and Oxygen Anesthesia in Major Surgery.
4. W. F. BRAASCH: Clinical Observations from 203 Patients Operated on for Renal Tuberculosis.
5. EUGENE S. TALBOT: Some Bacterial and Nonbacterial Diseases.
6. HOWARD D. KING: Prophylaxis of Cerebrospinal Meningitis, with Some Observations as to Carriers.
7. J. C. WILSON: Contusion of the Chest Followed by Persistent Hemoptysis and Presystolic Murmur and Thrill.
8. ALFRED FRIEDLANDER: Salvarsan in Pernicious Anemia.
9. CHARLES D. AARON: The Hormones, with Special Reference to Peristaltic Hormone.
10. ALDRED S. WARTHIN: Focal Fatty Degeneration of the Myocardium Associated with Localized Colonies of Spirochæta Pallida.
11. EDMUND P. FOWLER: An Improvised Noise Producer for Determining Unilateral Deafness.

1. A Study of Children with Reference to Enteroptosis.—Smith, from an extended study of this subject, draws a number of conclusions. He finds that the enteroptotic habit of adult life finds its counterpart in the frail child, presenting the same fundamental characteristics: Frailness, lack of fat, slenderness of muscle, lack of vigor in body development. It is only in older children that any collapse of the thorax or diminution in the capacity of the upper abdomen is seen, and then only exceptionally, even in frail subjects. The muscular insufficiencies of later life in enteroptotic women are common in frail children. The prolapse of kidneys, stomach, colon, and intestines which accompanies the enteroptotic habit of adult life is not outspoken in childhood (under twelve years), except in rather rare instances, and then usually late in that period. The author suggests that much might be done to prevent this enteroptotic habit, which he considers of greater importance than the prolapse of the viscera. The frail child should be recognized as an entity and its tendencies intelligently fought. Their nutrition should be closely looked after in the hope that they may attain a vigorous womanhood.

3. Nitrous Oxide and Oxygen Anesthesia in Major Surgery.—Allen has given this subject careful consideration. From his own experience and that of others (Hewitt, Teter, Bennett, Crile, and others) he draws the following conclusions: 1. Writers quoting statistics, designed to show the safety of gas and oxygen anesthesia, should carefully separate the brief administrations of dentistry and minor surgery from the prolonged administrations of major surgery. 2. Anesthetic deaths, occurring during the use of nitrous oxide and oxygen in major surgery, are not uncommon. 3. There are at present not enough statistics as to the safety of this method of anesthesia in major surgery to show that it is so safe as ether or chloroform. 4. To insure a maximum of safety this anesthetic should be administered only by a skilled anesthetist, equipped with the best available apparatus, and patients should receive preliminary hypodermic medication. 5. In estimating the freedom from after effects of this anesthetic in major surgery, careful distinction must be made between patients receiving gas and oxygen only and those receiving gas and oxygen and "just a little ether." 6. When given with large amounts of ether, gas and oxygen has only a slight advantage over the nitrous oxide-ether sequence, properly administered by the closed method.

4. Clinical Observations from 203 Patients Operated on for Renal Tuberculosis.—Braasch considers in this paper the exceptional conditions, the complications, and results in 203 cases of renal tuberculosis operated in in St. Mary's Hospital (Mayo clinic). The results of these operations are interesting. Six (2.9 per cent.) of the 203 patients died in the hospital. Excluding those operated on

during the past year as too recent to be of statistical value, the subsequent histories of but seventy per cent. of the patients were available. Of this number, eighteen per cent. were dead. Of this eighteen per cent., sixty per cent. died during the first year after operation, and fifteen per cent. lived more than three years. Of the eighty-two per cent. alive, all but thirteen per cent. reported improvement or recovery from their previous bladder symptoms. A gain in weight and strength followed where the bladder symptoms were not ameliorated. The bladder symptoms were relieved in from a few weeks to five years after operation, sixty-seven per cent. in less than a year. The majority (seventy-five per cent.) of those showing no improvement in vesical symptoms gave a history of vesical infection of more than two years' standing. The operative wound was healed in less than a year in eighty-seven per cent., and in less than three months in forty-three per cent. In one case the sinus persisted as long as four years. Of five patients with bilateral tuberculosis, all died within a year after operation. Twenty-five per cent. of cures are expected in cases operated in.

6. **Prophylaxis of Cerebrospinal Meningitis.**—King advises in this connection a strict observance of oral and nasal hygiene, and an inquiry into all faucial or nasal irritations, that the development of contagion carriers may be prevented.

9. **The Hormones, with Special Reference to Peristaltic Hormone.**—Aaron calls to mind that it has been recently demonstrated that the cells of the gastric mucous membrane secrete a substance that stimulates the peristalsis of the intestines. Starling calls this substance a hormone, or stimulator. Seitz mentions a pathological ovarian hormone as the exciting cause of uterine myomata. Tuelzer and Blum have studied epinephrin, a hormone which regulates the blood pressure and the transformation of sugar in the body. The peristaltic hormone has been studied by Zuelzer, Henle, Saary, Unger, and the author, and the consensus is that we have in this peristaltic hormone treatment of constipation a new and very promising method, but by no means a cureall.

10. **Focal Fatty Degeneration of the Myocardium Associated with Localized Colonies of Spirochæta Pallida.**—Warthin finds that focal or diffuse fatty degeneration of the myocardium may be associated with the presence of numerous spirochætæ of syphilis, without any reaction on the part of the interstitial tissues. This would probably indicate a very acute or mild (latent) infection, and is found very frequently in congenital syphilis. Again, calcification or fibroid change may follow the parenchymatous change without the occurrence of a definite interstitial inflammatory reaction. The spirochætæ are few in number, or have entirely disappeared in such areas, according to the stage of the secondary process.

MEDICAL RECORD

February 10, 1912.

1. Cecil K. Austin: Practical Utility of the Distinguished Consultant.
2. Robert Abbe: Improved Method of Using Radium.
3. Herman B. Sheffield: Pediatric Memoranda. Tuberculous Peritonitis. Sarcoma of the Kidney.
4. James Donelan: Diagnosis and Treatment of Intranasal Suppuration.
5. Louis B. Sachs: Tricuspid Regurgitation and Stern's Posture as an Aid in Its Diagnosis.
6. Samuel W. Boorstein: Treatment of Arthritis Deformans in Montefiore Home.
7. Mark L. Knapp: Significance of Splashing Sound in Gastrointestinal Canal.

2. **Improved Method of Using Radium.**—Abbe, observing that the best results have been obtained by enveloping a heavy charge of radium in casing of lead of from 0.1 to two millimetres thick, has invented a simple device which he has used successfully for the past two years. The lead casing suppresses the burning alpha and soft beta rays. It is hoped that by suppressing the short irritating and burning rays large doses of rays may be applied with benefit to uterine and other internal cancer, and also reach subcutaneous recurrences by distant applications without causing severe dermatitis. By the logical extension of its use along these lines it may be within the bounds of possibility to reach the deep seated glands and glandular tumors.

5. **Stern's Posture as an Aid in the Diagnosis of Tricuspid Regurgitation.**—Sachs reminds us that Heinrich Stern, in 1910, called attention to a new posture which he found of value in detecting tricuspid regurgitation, of inducing the characteristic murmur of this disease when it has been absent, and making it more distinct when it is vague and indistinct. When a patient is in the recumbent posture, if the head is lowered, the jugular veins become distended, and as a rule begin to pulsate. If the head is lowered beyond a certain degree, the pulsation and engorgement recede. This lowering of the head stretches the muscles of the head and also the jugular veins. This stretching is reflected in the tricuspid area, and murmurs are now evident which were not heard before, or which were quite indistinct. The apex beat becomes more pronounced and any other accompanying murmurs are more audible than when the patient was in the ordinary recumbent position. In Stern's posture a tricuspid murmur once heard is always heard. The venous hepatic pulse, a characteristic phenomenon of tricuspid insufficiency, is more easily observed in this posture.

6. **Treatment of Arthritis Deformans in Montefiore Home.**—Boorstein gives the detailed treatment of these cases: On entrance, each patient has his casts, x ray, and photograph taken and a careful description of the condition of the joints is entered on suitable blanks, that a record of the change can be kept. The following treatment is then given: Baking, following by massage, three times a week; "steam boxes" on the intervening days; light baths twice a week; Bier's hyperemia every day, from six to twelve hours; enemata twice a week; exercises daily, and static electricity three times a week. Casts are taken every three or four months.

7. **Significance of the Splashing Sound in the Gastrointestinal Canal.**—Knapp reports a case that should modify our ideas concerning this diagnostic sign. This sound is one which is produced by the simultaneous presence in a hollow viscus of gas and liquid. It is elicited by sharply striking the abdomen with the finger tips, and also by shaking the body, back and forth, or laterally. Whenever the splashing sound is found in the region of

the stomach it has been interpreted, first, to mark the boundaries of the stomach, and, second, to give us information as to the condition of the propulsive power, of the tonicity, of the stomach. Concerning the second proposition, the presence of this sound, we are told, indicates atony of the stomach. In the case reported by the author, in which this sound was present, he proves that it came, not from the stomach, but from the jejunum, and that, moreover, instead of atony of the stomach, there was a condition of hypertonus.

BRITISH MEDICAL JOURNAL.

January 27, 1912.

1. A. R. F. Exham: Resistance of the Body to Disease.
2. David Forsyth: Diagnosis of Spinal Cord Affections.
3. J. M. Clarke: Extramedullary Tumor of the Cord.
4. B. Kilvington: Regeneration of Nerves.
5. H. Drummond: Pneumococcal Meningitis.
6. Hugh Gillies: Transient Hemiplegia following Parturition.
7. O. Smithson: Tetanus Treated with Magnesium Sulphate.
8. A. S. St. John: Supposed Case of Heat Stroke.
9. L. S. Tomkys: Acute Anterior Polioencephalomyelitis.
10. C. W. Hogarth: Poisoning by Oil of Mirbane.

4. Regeneration of Nerves.—Kilvington treats of secondary nerve suture and draws his information from both clinical and experimental studies. By secondary he means at a time greater than a few days after the severance of the nerve. From that clinical observation he concludes that, taking the various pathological conditions into consideration, any explicit statement as to the time or degree of recovery after secondary suture is impossible. That recovery after secondary suture is slower than after primary suture. That while recovery follows the same lines as in primary suture, it usually falls short of complete recovery functions (sensation and motion). That, other things being equal, the longer the time that elapses prior to secondary suture, the less perfect the recovery. That, finally, after a certain length of time, which is indefinite, restoration of muscular function is unlikely, though there may be a certain amount of sensory recovery possible. From animal experiments he found that unless special means were taken to prevent it, the distal end of a severed nerve was innervated by wound fibres. These are not found where sepsis had occurred and this explains the failure of recovery from certain cases after secondary suture. When the central end of an old divided nerve is united to the distal end of a recently divided one, the regeneration is not so good as in the case of the reverse condition. That is, from the point of view of regeneration, an unremedied nerve division causes more serious changes in the central end than in the distal one. This is the reverse of the gross and microscopical appearance, in which there is but little obvious change in the central portion while the peripheral one is markedly altered. We can conclude, therefore, that the motor nerve cell is more damaged from ununited division of the nerve trunk than is the neuromuscular apparatus. When union fails, then, in the absence of sepsis, the fault is lack of regenerating power in the nerve cell.

6. Transient Hemiplegia after Parturition.—Gillies reports two very striking cases in which the conditions were nearly absolutely parallel. Transient complete hemiplegia developed in each on the left side nearly a month after delivery. There were no urinary, cardiac, or other changes which might possibly have been considered as bearing any etiological relation to the attack. The recovery was prompt and complete in both.

7. Tetanus.—Smithson treated two cases of this condition with subdural injections of magnesium sulphate with very striking immediate results following the injection. The drug completely stopped the spasms, but its action was of relatively short duration and both patients died in spite of its use and of the simultaneous exhibition of antitetanic serum.

10. Poisoning by Oil of Mirbane.—Hogarth records his observations upon a case of intoxication following the application of nitrobenzol to an aching tooth. The oil was applied in the evening and the next morning the patient felt drowsy and could not go to work. By evening he had become unconscious and had vomited. His room and person were pervaded by a strong odor of bitter almonds which persisted for more than twenty-four hours. He was extremely cyanotic and his lips were a deep purple, about the color of blackberry juice. Respiration seemed embarrassed and the pulse was scarcely to be felt. Caffeine was given by hypodermic injection and he was kept warm. The coma wore off and the patient recovered completely in a few days.

LANCET

January 27, 1912.

1. T. C. Shaw: Mental Processes in Sanity and Insanity.
2. F. Hewitt and W. L. Symes: Percentages of Ether Vapor by "Open Ether" Methods.
3. W. Harris: Alcohol Injection of Gasserian Ganglion.
4. F. J. McCann: Surgical Treatment of Sterility in Women.
5. I. C. Tengely: The Klebs Loeffler Bacillus.
6. D. Steel: Ulcerating Granuloma of the Pudenda.
7. Leonard Hill: Note on Glaucoma.
8. H. W. Wilson: Rhinitis Caseosa.
9. F. Milton: Will Sickness Be Increased under the Insurance Act?

2. Ether Percentages.—Hewitt and Symes made estimations upon a manikin of the human face which respired artificially so as to correspond as closely as possible to the rate and depth of human breathing. The mask they used consisted of three parts, 1, a thick gauze face pad with an oval opening, to secure closer adaptation of; 2, a Skinner's mask around the base of which; 3, a gauze roll is placed. From beneath this mask, placed upon the model of the human face, they aspirated the vapor through a densimeter bulb and estimated the percentage of ether content. They used several different thicknesses of gauze on the mask and some of the other common coverings. They conclude that the percentage of ether under the conditions described varies between five and fifteen according to the freedom of douching of the mask and the kind of fabric used. That gauze yields a higher percentage than flannel or lint. That the percentage yielded by gauze increases roughly, proportionately with the increase in the number of layers used. With lint or flannel so adjusted that all inspirations and expirations pass through the mask, a more or less uniform concentration of ether vapor of about eight to nine per cent. will be obtained.

3. Alcohol Injection of the Gasserian Ganglion.—Harris has employed alcohol injections in the treatment of trifacial neuralgia for several years and has treated some ninety cases during that time with greater or less relief in all but three cases. In the majority the relief was of at least one year duration. He is emphatic in the view that total ab-

sence of relief implies that the nerve was not injected, for strong alcohol injected into any nerve trunk destroys the fibres almost instantly. The procedure he now describes is an advance upon his former one in that he seeks not only to destroy a single or at most two divisions of the nerve, but to destroy the ganglion itself. He reserves decision as to whether it is advisable to destroy the ganglion in those cases in which the neuralgia does not affect the lower division of the nerve, for this would mean permanent loss of sensation over the corresponding side of the tongue; in other cases however, and particularly in the severe and intractable ones, he advises the destruction of the ganglion. This he accomplishes by passing the needle through the foramen ovale under a local or general anesthetic. He chooses a point on, or slightly below a line joining the ala nasi with the incisor notch; when the teeth are in position this line usually corresponds to the lower border of the sigmoid notch on the lower jaw. He then directs the needle fairly well upward until the lips of the foramen ovale are felt with its point. This is then entered and at once the nerve is injected at this point with 1.5 c.c. of ninety per cent. alcohol. If no general anesthetic is given he precedes this by an injection of six or seven minims of two per cent. eucaine to make the alcoholic injection practically painless. If the nerve has been successfully injected there will develop at once deep anesthesia of the lower lip and chin. He then passes the needle through the foramen, without using force. There is considerable resistance to the injection if the point of the needle is within the nerve tissue. Then one to 1.5 c.c. more of the alcohol is to be injected directly into the ganglion, a few drops at a time, at intervals of not less than two minutes, testing, meanwhile, the sensation of the cheek and forehead with a blunt pin. When neither the point nor the head of the pin is any longer perceived, it is probable that sufficient has been injected and the needle can be slowly withdrawn. Even after this the anesthesia will probably fade in an hour or so, and by the next day tactile sensation may be fair on the forehead and below the eye, with a normal conjunctival reflex. If this is the case there need be no fear of the development of keratitis. There is a subsequent recovery of the motor powers of the jaw muscles, and this is explained by the fact that the motor branch of the fifth nerve has no connection with the Gasserian ganglion. The results of this operation are as good if not even better than those from the complete resection of the ganglion, and the danger is nil as compared to the dangers of that procedure.

4. Sterility in Women.—McCann treats of the relief of the condition by surgical measures, and among other operative procedures he describes a modification of the methods of salpingostomy which has given excellent results in his hands. He exposes the tubes with the greatest gentleness in order to avoid all abrasion that is possible. An incision is made along the dorsal aspect of the tube toward the ampulla to the extent of one inch, thus opening the abdominal end of the tube. The tubal mucosa is then stitched to the serous covering of the tube by means of fine catgut, thus accurately uniting the edges and stopping the bleeding completely. When both tubes have been thus treated the uterus is suspended by intraperitoneal fixation of the round ligaments, a silkworm gut suture being passed on each side through the fascia of the abdominal wall, muscle, peritoneum, and under the uterine end of the round ligament, and then through peritoneum, muscle, and fascia, to be tied outside the fascia. The omentum is then pulled down and placed behind the uterus, while the appendages are placed on its anterior surface. The uterine suspension and the arrangement of the omentum are for the prevention of the formation of adhesions. Much of the success of this operation rests upon the proper selection of suitable cases, chiefly those in which there is a history of previous inflammation and in which one can feel thickening of the tubes, but not in acute tubal disease. Pregnancy has frequently followed this operation in McCann's cases, and he reports a unique instance of a tubal gestation subsequent to the operation.

7. Glaucoma.—Hill explains the cause of the increased tension as follows. It is primarily due to an altered state of metabolism, which is produced by bacterial toxines or otherwise, and which results in chemical changes in the colloids of the eye which swell by the absorption of more water. An obstruction of the venous and aqueous outflow by sclerotic changes, with resulting lack of oxygen and production of acid, may possibly be a cause. The presence of any salt markedly lessens the swelling caused by any acid and the injection beneath the conjunctiva of one eighth to one sixth molecular (4.05 to 5.41 per cent.) solutions of chemically pure sodium citrate is always promptly followed by a fall of intraocular tension in clinical cases of glaucoma, and is entirely harmless. The decrease in the tension appears appreciably within ten minutes and persists for from three to six days with relief of all the symptoms. The eye is an indistensible structure, and increased swelling of certain structures within it must be compensated for by decrease in the volume of blood in the organ. This necessitates an increased pressure in the capillaries and veins in the eyeball. The tension of the eyeball is the capillary venous pressure in the eye. In glaucoma, as in any other condition of disordered metabolism, the promotion of increased flow of tissue lymph by incisions and the like is the best treatment. So here that operation which allows of the freest circulation of blood and of aqueous fluid will be the most successful one.

BULLETIN DE L'ACADÉMIE DE MÉDECINE.

January 16, 1912.

1. S. Pozzi: Alternating Life of Tissues outside the Body; Recent Researches of Alexis Carrel.
2. E. Boinet: Infarcts of the Small Intestine Resulting from Arterial or Venous Obstruction.

2. Infarcts of Small Intestine.—Boinet classifies infarcts of the small intestine into 1. Hemorrhagic (a) through embolism of the mesenteric arteries; (b) through thrombosis or thrombophlebitis of the mesenteric veins. 2. Anemic, due to obliteration of the mesenteric branches below the anastomotic arches. 3. Curable and limited infarcts, arising through obliteration of small or intermediate sized branches of the mesenteric or intestinal vessels. The author reviews summarily the literature pertaining to each of these classes, and gives de-

tailed reports, with autopsy, of two cases of hemorrhagic infarction due to obstruction of the superior mesenteric vessels. In the first case, that of a man suffering from subacute aortitis of influenzal origin, the symptoms associated with the embolism were sudden violent pain, with repeated subsequent paroxysms; hemorrhage from the bowel lasting two days; muscular rigidity in the right hypochondrium; a sausagelike mass on palpation; septic peritonitis with hiccough, coffee ground vomiting, and death on the fourth day. Boinet points out that in some instances hemorrhagic infarction simulates intestinal obstruction, which is apparently the primary condition; in these cases the clinical picture is not absolutely characteristic. According to Sauvé the diagnosis must depend in particular upon the vomiting, the exceedingly violent pains, the previous existence of an affection capable of causing thrombosis or embolism, and especially, the hemorrhage. The sequence of the two contradictory symptoms, diarrhea and occlusion, is also of diagnostic import. In the author's second case the chief complaint was of an obstinate, fetid diarrhea. The patient was atheromatous and cachectic, and succumbed in a few days. The autopsy showed thrombosis of the mesenteric veins and gangrene of portions of the jejunum, ileum, and colon. In concluding, Boinet calls attention to the importance, owing to frequency and relatively favorable prognosis, of embolism of the smaller mesenteric branches.

PARIS MÉDICAL.

January 27, 1912.

1. Juvara: Technique of Operation for Crural Hernia.
2. Paisseau and Tixier: Endodermic Reaction to Tuberculin in the Child.
3. Jeannin: Treatment of Vomiting of Pregnancy.
4. Brucker: Treatment of Respiratory Affections by Volatilized Remedies.

3. Vomiting of Pregnancy.—Jeannin has little faith in medicine, and says all depends on hygiene and diet, with attention to local lesions, if any. Rest in bed, emptying the bowels, quieting the nervous system with chloral and bromides are recommended, also the application of cracked ice over the epigastrium or spraying ether over the same region. Rectal feeding may have to be used. Hypodermic injection of physiological saline has been useful. Change of air sometimes succeeds. The induction of abortion is the last resort.

4. Volatilized Remedies.—Brucker points out that the temporary disuse of this method of treating respiratory affections was due to insufficient pressure; now that apparatus is capable of producing a true respirable atmosphere of many an excellent remedy, the practitioner will find this method of the greatest value.

PRESSE MÉDICALE.

January 24, 1912.

1. C. Achard: Morbid Predispositions and Immunities.

January 27, 1912.

2. A. Mayor: Preventive Treatment of Asystolia.
3. Molle: Artificial Pneumothorax in Chronic Pulmonary Tuberculosis.
4. A. Mougeot: Comparative Diuresis of Water and Chlorides from Carbonic Acid Baths.
5. C. Lenormant: Grafts in the Radical Cure of Hernia.

2. Asystolia.—Mayor points out the dangers of relapse in this condition, just when the patient is disposed to congratulate himself on a permanent recovery; he recommends the administration of digitalis in very small doses for months, even when there is perfect eusystole, to guard against the likelihood of autointoxication and other drawbacks to the condition.

4. Carbonic Acid Baths.—Mougeot's conclusions that carbonic acid baths are productive of salutary diuresis, inasmuch as they help the elimination of chlorides and toxines, are complicated with the necessity he finds for the simultaneous administration of a mineral water, known as *Cæsar*.

SEMAINE MÉDICALE.

January 24, 1912.

Chervin: Rôle of Emotion in Stuttering and Lisping

Stuttering and Lisping.—Chervin recalls that both surgical and medicinal treatment of stuttering have long since been discarded and the only remedies lie in education and the increasing age of the subject. As to lisping, it is often complicated with a sort of deafness comparable to Daltonism in the eye, the subject confusing e. g., k with t, sounds perfectly distinct to the normal ear. The education of subjects who lisp, be this from hereditary predisposition or some obscure organic defect, bristles with difficulties.

BERLINER KLINISCHE WOCHENSCHRIFT

January 8, 1912.

1. Alexander Tietze: Pyogenic Kidney Infection.
2. J. Köhler: Accident Casuistics.
3. Hans Meyer and Hans Ritter: Method of Qualitative Measurement of the Rays in Röntgen Therapeutics.
4. Hugo Hecht: Coagulation Reaction According to Karvonen.
5. L. Brieger and M. Krause: Medicinal Treatment of Artificial Infection with Trypanosomes.
6. Schemel and Eichler: Measurement of the Temperature in the Intestines with a Fever Registration Apparatus in Various Hydrotherapeutic Treatments.
7. Olaf Thomsen: Experimental Investigation of Poliomyelitis.
8. Koan Takata: Oral Auscultation.
9. Ludwig Pick: Ganglioma Embryonale Sympathicum.
10. Paul Lazarus: Duodenal Catheter.
11. Felix Franke: Nerve Extraction in Gastric Crises.
12. Max Klotz: Therapeutics of Peritonitis Tuberculosa.

January 15, 1912.

13. B. Stiller: Thorax Phthisicus and Tuberculosis Disposition.
14. Aufrecht: Percussion and Auscultation.
15. Plehn: Polyneuritis Luetica.
16. Max Vorbrodt and Victor Kafka: Enesol Treatment in Metasyphilitic Diseases.
17. S. L. Bagrow: Rectal Method in Salvarsan Therapeutics.
18. Julius von Benezúr: Successful Treatment with Radium Emanation.
19. A. Loewy: Experiments with Radium Emanation on the Influence upon the Vascular System.
20. Carl Ritter: The Technique of Resection of the Ribs.
21. Max Einhorn: Agar as a Vehicle in Intestinal Therapeutics.
22. Emil Pfeiffer: Esbach's and Aufrecht's Methods of Quantitative Estimation of Albumin in the Urine.
23. Richard Traugott: Adalin.
24. Franz Nagelschmidt: A Short Report on the Photodynamic Effect of Fluorescent Substances.

8. Oral Auscultation.—Koan Takata speaks of auscultation which is undertaken by mouth breathing through the air route of the organs of respiration; that is, the examiner auscultates with a stethoscope held in front of the mouth, while the patient breathes exclusively through the mouth slowly and deeply; it is advisable in a good many cases to close the nares with cotton, and there must be absolute quiet in the room. The physician is thus enabled to hear endothoracic râles, which in this form of examination will always be metallic, they seem to be louder than the râles heard by pectoral auscultation, and their number may be sometimes larger in oral than in thoracic auscultation. The author thinks that this method should be used in bronchitis, pneumonia, edema of the lungs, hemoptysis, etc., but especially in tuberculosis of the lungs. Greatly in favor of

this examination is the circumstance that the patient will not have to undress.

16. Enesol Treatment in Metasyphilitic Diseases.—Vorbrodt and Kafka report eight cases of progressive paralysis, one of tabes dorsalis, and one of epilepsy and dementia resulting from luetic encephalitis, treated with enesol; they used two c.c. of enesol, which was injected every other day intramuscularly into the gluteal region. Before the beginning of the treatment and after the twentieth injection, blood and serum were thoroughly examined. Eight patients received a second course of treatment. The authors come to the conclusion that treatment with enesol has no influence upon the clinical picture of paralysis; in tabes dorsalis and luetic brain disease the question remains open.

17. Rectal Method in Salvarsan Therapeutics.—Bagrow has incorporated into an ordinary suppository 0.1 gramme of salvarsan, which he introduces into the rectum. The patients were not allowed to go to stool for ten or fifteen hours, and then it was found that the feces did not contain any visible traces of salvarsan. The author, therefore, comes to the conclusion that the drug is entirely absorbed through the wall of the intestines, and he remarks that "it was possible to see clinical improvement three to four days after the introduction."

21. Agar as a Vehicle in Intestinal Therapeutics.—Einhorn reports on his experience with agar in diseases of the intestines, and finds that its use can be recommended in constipation, diarrhea, and enteralgia. He has thus used phenolphthalein, rhubarb, extract of calumba, compound tincture of gambia, tannic acid, tincture of ipecac, extract of sumbul, etc.

DERMATOLOGISCHE WOCHENSCHRIFT.

January 13, 1912.

1. Louis Merian: Primary Blastomycosis of the Skin.
2. Menahem Hodara and Fuad Bey: Histological Examinations on Three Cases of Sporotrichosis.
3. P. G. Unna and L. Golodetz: Chemistry of the Skin.
4. Franz v. Veress: Changes in the Course of Syphilis after Intensive Treatment; Pseudoreinfections and Early Relapses.

4. Syphilis after Intensive Treatment.—Von Veress calls attention to the many instances of supposed reinfection that have been recorded since the advent of arsenobenzol, and which have been held in some quarters to be evidences of the possibility of an early and radical cure of the infection. A critical examination of these cases shows that they differ in no way save perhaps in the rapidity of their appearance from the many cases of pseudochancre or chancre redux that have been recorded under the older methods, and are to be explained in the same way. The author's conclusions are noteworthy, and are as follows: Looking as a whole at the cases that have so frequently been reported of late in which, a few months after a positive diagnosis of syphilis has been made, a fresh sclerosis and apparently a reinfection have appeared, we must conclude that they are susceptible of a different explanation. They are nothing but unusually early and unusually marked relapses, or secondary scleroses, due to the energetic therapeutic action of the new remedy. These pseudoscleroses usually occur with a negative Wassermann reaction, which increases the likelihood of their being regarded as reinfections. They may appear at the site of the original initial lesion, and cause a characteristic glandular swelling, so that they cannot be distinguished from a real chancre; or they may appear on other locations on the skin or mucous membranes, thus simulating an extragenital reinfection. Past experience teaches us not to rely on salvarsan alone in treatment of syphilis, but to use it alternating with mercury, for arsenobenzol acts energetically and quickly, mercury slowly but more surely.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT

January 11, 1912.

1. Hermann Riedel: Abdominal Injuries.
2. Hugo Salomon and Paul Saxl: Sulphur Reaction in the Urine of Cancerous Patients.
3. A. Pinkuss: More Experience with Serological Diagnosis, Progress and Treatment of Carcinoma.
4. A. Grunmach: New Cinematograph for Diagnosis with Roentgen Rays in Internal Diseases.
5. Moritz Cohn and Hans Peiser: Disturbances of the Inner Secretion in Pancreatic Patients.
6. W. Rindfleisch: Fatal Cachexia without Macroscopic Anatomical Basis (Simple Chronic Gastritis); Intestinal Autointoxication and Cirrhosis of the Liver.
7. Max Joseph and Conrad Siebert: Roentgen Treatment in Dermatology.
8. A. Looss: So Called Cure of Bilharziasis with Salvarsan.
9. Alfred Fürstenberg: Progress in Hydrotherapeutics, Thermotherapeutics, and Emanation Therapeutics.
10. E. Aronsohn: Etiology, Nature, and Importance of Fever.
11. Max Schall: Technical Novelties in Medicine, Public Health, and Care of Patients.

1. Abdominal Injuries.—Riedel remarks, among other things, that the best sign of an injury to intra-abdominal organs is the rigidity of the abdominal musculature, produced through the inflow into the abdominal cavity of blood and of the contents of the stomach and the intestines. This rigidity is only very seldom absent, and its presence with an accelerated small pulse, pale, pinched face, and vomiting, is a sign for an abundant hemorrhage from the liver, spleen, pancreas, intestinal arteries, etc. Rupture of the stomach quickly causes this rigidity; more slowly rupture of the intestines.

2. Sulphur Reaction in the Urine of Cancerous Patients.—Salomon and Saxl have found a reaction of neutral sulphur very constant in carcinomatous patients. The reaction exists in a qualitative demonstration of one of the urinary components belonging to the neutral sulphur group, whose sulphur can be demonstrated as barium sulphate through a mild oxidation with hydrogen peroxide. The authors found this reaction among forty-one carcinomatous patients thirty times positive; weakly positive, four times; undecided, once; and negative, six times, while 182 noncancerous patients, suffering from other diseases, gave a positive reaction six times; weakly positive, three times; undecided, once; and negative, 172 times.

5. Disturbances of the Inner Secretion in Pancreatic Patients.—Cohn and Peiser have found among five patients suffering from a diseased pancreas—three cases of acute hemorrhagic pancreatitis, one purulent pancreatitis, and one chronic interstitial pancreatitis—the following symptoms which indicated a disturbance of the internal secretion: Exophthalmos, Graefe's phenomenon, Moebius's sign, tremor and dermatographism, relative lymphocytosis, increased phloridzinglycosuria, and Kocher's sign.

8. So Called Cure of Bilharziasis with Salvarsan.—Looss warns against the use in bilharziasis of salvarsan, which drug has not proved at all successful in its treatment.

MEDIZINISCHE KLINIK.

January 14, 1912.

1. Anton Bum: Accommodation to Results from Accidents.
2. Hoffendahl: Diseases of Dentition.
3. Schuster: Complications in Typhus Abdominalis.
4. Placzek: Forensic Psychiatric Histories.
5. Bonaventura Scherwinzky: Stramonium Poisoning Giving an Initial Picture of Paralysis.
6. F. Bogner: Adamon, a New Sedative.
7. P. Jödicke: Oxyuris Vermicularis.
8. Keilpflug: Leucrol in Gynecology.
9. W. Kolle, M. Rothermundt, and J. Dale: Experimental Investigation of Therapeutical Effect of Mercury Preparation in Spirillosis of Fowl.

January 21, 1912.

10. W. Weygandt: Psychological Condition of the Tuberculous.
11. L. Lewin: The Use of Methyl and Other Alcohols.
12. Ludwig von Aldor: Technique and Indications of Rectoromanoscopy and Endoscopic Treatment.
12. Robert Wirtz: Technique of Iontophoresis of the Eye.
13. Georg Berg: Rare Foreign Bodies in the Urethra.
14. Goecke: Extirpation of an Aneurysm of the Popliteal Artery and Transplantation of a Piece of the Saphenous Vein.
15. L. Roth: Practical Experience with Hydropyrin-Grifa.
16. Walter Koch: Anatomy and Physiology of the Endocardial Motor Centres of the Heart.

WIENER KLINISCHE WOCHENSCHRIFT.

January 11, 1912.

1. Martin Haudek: Differentiation between Ulcer and Carcinoma of the Stomach in Röntgen Pictures.
2. Alfred Perutz: Antagonistic Effect upon Ultraviolet Rays of Photodynamic Sensitizing Fluorescent Chemicals.
3. Hans Heyrovsky: Mucous Membrane of the Stomach in Ulcer and Carcinoma.
4. B. Breitner: Cause and Nature of Goitre.
5. Fritz Rössler: Treatment of Trachoma with Carbon Dioxide Snow.
6. Kras: New Treatment for Tetanus.
7. Friedrich Kanngiesser: Pathology of the Julian Dynasty.

1. Differentiation between Ulcer and Carcinoma of the Stomach in Röntgen Pictures.—Haudek, in a very exhaustive article, remarks that the radiological differentiation between ulcer and carcinoma of the stomach consists in the proper interpretation of the typical photographs of these diseases which, according to the different pathologicoanatomical pictures, show certain distinctive points. As the examination of the motor function of the stomach divulges certain distinguishing features, the differential diagnosis will in many cases become much easier. Malignant degeneration of the ulcer cannot well be diagnosticated radiologically.

2. Antagonistic Effect of Photodynamic Sensitizing Chemicals upon Ultraviolet Rays.—Perutz has made experiments upon rabbits which show that methylene blue has absolutely no influence upon hematoporphyrin made sensitive through fluorescence, but that eosin increases the fluorescence. Fluorescent quinine bisulphate absorbs the ultraviolet rays internally as well as externally applied, even before they are absorbed by the hematoporphyrin, so that the light may have a prohibitive influence.

4. Cause and Nature of Goitre.—Breitner remarks that there exist springs with water which will produce goitre, although the chemical and bacteriological examination of such water has not produced any important results. He expects that further experimentation and observation will finally settle the question in the affirmative.

6. New Treatment of Tetanus.—Kras bases his new treatment of tetanus upon the well known fact that the attack is not the effect of the bacilli themselves, but of the toxines produced by them. The tetanus therapeutics must, therefore, fulfill two indications: First, it must kill the bacilli; and, second, it must eliminate the toxines from the blood and cerebrospinal fluid. He reports one case. The wound was severely cauterized under chloroform anesthesia and the cerebrospinal fluid entirely (*sic*) evacuated through a lumbar puncture. The canal was then thoroughly cleaned with a sterile physiological salt solution to which was added a 0.3 per cent. sugar solution. After this was again evacuated two hypodermic syringefuls of the same solution were injected. The puncture was then closed with iodoform collodion. By venesection 500 c.c. of blood were taken away for which the same amount of physiological salt solution was injected. The next day 300 c.c. of blood were taken away and the same amount of physiological solution with ten drops of digalen were injected. The cerebrospinal canal was again cleaned and reinjected. On the third day 250 c.c. of blood were taken and physiological salt solution injected and the cerebrospinal canal cleaned. In this form the patient was treated for six days, and on the twelfth day he left the hospital as cured!

ZEITSCHRIFT FÜR CHIRURGIE.

January 20, 1912.

Franz Kuhn: Meltzer's Method and Oral Intubation.

ZENTRALBATT FÜR CHIRURGIE.

January 27, 1912.

I. I. Grekow: Motor Insufficiency of the Stomach Due to Perigastritides of Gonorrheal Origin.

ZENTRALBLATT FÜR GYNÄKOLOGIE.

January 13, 1912.

1. E. Siemerling: Remarks on the Article of L. M. Bossi, of Genoa, on Gynecological Lesions in Suicidal Mania and Gynecological Prophylaxis against Suicide in Women.
2. S. von Tóth: Technique of Hysterotomies made for Drainage in Laparotomies.
3. G. Winter: A New View of Autointoxication.

January 20, 1912.

4. F. Engelmann: Technique and Doses of Salvarsan Injections in the Treatment of the Newborn.
5. A. Rieck: Amputation and Resection of the Uterus through the Vagina.
6. Rossa: Statistics of Eclampsia.

January 27, 1912.

7. F. von Neugebauer: Artificial Uncalled for Abortion.
8. P. Heinrichsdorff: Liver of a Patient Suffering from Eclampsia, Similar to a Nutmeg (Red Atrophic) Liver without Clinical Symptoms.
9. U. La Monica: A New Uterus Dilator.
10. S. Paskiewizz: A Case of Extrauterine Fetus Carried to Full Term.

1. Gynecological Prophylaxis against Suicide.—Siemerling criticises Bossi's statements and remarks that it is wrong to transfer gynecology into the psychiatric clinic; that is, he warns against gynecological operation for psychic disturbances; on the contrary, psychiatric diseases in women should be treated without operation along psychiatric lines.

4. Technique and Doses of Salvarsan Injections in the Treatment of the Newborn.—Engelmann remarks that the general opinion prevails that subcutaneous and intramuscular injections of salvarsan should not be made in the newborn, but should only be given exceptionally. Engelmann's experience teaches him that by correct technique the intravenous application of salvarsan in full term infants as well as in premature births should be the method of choice. In severe infections a rather large dose should be injected, that is, not under 0.04 gramme, and such a dose, from 0.04 to 0.1 gramme will have no detrimental effects on full term infants. In mild cases small doses should be used. In general, the injection should be repeated and should be supported by other antisyphilitic remedies.

THE ALIENIST AND NEUROLOGIST.

November, 1911.

1. Antonio Breglia: Observations on the Appearance of Myelin in Some of the Fascicles of the Columns of the Spinal Cord.
2. Martin W. Barr: Career of a Moral Imbecile.
3. Frederick Howard Wines: Studies in Heredity—Inbreeding.
4. A. Gregor: Pellagra and the Psychoses.
5. James G. Kiernan: Is Genius a Sport, a Neurosis, or a Child Potentially Developed?
6. T. D. Crothers: A Forecast of the Evolutions and Revolutions in Medical Education.
7. James G. Kiernan: Forensic Aspects of Fright Caused Traumatism.
8. Smith Ely Jelliffe: Notes on the History of Psychiatry.

2. Career of a Moral Imbecile.—Barr relates the interesting history of a high grade imbecile who was for a time an inmate of the school for feeble minded at Elwyn, Pa. He was essentially a moral pervert, but improved in behavior under the influence of the school discipline. Eloping from the school, his love for notoriety led to the vocation of sword swallower and glass eater, which he followed for years. He underwent at least sixteen operations for the removal of foreign bodies from the stomach. The author emphasizes the necessity of recognition and sequestration—not incarceration—of such patients, as they menace alike society and themselves.

6. Forecast of the Evolutions and Revolutions in Medical Education.—Crothers, in discussing the problems of medical education, states that the effort of the Carnegie pension board, so warmly welcomed at first on the supposition that it would break up the weak colleges and strengthen the larger ones, instead of being practical and evolutionary, promises unexpected revolutions and changes. The weakness and defects of the smaller colleges have come into prominence, and the dogmatism, scholastic stupidity, and faults of the larger schools loom up in startling proportions. The former can be corrected, but the great universities, with their traditional training, machinelike processes, leveling everything to certain fixed plans and rules, regardless of the requirements of scientific advance, present obstacles difficult to overcome. The author advocates the establishment of physical as well as mental requirements for medical students, and especially the development of practical preliminary training to supplant the aimless and largely useless preparation which the student now receives.

ANNALS OF SURGERY.

January 12, 1912.

1. L. S. Pilcher: Surgical Aspects of Membranous Pericolitis.
2. C. L. Gibson: Surgical Treatment of Colitis.
3. W. Korte: Surgical Treatment of Acute Pancreatitis.
4. W. J. Mayo: Incision for Lumbar Exposure of the Kidney.
5. Farrar Cobb: Epigastric Hernia, a Cause of Chronic Diarrhea.
6. G. G. Rose and L. Flegal Stewart: Sprain Fracture.
7. H. D. Collins: A Dressing for Fracture of the Clavicle.
8. Penn G. Skillern and H. K. Pancoast: Fracture of the Floor of the Acetabulum.
9. W. Bartlett: Clamp for Lining up Fractured Long Bones.
10. George P. Muller: Fracture of the Sesamoid Bones.

1. Surgical Aspects of Membranous Pericolitis.—Pilcher observes that the membranous veils which are found in certain cases covering portions of the bowel in the right iliac region may become thickened in limited areas, thus producing adhesions which may restrict the expansibility of the intestinal wall, or even bind down the gut at some point so closely as to narrow its lumen. Angulation of the appendix may result with symptoms of appendicitis; or kinking of the cecum, ascending or transverse colon, may occur, the membrane in two of the cases cited having bound the ascending colon and part of the transverse colon together like a double barrelled shotgun with a resulting sharp kink at the hepatic flexure. The symptoms produced depend on the degree of interference with normal function and circulation of the part affected. Discomfort or pain in the right iliac region with tenderness on deep pressure is common. Fecal stasis and resulting autointoxication may overshadow the local symptoms. The vicious train begins with chronic pericolitis, includes next constricting bands and restraining films, then fecal stasis develops, autointoxication ensues, and finally neurasthenia in one of its many forms crowns the process. In all cases of chronic gastric disturbance the condition of the cecum and its appendix should be carefully inquired into, and will often be found the root of the disorder. The cecum and ascending colon are connected by a train of lymphatics with the right kidney, and even a slight lesion of the intestinal wall would allow bacteria to pass with perhaps a resulting renal irritation or infection, or even a chronic nephritis. In many cases where kidney stone is suspected the radiograph shows not stone, but marked dilatation of the cecum and ascending colon and some downward displacement of the kidney. The major complaint would arise from the kidney, however, and persistent pain referred subjectively to the right kidney with some pus, blood, and casts in the urine, with negative x ray findings as to stone in the kidney and positive evidence of cecal stasis, should suggest active efforts to relieve the latter as the condition of fundamental importance. The skiagraph is of the greatest value in diagnosis. The bowels are emptied during the day by a dose of castor oil, and at 10 o'clock p. m. the patient receives a mixture of from two to four ounces of bismuth subcarbonate, six ounces of mucilage of acacia, and sixteen ounces of top milk. At 9 o'clock next morning a radiograph is taken and perhaps a few at later periods. The position of the cecum, colon, and flexures is readily seen, and kinks and ptoses are easily noted. A supplementary enema of bismuth may be given ten minutes before taking the picture. An exploratory incision is requisite fully to establish the conditions present, however. Simple ptosis of the cecum may cause symptoms similar to pericolitis, but can be remedied by suitable bandages, exercises, laxatives, and intestinal antiseptics, and these should be given a thorough trial before operation is considered. The operative treatment is to cut all confining bands and correct any demonstrable angulation, removing veils or membranes only if they constrict the bowel or interfere with normal peristalsis. All raw surfaces are to be covered in by peritoneum secured by sutures. Aftertreatment following operative recovery is along the same lines as employed before operation.

2. Surgical Treatment of Colitis.—Gibson affirms that the relief afforded by artificial anus in appropriate cases can only be partial unless a complete artificial anus is made, absolutely preventing fecal matter from reaching the colon. The eventual repair of the complete artificial anus requires a severe operation with a high mortality, and he feels that better results can be obtained by frequently flushing out

the large intestine, thus greatly diluting its irritating contents, and removing them from prolonged contact with the ulcerations. While recognizing the merits of appendicostomy, he thinks his own operation, which antedated appendicostomy, is useful in many cases where the appendix is not of a suitable size or position for the former operation. He makes an incision over the caput coli, which is then brought up, two Lembert sutures inserted half an inch apart, and the cecum opened between them. A soft catheter, 30° F., is introduced so that it projects well into the bowel, and sutures are tightly tied. Two superimposed layers are inserted to further infold the bowel. The ends of the latter sutures are used to suture and hold the cecum to the muscular aponeurotic structure. The infolding of the bowel around the tube forms a valve, and the tube may be inserted or withdrawn at will. Irrigation is begun after four days and persisted in till a cure is obtained. Saline solution may be used either as a continuous irrigation, escaping through a rectal tube, or by filling the colon to moderate distention, say three quarts, and subsequently evacuating it, repeating this every twelve hours, or oftener if indicated. Silver nitrate solution, one to 2,000, is used for ulcerations which need stimulation. Iodoform emulsion may be useful in the tuberculous form.

4. **The Incision for Lumbar Exposure of the Kidney.**—Mayo says that a lumbar incision for operation upon the kidney often does not give adequate exposure of the pedicle, since the greater part of the kidney lies deep beneath the rib margins, the twelfth rib being the chief obstacle to its proper exposure, and cutting of this rib gives a great increase in operating space. Mayo reviews 256 operations on the kidney, 203 of which were made through a lumbar incision, seven were transverse, and forty-six anterior transperitoneal. In fifty-one lumbar incisions the twefth rib was cut, and in thirteen of these the pleura was accidentally opened, this accident, however, causing no bad results in any case, nor collapse of the lung. In a number of cases during the past two years, he observed that as soon as the muscular and fibrous attachments, especially the quadratus lumborum muscle and the lateral arcuate ligament which binds the rib to the transverse process of the first lumbar vertebra, were divided, the rib could be retracted enough to allow easy exposure of the kidney and especially of the kidney pedicle, and the pleura could be pushed upward and avoided. In two cases, where the costal margin could not be sufficiently mobilized, the twelfth rib was broken by a lateral twist and pull of the hand, causing an incomplete fracture within its periosteal and muscular covering near the neck. In one very obese patient the rib was cut. The incision used varies from the ordinary lumbar incision only in relation to the exposure above and behind the angle of the posterior half of the twelfth rib. In operating on kidneys which are not greatly altered in size, or in which the alteration in size is due to fluid contents which can be evacuated, the lumbar incision is preferred. For those tumors of the kidney which present themselves as a distinct abdominal mass the anterior transperitoneal incision is best.

5. **Epigastric Hernia, a Cause of Chronic Diarrhea.**—Cobb reports a case of chronic diarrhea which, after resisting all forms of medical treatment for some months, was cured by operation on an epigastric hernia. Although such a hernia not infrequently gives rise to epigastric and abdominal pain, nausea, and vomiting, all aggravated by taking food or exercise, in this case these symptoms were entirely absent. Epigastric hernia is rare and is a small protrusion, usually no larger than a walnut, situated in the linea alba between the umbilicus and xiphoid cartilage. It usually contains omentum and rarely a small portion of the transverse colon. In Cobb's case the hernia was about three inches above the umbilicus in the median line. It was tense, gave an impulse on coughing, was irreducible, and not tender. After two and a half months in the medical ward, during which many and varied forms of treatment were tried, the final conclusion was that "this case was chronic diarrhea of doubtful etiology, and not amenable to treatment." Operation in which the hernia was reduced and the hernial orifice closed gave a perfect cure with no recurrence of either the diarrhea or hernia.

6. **Sprain Fracture.**—Rose and Stewart state that sprain fracture is important because it occurs mostly at or near joints, and that the condition formerly called severe sprain is sprain fracture. They demonstrated by experiments that in almost every instance where strong traction is applied to a tendon or ligament, the bone to which these are attached alone gives way. A history of sufficient injury, with a sharply localized area of swelling, and acute tenderness over a region of ligamentous or tendinous attachment means sprain fracture. The x ray is not essential, but will confirm the diagnosis. The external malleolus is probably the most frequent seat of sprain fracture, but such an injury is probably a part of the pathology of every dislocation. The treatment is to immobilize the seat of the fracture and the joint nearest it by plaster of Paris, the casts being removed after three weeks and moderate motion commenced. Lack of treatment and treatment as sprain (drug store treatment) provide many cases of chronic arthritis, deformity, persistent pain and weakness, and excessive callus formation. Nonunion, permitting the free bony tissue to catch between joint surfaces, can occur.

7. **A Dressing for Fracture of the Clavicle.**—Collins states that it is almost impossible to maintain an accurate reduction of the fragments following a fracture of the clavicle by ordinary fixation dressings, and some form of spiking or suture must be used to obtain perfect results. The future utility of the arm is so little impaired, however, even by faulty union, that resort to a fixation dressing is sometimes justifiable. The Sayre zinc oxide adhesive plaster dressing is the best in vogue at present, the lines of traction being ideal, but it has two great faults, 1, the plaster becomes an irritant in a few days, especially in stout people; and, 2, the body becomes adjusted to the dressing after a day or two, the full force of the traction is lost, and reduction no longer maintained. To meet these objections Collins has devised a heavy moleskin adhesive plaster dressing which, while more trouble-

some to apply and taking longer to become firmly adherent, is nonirritating. The lines of force are the same as those of the Sayre dressing, and are applied as follows: "First a piece of moleskin four or five inches wide and eighteen inches long is passed about the humerus as high up in the axilla as possible, and the ends, for about two inches of their length, caused to adhere to each other. Warming before applying facilitates adhesion. Where the ends are adherent to each other six holes are punched and eyelets inserted. A second strip, the same width as the first, is passed about the body, extending from the midline behind around the chest on the healthy side as far as, or even across the midline in front. The posterior end of this strip is turned over on itself for about two inches, and a similar row of eyelets inserted. The two rows of eyelets should be about six inches apart and an ordinary corset lace put in, this making it possible to pull back the shoulder as far as desired. A second piece of moleskin, about seven inches wide and a foot long, is applied over the healthy shoulder in the form of a cap, extending well down on the arm. (In order to secure a cap-like structure it is necessary to cut a dart in the moleskin.) The free ends are turned back on themselves and cut to a taper three inches wide, and a row of eyelets is placed in each end. The last piece of the dressing consists of a long strip three inches wide passed around the forearm of the injured side close to the elbow, one end extending up the front of the chest and one up the back. The ends are turned back on themselves, and each has a row of four eyelets. This strip should be lined with muslin so that there is no adhesive surface exposed except where in contact with forearm and elbow. A lacing joins this elbow piece with the shoulder cap in front and another is placed behind. These lacings permit the injured shoulder to be raised, or by tightening one lacing more than the other the elbow may be brought forward or back as desired." Cut and fit the pieces before warming, and avoid tightening the laces before the adhesive is thoroughly secured to the skin.

8. Fracture of the Floor of the Acetabulum.—Skillern and Pancoast describe four cases of fracture of the floor of the acetabulum. This injury is usually due to a fall from a height, the patient landing on the side and the greater trochanter receiving the bulk of the impact. The trochanter, unless the patient is old, is stronger than the acetabular floor, which is more apt to give way. The diagnosis is made by careful comparison of the two sides, measurements, rectal examination, which may show some bulging over the site of the acetabulum, and the x ray. The catheter will disclose injury of the bladder, if present, and injury of the bowel should be sought for and treated if found, and hemorrhage controlled. The fracture is then reduced and extension applied in the axis of the limb in conjunction with lateral traction upon the femoral neck. A cast is applied after a few days from the toes to the costal margin. After union is obtained massage and passive movements are employed.

10. Fracture of the Sesamoid Bones.—Muller calls attention to the rarity of fracture of the sesamoid bones, outside of the patella, only sixteen cases having been reported. Fourteen of these were in males. In his case the mishap was caused by having the foot trampled on while dancing, the acute symptoms being succeeded by residual soreness and tenderness and pain on walking. The x ray showed fracture of the tibial sesamoid bone with separation of the fragments, but no displacement. Excision of the fragments and suture of the tendon to the capsule entirely removed all pain and disability.

ARCHIVES OF PEDIATRICS.

December, 1911.

1. Henry Heiman: Albumin Milk as Contrasted with Other Milk Mixtures in the Treatment of Diarrheas of Children.
2. Francis Huber: Drainage Tube in Pleural Cavity. (Removed with Aid of Fluoroscopic Screen.)
3. Howard K. Hill: Spasmus Nutans, with Report of Four Cases.
4. J. T. Ullom: Case of Catarrhal Laryngitis Requiring Intubation.
5. Martin J. Synnott: Summer Diarrheas in Infants and Young Children.

1. Albumin Milk as Contrasted with Other Milk Mixtures in the Treatment of the Diarrheas of Children.—Heiman points out that the view that bacterial infection plays an important part in the diarrheas of children has gradually lost ground, the predominating factor being one or more constituents of the food which produce a disturbance in the metabolism. He then gives in detail the preparation of *Eiweiss* or albumin milk. His report is based on thirteen cases of diarrhea treated by this method to note its effect especially during the first five days. A comparison was made with cases of diarrhea dietetically treated along former lines. Of those fed on various milk mixtures only fifty per cent. showed improvement within five days, while seventy-one per cent. improved on Eiweiss. Of the severe cases 16.66 per cent. improved on various milk mixtures, as compared with thirty-three per cent. on Eiweiss feeding. The author's impression, based on the clinical observation of the cases, is that this dietetic method of treatment deserves a further and much more extended trial.

4. Case of Catarrhal Laryngitis Requiring Intubation.—Ullom reports three cases of his own and cites several others of simple catarrhal laryngitis with marked symptoms of obstruction. The first two cases resulted in death. An autopsy in one showed an inflammation involving the larynx and trachea, due to *Staphylococcus aureus*, and there were two small areas of bronchopneumonia. In the second the larynx and trachea showed moderate inflammation but no membrane, the thymus weighing twenty-five grammes. The third case, which ended in recovery upon intubation, was in a brother to one of those who died. The father and mother were subject to attacks of croup and laryngitis. The child was a little croupy all day and through the night, and the following morning was distinctly worse, having at noon a recession of the epigastrium and suprasternal notch, and slight cyanosis of lips and finger tips. The temperature ranged from 100° to 102.6° F.; respiration, 36 to 40; pulse, 120 to 140. There was no visible membrane. The dyspnea was distressing, so the writer intubated with immediate relief. The tube was left in three days, with uninterrupted recovery. Bacteriological examination of the intubation tube showed *Micrococcus catarrhalis* and *Bacillus subtilis*, but no Klebs-Loeffler microorganisms. The

author then discusses croup under the various heads, 1, laryngeal diphtheria; 2, catarrhal laryngitis; 3, laryngitis stridulosa; 4, laryngismus stridulus. He also cites cases of children with stridor, hoarseness, and inspiratory dyspnea, in which resection of the thymus gland has given relief. In conclusion, he says that he feels very strongly, since his experience with this case, that one should not hesitate to do intubation in any case of croup, if the symptoms are progressing unfavorably. If this fails he would turn to tracheotomy, finally doing the resection of the thymus if pressure by that gland can be demonstrated.

THE JOURNAL OF EXPERIMENTAL MEDICINE.

December, 1911.

1. Hideyo Noguchi: A Cutaneous Reaction in Syphilis.
2. John Auer and S. J. Meltzer: Status of Respiration in the Methods of Differential Pressure Compared with That under the Method of Endotracheal Insufflation.
3. J. A. E. Eyster: Studies on the Venous Pulse. II. Time Relations of Venous Pulse and Heart Sounds.
4. Fraser B. Gurd and W. Denis: Biochemistry of *Bacillus lepræ*.
5. Wade H. Brown: Relation of Hematin to Pathological Pigment Formation.

1. A Cutaneous Reaction in Syphilis.—Noguchi, after having obtained *Treponema pallidum* in pure culture, has engaged in experimental work along a line valuable to clinicians. As a result of the discovery of a specific cutaneous reaction for tuberculosis, Noguchi has attempted to obtain a specific reaction for syphilis by applying extracts obtained from the treponema to the skin of syphilitic patients. Giving the material used the name of lutein, the extract was made by grinding a portion of an agar growth of the treponema and by adding, little by little, a fluid culture of the organisms until the emulsion was perfectly liquid. This substance was heated to 60° C. for sixty minutes and 0.05 per cent. carbolic acid added. The animals first used were rabbits, the hair being shaved off at site of inoculation, and the injection was then made endodermically. In human subjects the skin of the upper arm was selected for the endodermic injection, 0.05 c.c. being used, the skin having been sterilized with an alcoholic sublimate solution. The animal inoculations were followed by a study of 400 human cases; of these 177 were of syphilitic nature, 77 parasyphilitic, while 146 represented various controls. In normal individuals there appeared, in the majority, after twenty-four hours a very small erythematous area at and around the point of injection, but no pain or itching. This reaction gradually receded within forty-eight hours and left no induration. The positive reactions occurred in three forms, *papular, pustular,* and *torpid.* In the *papular* type there appeared in twenty-four to forty-eight hours a large, raised, reddish, indurated papule, usually from five to ten millimetres in diameter. The dimensions and the degree of induration slowly increased during the following three or four days, after which the inflammatory processes began to recede. This effect was usually met with among cases of secondary syphilis under regular mercurial treatment in which there were no manifest lesions at the time of making the skin test. In the *pustular* variety the beginning and course of this reaction resembled the papular form until about the fourth or fifth day, when the inflammatory processes began to progress. A central softening of the papule could be seen; within twenty-four hours the papule changed into a vesicle that later became definitely purulent. The pustule ruptured, a crust formed, and the induration disappeared as the lesion healed. This reaction was found almost constantly in cases of tertiary syphilis as well as in cases of secondary or hereditary syphilis which had been treated with salvarsan. The *torpid* form of reaction showed in rare instances. In it the injection sites faded away to almost invisible points within three or four days, so that they might have been passed over as negative reactions. But sometimes these spots lighted up again after ten days or even longer and progressed to small pustular formation. Neither in syphilitics nor in parasyphilitics did a marked constitutional effect follow the endodermic inoculation of the lutein. In most positive cases a slight rise in temperature took place, lasting for one day. In three tertiary cases and in one hereditary case, general malaise, loss of appetite, and diarrhea were noted. Of the several conclusions drawn the following seem the more important: 1. That lutein produces a distinct cutaneous reaction in syphilitic and parasyphilitic patients that is most constant and severe in the tertiary and hereditary affection. In the foregoing series it was present constantly (100 per cent.) in the manifest tertiary affection, in ninety-four per cent. of latent tertiary, and in ninety-six per cent. of the hereditary affection. 2 During the primary and secondary stages the reaction is infrequent and when present is of mild degree. An exception has been found in cases in which energetic treatment has been or is being carried out and in which clinical signs of syphilis are absent. Such cases may show a severe reaction. Apparently this is true especially of the cases treated with salvarsan. 3. In certain cases of old infection, in which no treatment has been taken and in which no symptoms have appeared for many years, and in the course of which miscarriages have not occurred, the cutaneous reaction has failed to appear. But, despite the absence of symptoms, mothers who have young syphilitic children have usually given the reaction. 4. It appears probable that the Wassermann reaction is more constant in the primary and secondary, and the cutaneous reaction in the tertiary and latent forms of syphilis. Moreover, it appears that the Wassermann reaction is more directly and immediately affected by antisyphilitic treatment than the cutaneous reaction.

LARYNGOSCOPE.

December, 1911.

1. John J. Kyle: Cribriform Plate and Olfactory Nerve in Man and Certain Animals.
2. Otto Freer: The Inferior Turbinate; Its Longitudinal Resection for Chronic Intumescence.
3. Edgar A. Forsyth: Cyst at the Base of the Tongue.
4. J. A. White: Laryngoesophageal Fistula—Laryngostomy—Cure.
5. Richard H. Johnstone: Esophagoscopy.
6. Harris P. Mosher: Filling the Excavated Mastoid with a Flap from the Back of the Auricle.
7. H. B. Hitz: Anomalies of the Mastoid from a Surgical Aspect.
8. Henry A. Alderton: A Symptom of Mastoiditis.
9. W. C. Braislin: Sigmoid Sinus and the Jugular Bulb in Infancy.
10. Chevalier Jackson: Laryngeal, Bronchial, and Esophageal Endoscopy.
11. Fraenkel: In Memoriam.

2. Resection of Inferior Turbinate.—Freer objects to the radical procedure of turbinotomy in

cases of chronic intumescence of the turbinate bodies because of the resulting ragged wound, and suggests a submucous resection of the bone. After the usual preparation of the operative field by the application of adrenalin and cocaine, he makes a small vertical incision in front of the anterior end of the inferior turbinate with a myringotomy knife, and uses the same instrument to elevate the muco-periosteal covering on the convex inner aspect, as far as it may conveniently be made to travel. The sharp elevator of the author's septal set is then substituted, and the convex surface is denuded to the posterior end, and the flap reflected into the middle meatus. A chisel removes the bone close to its base, cutting through the membrane on the concave side, as well as through the bone, both of which are sacrificed. The caplike, thick mucosa of the posterior end still holding the bone is severed with the sharp elevator, the flap is replaced, covering the stump smoothly and completely, and a miniature turbinate body results, with no raw surface to which packing and scabs can adhere. A tampon dressing impregnated with powdered bismuth subnitrate, soaked in oil petrolatum, is introduced in layers. The packing is removed the next day, and the nostril is sprayed with an alkaline cleansing solution, followed by a protecting oil.

6. A Flap for Filling the Excavated Mastoid.—Mosher believes that a flap of soft tissue taken from the back of the auricle and placed in the bony cavity, which is produced as the result of the mastoid operation, shortens the period of healing, prevents deformity, and lessens the frequency of secondary operations. He proceeds by exenterating the mastoid cells and removing the posterior bony wall of the auditory canal, as in the radical mastoid operation, with the exception of a small bridge of bone external to the aditus. The auricle is bent forward over the tip of the left forefinger, and a semilunar strip of skin, not more than an eighth of an inch in width, is removed, which gives access to the soft tissues on the back of the auricle, and allows them to be dissected up as far as the cartilage into a large flap. The operative field is well dried, and the tip of the flap is placed in the lower part of the mastoid cavity, and otherwise adjusted. A small wick is run from the antrum and aditus, and the pedicle of the flap is tucked close up under it. Constant pressure upon the flap during suturing of the wound is necessary to prevent the formation of a blood clot, and consequent interference with the proper anchoring of the flap. The skin wound is completely closed, with the exception of the extreme ends of the incision, which permit the exit of small gauze drains.

AUSTRALASIAN MEDICAL GAZETTE.

December 20, 1911.

1. J. W. Barrett: Wassermann Reaction Results in the Victorian Eye and Ear Hospital for a Year.
2. M. H. Downey: Management and Treatment of Early Insanity.
3. C. Reissmann: Technique of Tuberculin Administration at Kalyra Sanatorium.
4. C. E. Todd: Meckel's Diverticulum as a Cause of Acute Intra-abdominal Conditions.
5. H. C. Taylor Young: Unilateral Twin Tubal Gestation.
6. J. B. Cleland: Contribution to the History of Disease in Australia.

3. Tuberculin.—Reissmann says, "The cases demonstrate that even among patients who are undergoing sanatorium treatment tuberculin does not cure every consumptive. Nevertheless, there are some striking instances of recovery. It must be remembered that many patients were apparently cured at the sanatorium before tuberculin was used, and I cannot say that the percentage of cures has increased, but I have a very strong impression that the total amount of improvement in the state of the patients' diseased lungs is greater since tuberculin has been freely used."

BRITISH JOURNAL OF DERMATOLOGY.

January, 1912.

Robert A. Bolam: Trichophyton Rosaceum.

Trichophyton Rosaceum.—Bolam says that this form of ringworm parasite is probably commoner than is supposed; he had seen sixteen cases in the previous fifteen months. Sabouraud, in his classical work *Les Teignes,* encountered it only eight times in several years among 800 cases; but it seems to be very prevalent in certain districts, so that Della Favera puts its frequency at four per cent. of all the trichophytons he studied in Italy. Cultured on Sabouraud's media it shows characteristic pinkish or pinkish yellow growths, and in the human skin this yellowish or yellowish red coloration is quite marked. In ten out of Bolam's sixteen cases the beard was affected, and in the others the exposed skin of the face, neck, hands, and arms was affected. The contagiousness of the parasite was shown by the fact that the cases recorded include two family groups, one of three and the other of four cases. It is supposed to be distinctly an animal infection, but careful search in the surroundings of these cases failed to reveal any source of contagion.

JOURNAL OF LARYNGOLOGY, RHINOLOGY, AND OTOLOGY

January, 1912.

1. George Wilkinson: Case of Melanotic Sarcoma of the Nose.
2. A. Onodi and Adolph Bronner: Diagnosis and Treatment of Conditions in the Accessory Nasal Sinuses Giving Rise to Oculoorbital Symptoms.

MEDICAL CHRONICLE.

January 1912.

James Randal Hutchinson: Presence of Typhoid Bacilli in the Stools and Urine during Enteric Fever and Afterward.

Typhoid Bacilli in the Stools and Urine.—Hutchinson presents a very valuable paper which had its inception in the occurrence of a "carrier" case of enteric fever, and a desire to ascertain, 1, in what proportion these cases existed among patients who had recovered from this disease; 2, what proportion of hospital treated patients were still excreting typhoid bacilli at the time of their discharge, and were liable to give rise to return cases; 3, how long they continued to excrete the organisms. It is very full of detail, describes carefully the measures taken and the tests made, dealing first with the examination of patients and the collection of material for bacteriological examination; second, with the examination of the materials obtained for the presence of the bacillus typhosus; third, with experimental confirmation of the identity of the organisms. Such a paper is very difficult to abstract

without transcribing it entirely, so we are obliged to content ourselves with presenting the author's conclusions. These are: 1. Two per cent. of typhoid fever patients become chronic bacillus carriers; 2, eight three tenth per cent. of patients are excreting the causal organisms at or about the time of their discharge from hospital; 3, six three tenth per cent. of these do not continue to be infective for more than one month from that time.

NOUVELLE ICONOGRAPHIE DE LA SALPÈTRIÈRE.

September-October, 1911.

1. G. Etienne and E. Gelma: Spastic Paraplegia with Flexor Contractures.
2. Noïca: Mechanism of Tabetic Ataxia.
3. A. Heimanowitsch: Curious and Rare Atrophy of the Spinal Cord and of the Medulla. Cerebrospinal Syphilis.
4. J. Rebattu: Novel Case of Achondroplasia.
5. J. Euzier and J. Delmas: New Observation in Achondroplasia.
6. C. Parhon and C. Vrechia: Polydactylism in the Insane.
7. D. Aka and Ch. Lafon: Raynaud's Disease Localized in the Nose and Ears and Erythromelalgia in an Infant.

1. Spastic Paraplegia with Flexor Contractures.—Etienne and Gelma report a case of spastic spinal paraplegia, with flexor contractures involving all of the extremities of the type described by Babinski in 1899.

3. Atrophy of the Spinal Cord.—Heimanowitsch describes a case of cerebrospinal syphilis with necropsy findings. Of special interest was the extensive atrophy found in the spinal cord, which the author considers was due, not to pressure or vascular changes, but to the toxines of syphilis.

JAHRBUCH FUR KINDERHEILKUNDE.

December, 1911.

1. Hans Vogt: Chronic Bronchiolectasis.
2. Albert Niemann: Complete Metabolism of an Artificially Fed Infant.
3. E. Rach and A. v. Reuss: Etiology of Cystitis in Male Infants.
4. V. Salle: Influence of Elevated Temperature on the Secretory Function of the Stomach.

3. Etiology of Cystitis in Male Infants.—Rach and von Reuss call attention to the fact that infection of the bladder may take place in three ways: 1. Ascending infection through the urethra; 2, through blood stream from kidney; 3, passage of bacteria directly into bladder through intestine. In females infection usually takes place through the urethra. In males, on the other hand, infection does not take place through the urethra, but either by means of the blood stream from the kidney and then to the bladder, or directly into the bladder from the intestine. According to Escherich, infection from the intestine to the bladder is the more common means of infection. Infection through the intestine always means an enteritis before the bladder becomes involved. The authors report four cases of cystitis with complete autopsies. In three cases infection took place through the intestine. The organisms which caused the cystitis were *Bacillus bifidus communis* and a paracolibacillus in one case; *Paracoli bacillus* in the second; *Bacillus proteus* in the third. In these three cases a severe enteritis preceded the cystitis, and there is no doubt in the authors' minds that infection took place from the intestines. The fourth case was one of tuberculosis. Here infection is supposed to have taken place from the lungs by means of the blood stream.

Proceedings of Societies.

THE SECOND INTERNATIONAL UROLOGICAL CONGRESS.

Meeting Held in London, England, July 24 to 29, 1911.

The President, Dr. John Van der Poel, of New York, in the Chair.

The Results of Prostatectomy.—Dr. H. H. Young reported 580 prostatic operations, 450 perineal prostatectomies (his operation of choice), forty-five suprapubic prostatectomies, and eighty-five Bottini operations. Among 484 patients (450 benign, thirty-four cancer) operated upon perineally, thirteen were more than eighty years old, seventy-five more than seventy-five, 171 more than seventy years.

Fifty-six cases were healed in less than twenty-one days, in but four cases was a fistula still present. As to length of stay in hospital, four per cent. were discharged during the second week, thirty-one per cent. during the third week, sixty-four per cent. during the fourth week, and but 5.5 per cent. remained more than two months. As a rule the patients were out of bed the third day after operation.

Out of 450 cases it was possible to get information from 331, who were still living. Of these 331, in all but twenty-six the lapse of time since operation was over six months. The majority of these 331 had polyuria (particularly nocturnal), but seventy-two patients did not have to rise at night to urinate; 231 had to urinate but once or twice at night. All but twelve per cent. retained their urine three hours or more during the day. With the exception of the four cases mentioned, the operative results were nearly perfect. There was no case of complete incontinence, dribbling night and day. There were but two cases of rectourethral fistula.

Of 251 cases operated in a year or more ago, it was stated by 133 patients that their sexual powers were about normal before operation; of these, seventy-eight (fifty-nine per cent.) stated that there had been a complete return of sexual powers, and in 100 (seventy-five per cent.) erections had returned. Young believed that preservation of the urethral floor, ejaculatory ducts, and verumontanum had a distinct effect in preserving sexual powers.

Seventy-nine patients had died since leaving the hospital; two lived seven years; four lived six; five lived five; five lived four; five lived three; fourteen lived two years; eight lived eighteen months; eleven lived twelve months; nine lived six months, and twelve lived less than six months.

As to operative mortality, in 450 benign cases of perineal prostatectomies there were seventeen deaths, or 3.77 per cent. In twelve of these cases, with care and the present means of examination and preliminary treatment, the fatalities might have been avoided; and in five death was unavoidable. The phenolsulphonephthalein test gave most important information as to the functional capacity of the kidneys, which was the most important point in determining whether the patient with prostatic hypertrophy could be operated upon safely. In one out of five cases of prostatic enlargement carcinoma

was present; of six radical excisions of the prostate, seminal vesicles, and the bladder neck, two patients were still well, one six years and one two years after operation.

Dr. E. ZUCKERKANDL began by stating that a totally hypertrophied prostate did not exist. A sagittal section of the enlarged gland showed that the tissue lying anterior to the vasa deferentia and corresponding to what was known as the median lobe, was principally affected. The urethra was lengthened only from the verumontanum to the bladder. The lateral lobes and the anterior and posterior commissures were compressed and represented what was usually regarded as the capsule of the prostate. The part to be extirpated was the middle lobe, together with gland tissue surrounding the urethra.

Of ninety-seven patients studied, some had complete, other incomplete retention; ninety-four were operated upon, fifty-two suprapubically and forty-two perineally, with a mortality of seventeen per cent. In the patients operated upon perineally there was a mortality of 9.5 per cent., and those operated upon suprapubically a mortality of twenty-three per cent.

Six deaths were due to disease of the respiratory organs; five to disease of the kidneys. These patients died notwithstanding a careful preliminary examination of the kidney function. Three deaths were due to hemorrhage, one of the greatest dangers of the operation. Bleeding might be slight at operation, but very serious afterward. Patients with chronic nephritis seemed to show a special predisposition to hemorrhage.

Urinary incontinence resulted in five cases after the perineal operation. The suprapubic operation did not impair the sexual function, whereas the perineal operation did. Strictures of the urethra following prostatectomy were rare. The prostatic urethra, neck of the bladder, and trigonum were restored so completely after a prostatectomy that in cystoscopic and urethroscopic examinations no abnormity could be detected. Disturbances in urination, including retention, dysuria, dribbling, were permanently removed by prostatectomy. No recurrences had so far been observed after a lapse of eight years. From an anatomical point of view the suprapubic operation, in spite of its high mortality, was to be preferred to the perineal operation.

Extensive Resection of the Bladder.—Dr. T. ROVSING remarked that the three conditions called for extensive resection of the bladder were exstrophy, tuberculosis, and tumor; for exstrophy resection was indicated only exceptionally; for tuberculosis if the bladder lesion was an extension from the seminal vesicles. Neoplasms, both benign and malignant, constituted the usual indication for extensive bladder resection. It was impossible to decide before operation whether a bladder tumor was benign or malignant.

As to villous papillomata, he thought that, 1, intravesical operations, cauterization with the aid of the cystoscope, were improper and dangerous methods, because it was impossible to decide if a tumor was malignant or not; 2, suprapubic exploratory cystotomy should be performed to ascertain whether the mucous membrane alone was involved or whether the tumor had gone deeper. Extensive resection of the mucous membrane was the treatment for diffuse papilloma. In carcinoma, on the other hand, we must decide between partial resection and complete extirpation of the bladder, while total extirpation gave the best chance of radical cure. The high mortality and difficulties of disposing of the ureters deterred us from performing this.

As far as partial resection was concerned, up to 1895, ninety-six cases had been operated in with a mortality of 21.8 per cent. Of the seventy-five survivors, twenty-five could not be traced; of the remaining fifty, there were but five who lived three years or more. One of these lived six years after operation. In an additional series of sixteen cases, including cases of the author, the mortality was 18.7 per cent. The figures of total extirpation were: Of fifty-eight patients twenty-nine died as a result of operation; five within twenty-four hours, from shock; three of peritonitis; twelve of pyelonephritis. In thirteen cases the ureters were implanted into the wound; eight of these patients died immediately; three died within three and one half months; two lived for fifteen months. In twenty-two cases the ureters were implanted into the intestines; fourteen of these patients died immediately. Vaginal implantation was done nine times, with four immediate deaths. Of the five patients who recovered, one remained alive fifteen years. Implantation of the ureters into the skin was performed in fourteen cases with only three patients' deaths. Of these fourteen cases, ten were done after the author's method, lumbar ureterostomy, with two deaths. This was therefore the method of choice. Its mortality (twenty per cent.) was lower than that of partial resection. The fate of patients who survived the operation was always questionable; the chief source of danger being ascending infection of the kidney.

Extensive Resection of the Bladder.—Dr. H. FENWICK advised that a single and apparently benign papilloma should be removed with the mucous membrane about its base, while multiple growths were probably malignant and required resection of the whole thickness of the bladder wall.

The operative indications of infiltrating carcinoma were: 1. Any thickening or infiltration of the bladder detected by the finger in the rectum, contraindicated operation. 2. Resection was adapted only to single, sharply defined cancer of the upper third of the bladder. 3. Free removal of the entire wall of the bladder affected by a single hard, sharply defined cancer of the middle third of the bladder (front or side walls) in an early stage, might give five years' life. 4. No cancer of the bladder base, hard or soft, could be resected if the submucous or muscular layer was infiltrated. A single, hard, sharply defined movable epithelioma of the mucous membrane away from the orifices of the bladder might be excised and afford relief for two years, but no resection of the entire thickness of the bladder was possible here. 5. Soft cancer of the bladder, wherever situated, was quite inoperable except by total cystectomy. 6. Cures must be verified for ten years. 7. Fenwick's death rate for papillomata was two per cent., and for all tumors seven per cent.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting Held at the Academy of Medicine, 17 West Forty-third Street, February 1, 1912.

The President, Dr. William M. Polk, in the Chair.

(*Concluded from page 308.*)

Now for the reasons why it was advantageous for maritime quarantine to be under National supervision.

1. Uniformity of quarantine regulations and quarantine procedure. An extensive paper might be written upon this subject alone, but he had only time to point out that it was of distinct advantage, year in and year out, both for the commercial and sanitary interests, for the quarantine functions to be operated by one corps of officers under one set of laws and regulations. The tendency under these conditions was to have every one affected by quarantine laws, that was the quarantine officers, the municipal or local health authorities, and the mercantile marine interests, develop among themselves the work along the lines under consideration. It must mean a great deal to the maritime interests to be familiar with what was required of them, and to know that once they were familiar with the quarantine operations in one port it applied to all ports alike, and it was of great advantage to the quarantine officers to know that the mercantile interests understood the code under which quarantine was administered. There was no doubt that by the team work which was possible under these conditions much time could be saved, which was equivalent to saying that much money would be saved, to say nothing of the advantages which accrued to the public through the prevention of the introduction of quarantinable diseases, with as little embarrassment as possible to commercial and social intercourse.

2. The treasury department by correlating the work of its customs division and revenue cutter service division with the quarantine was able to furnish the latter with the maximum amount of assistance and dispatch.

3. The national quarantine establishment was in direct touch with all parts of the world through the courtesy of the State department and its consular bureaus, and published a weekly *Bulletin* devoted to sanitary reports and statistics. While the State quarantine officers had access to these bulletins, they could not possibly be in such close touch with the sanitary conditions of the world as could the officers of the Public Health and Marine Hospital Service.

4. The quarantine officers in the national service were appointed for life, considered themselves residents of no place in particular, and were nonpartisan in the performance of their official duties. Their time and their mental activities were devoted to their work and they were not disconcerted by fear of removal from office. Their acquired knowledge of marine architecture, nautical usage, and maritime conditions enabled them to adjust, in perhaps a judicial way, the many differences of opinion and difficulties which arose in the enforcement of quarantine laws upon maritime commerce. A quarantine officer might be ever so well versed in the diagnosis of quarantinable disease and in the technical treatment of the vessel, but if he had not the knowledge of the manners and customs of seafaring men, of the difficulties under which vessels were run, of the necessity for saving time to vessels, of the necessity of not being arbitrary in the face of adverse winds, weather, lack of coal and water supply, and other conditions which must be faced in connection with this work, the usefulness of such an officer in the long run would be extremely doubtful.

It had been the endeavor of the service to create a genus which might be termed a *quarantine officer,* which, in the broad sense, would designate a well appointed medical man, versed in maritime conditions and usage, and gifted with executive ability and tact. Fortunately the service at this time had a number of such men, and when a man of this kind was needed in a particular place his services were immediately available.

5. Previous mention had been made of the supplemental quarantine work invariably performed by medical officers of the service engaged in the medical examination of arriving aliens. This was again mentioned as an important factor in the advantages of the national control of quarantine. In other words, the public at large, the maritime interests, and the quarantine function at a given port must receive in the long run great benefit from having both the quarantine and immigration examination conducted by the same set of officers in a uniform manner.

6. In the matter of expense, it would appear that if a State would ask the nation to conduct its quarantine service, simply to save money, the only benefit to accrue would be to the maritime interests and to the individual State. On the other hand, if a State would elect to transfer the quarantine function to national control, in order that the money previously spent for maritime quarantine purposes could be diverted for the betterment of intrastate sanitary conditions, then this reason alone would seem sufficient for every State turning its maritime quarantine over to the nation as a whole. It might be mentioned as a reason for national control of quarantine, that no fees were charged to vessels, either for inspections or for quarantine treatment. This fact might be of some interest to the steamship companies, and would doubtless be given by them as an important reason for national, as against State control. From a service standpoint this was considered of no consequence, for the reason that this question should be viewed in its broadest sense.

7. An important feature in connection with the national control of quarantine was the fact that the subject was being closely studied from many standpoints, and the hygienic laboratory at Washington was being called into constant use for the purpose, not only of giving technical instruction to officers as above mentioned, but in simplifying the regulations and restrictions in accordance with the growth of knowledge as to quarantinable diseases and their methods of transmission. Then again, by the intimate touch with which the bureau at Washington kept the work going on at the various quarantine stations, the carrying out of quarantine regulations by rule of thumb methods was being discarded and quarantine at individual ports, indeed, at times on individual vessels, was being carried out with spe-

cial reference to the actual conditions existing at the time.

The speaker felt that he must bring his paper to a close, because it was almost unfair to say this much without saying more, for the reason that the subject was a very broad one, and on account of the fact that quarantine as a function was so little understood, a discussion of the subject should be more in detail than was possible in the ordinary time given to the reading of the paper. However, if he had given even a general idea of the views which they held in Washington in regard to this matter, he should be satisfied, and in any event he desired to thank his auditors for their kind attention.

The Question of State or Federal Quarantine.—Commissioner WILLIAM WILLIAMS, of Ellis Island, remarked that quarantine questions had at various times engaged the attention of the courts. This interesting extract from an opinion of the Supreme Court in the case of Morgan S. S. Co. v. Louisiana Board of Health, 118 U. S., 455, was worth noting:

> For the period of nearly a century since the Government was organized Congress has passed no quarantine law, nor any other law to protect the inhabitants of the United States against invasion of contagious and infectious diseases from abroad; and yet during the early part of the present century for many years the cities of the Atlantic coast from Boston and New York to Charlestown were devasted by yellow fever. In later times the cholera has made similar invasions; and the yellow fever has been unchecked in its fearful course in the Southern cities, New Orleans especially, for several generations. During all this time the Congress of the United States never attempted to exercise this or any other power to protect the people from the ravages of these dreadful diseases. No doubt they believed that the power to do this belonged to the States.

In the course of the opinion the court further said:

> Whenever Congress shall undertake to provide for the commercial cities of the United States a general system of quarantine—*all State laws on the subject shall be abrogated*, at least so far as the two are inconsistent. But until this is done the laws of the State on the subject are valid.

The relations of the State and Federal Governments as regards quarantine matters were somewhat similar to those prevailing in bankruptcy matters. Recently the Federal Government had enacted a bankruptcy law which superseded all State laws.

The question whether quarantine should be managed by the Federal or State Government seemed to him to be a one sided one. He had yet to hear a valid argument advanced why in New York, as almost everywhere else in the United States, it should not be in the hands of the Federal Government. The question had an administrative and a medical side. Any remarks of his presupposed that the State could and would do the *medical* work as well as the Federal Government. But it was in the interest of good administration that it be done by the Federal Government because itself a matter national in character. This was shown in many ways. International conventions existed concerning quarantine matters. Indeed, without the best cooperation of other governments the best results could not be obtained. Furthermore, the whole country, not simply New York State, was interested in the execution of quarantine regulations at our port. To refer only to the immigrants that came through it, of some 850,000 who arrived in 1910, more than two thirds went to places outside of New York State. And since the question was national in character, there was incidentally no reason why citizens of the State of New York should bear the financial burdens of a quarantine which served the whole country.

The Federal Government already carried on an enormous amount of medical work. Some of its medical agencies outside of the War and Navy Departments included the Public Health and Marine Hospital Service, the medical officers of the Revenue Cutter Service, Pension Office, the Indian Bureau and Old Soldiers Homes, the Government Hospital for the Insane, and the Bureaus of Entomology and Chemistry. Not only did it conduct the quarantine work at all but three or four ports of the United States, but even at those ports where the State had charge of this work the Federal Government must under existing statutes supervise its performance thereof, and intervene where it was unsatisfactorily done. This duty of supervising might readily result in friction. Besides, incidentally the regulations of Boston and New York (both under State control) might differ, and different supervision be required at the two places. Congress was now considering the union in one bureau or department of all Government medical agencies outside of the War and Navy Departments, and it would seem as a proper preliminary to this that it should gather in all quarantine stations.

The commissioner proceeded to mention some other matters to show to what extent the Government was already in this business. It sent its surgeons abroad to study and report on health conditions. Then there was the "Passenger Act," an important measure about which very few people knew, requiring certain sanitary arrangements to be maintained on board ships, both American and foreign, and proper food to be supplied. Its provisions hung very closely together with and were intended to facilitate the execution of the quarantine regulations. Lastly, we came to Ellis Island. There we had a very substantial medical establishment. The surgeons, nurses, and attendants numbered over 100, and the hospitals were of fine modern design and equipment. A vast amount of medical work was done there, for they inspected all immigrants, sometimes a million a year, with reference to every physical and mental defect not covered by the quarantine laws. Ellis Island was a second line of defense, and any quarantinable disease which might escape the notice of the quarantine authorities would be held by their surgeons. Included in the diseases which operated to exclude immigrants were all of a dangerous, contagious, or loathsome character. In one respect the work of the quarantine and immigration officers overlapped. Two years ago the health and immigration authorities of New York agreed that good administration called for the removal at quarantine of patients suffering from such acute infectious diseases as measles, scarlet fever, and diphtheria. But a number of measles cases broke out between the time immigrants left quarantine and reached Ellis Island, and such cases were now cared for by the Federal Government in its own hospitals.

The commissioner closed by saying that the Federal Government should perform those functions of government which were national in character, and from every point of view the business of managing quarantine at the great port of New York was national in character.

Letters to the Editor.

THE TEXAS ENDEMIC.

SAN ANTONIO, TEXAS, *February 1, 1912.*

To the Editor:

You have doubtless heard of the endemic of cerebrospinal meningitis in Texas—especially in the northern part of the State.

Diplococcus intracellularis meningitidis is such a mysterious entity that it has occurred to me that perhaps it is working under an alias and is really the gonococcus itself, slightly modified by adverse (to it) conditions. Its resemblances to *Micrococcus gonorrhœæ* seem to outnumber its differences.

Micrococcus gonorrhœæ doubtless finds its way into the surface soil, is dried and blown about in the dust, and we all have the doubtful privilege of breathing it in. As dust and surface soil are not the preferred habitat of this micrococcus, perhaps it finds sweet revenge in changing its name to *Diplococcus intracellularis meningitidis* and making a straight dive for our brains and spinal cords via the nostrils.

I submit the suggestion to your consideration, and to the consideration of such of your readers as have the opportunity for detecting such mischievous aliases.

EMMA T. MILLER, M. D.

Book Reviews.

[*We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.*]

Diseases of Infancy and Childhood. Their Dietetic, Hygienic, and Medical Treatment. A Textbook Designed for Practitioners and Students in Medicine. By LOUIS FISCHER, M. D., Attending Physician to the Willard Parker and Riverside Hospitals of New York City, Attending Pediatrist to the Sydenham Hospital, etc. Fourth Edition. With Three Hundred and Eight Illustrations, Several in Colors, and Thirty Full Page Halftone and Color Plates. Philadelphia: F. A. Davis Company, 1911. (Price, $6.50.)

The prime object of Doctor Fischer's book has been to bring home to the general practitioner the recent thought and latest methods of examination. It shows evidences of much improvement over the previous editions. The chapter on infant feeding has been remodeled and an article on fat, sugar, and proteids added. The teachings of Czerny, Langstein, Finkelstein, and Meyer are ably summarized.

Infant feeding, the bugbear of the physician with family practice, has been rewritten from a practical standpoint. Malt soup preparations, buttermilk feeding, and casein milk are some of the forms of feeding for abnormal cases recommended. Atrophic and marasmic disorders of infancy receive special attention. The new article on faulty metabolism embodies the latest thought in research work. Infantile stools are discussed and their significance as a guide to the proper method of feeding is dwelt upon.

To differentiate pyloric spasm from true hypertrophic pyloric stenosis, the author has added an article illustrating a miniature duodenal bucket for determining the patency of the pylorus. The section on cerebrospinal meningitis with especial reference to both the intraspinal and endocranial methods of using the Flexner antimeningitis serum is one of the strongest articles in the work. In this chapter the author has dwelt at length on the diagnostic value of lumbar puncture. He describes the various types of infectious meningitis due to the diplococcus and also to the influenza bacillus. The article on tuberculosis with especial reference to modern methods of therapeutics is up to date. The new section on the diagnosis of syphilis includes the Wassermann reaction and the treatment by the injection of salvarsan ("606"). Acute poliomyelitis has been rewritten, with especial reference to the latest methods of treatment. A new treatment of erysipelas by the use of Epsom salt, in vogue at the Willard Parker Hospital, is given.

Many illustrations have been added. We note an especially good anatomical plate in the article on suppurative meningitis. Other illustrations on sprue, scarlet fever, and syphilis have been introduced.

The book is well adapted as a textbook in the medical colleges as well as for the general practitioner.

Traité de désinfection. Historique, généralités, législation, agents et appareils, contrôle, pratique de la désinfection, désinfection municipale et départementale, stations de désinfection. Par FRANÇOIS COREIL, directeur, et VICTOR DEVILLE, médecin, du Bureau d'Hygiène de la Ville de Toulon. Préface de M. A. CHASSEVANT, professeur agrégé a la faculté de médecine de Paris. Paris: Jules Rousset, 1911. Pp. xi-647.

Within a compass of 623 pages the authors give a very complete presentation of the subject of disinfection and disinfectants. As stated in the preface, the purpose of this book is to give to sanitarians and physicians such information as is necessary to carry out measures both for prophylaxis and for combating disease by means of disinfection. Inasmuch as both of the authors are men of much experience, Doctor Coreil being director of, and Doctor Deville physician to the Bureau of Hygiene of Toulon, the book consequently can be considered as one carrying weight.

In addition to extended discussions of the ways and means of performing disinfection, much space is given to the presentation of the many rules and regulations that are employed by the French government. Practically speaking, the subject matter can be grouped under three headings, scientific, technical, and administrative.

The first part, consisting of eighteen pages, gives a brief historical résumé of disinfection and a short chapter on its general purposes. The second part of 100 pages is given to legislative matters and to rules and regulations concerning disinfection. Copies of the various decrees and instructions issued by the French government are also given quite fully. Some 250 pages are devoted in part three to agents of disinfection and the apparatus used in their employment. Several short chapters deal with the physical agents, and a long chapter with chemical agents, both of mineral and of organic origin, and a description of their several methods of use. Then comes a presentation of gaseous substances used in disinfection and of the apparatus required. The fourth part gives a brief review of the means used in controlling the action of disinfectants. The fifth part takes up the methods of disinfection of houses, of sputum, feces and urine, of books, clothes, etc. In this part are found a short chapter on disinfection in the army, another dealing with the veterinary aspects, and one on maritime disinfection. In this latter, methods for the destruction of rats in vessels are reviewed. The sixth and last part is devoted to descriptions of various disinfecting stations.

The one criticism that can be made, is that many of the illustrations are not as clear and cleanly cut as they should be. With that exception the book is one that can be highly recommended, not only on account of the presentation of the scientific and technical side, but also because much administrative detail is given

Minor and Emergency Surgery. By WALTER T. DANNREUTHER, M. D., Surgeon to St. Elizabeth's Hospital and to St. Bartholomew's Clinic, New York City; Ex-House Physician and Surgeon, Jersey City Hospital, etc. Illustrated. Philadelphia: W. B. Saunders Company, 1911. Pp. 226. (Price, $1.25.)

The author's chief purpose in writing this small volume was to help the hospital interne in meeting the emergencies associated with his position and to guide him in his practical every day hospital work.

The writer has tried to crowd into a very small volume two very large subjects, either one of which should have double the space for their proper presentation. In attempting to cover so much ground the author has defeated his own purpose of giving practical details in the different topics considered.

One half of a page devoted to the treatment of fractures of the spine cannot teem with practical points in the treatment of this important emergency. If the book is supposed to cover the field of emergency surgery as its name implies we should expect some mention of other varieties of emergency besides wounds, injuries of joints, fractures, burns, and acute pyogenic infections. Head injuries outside of fractures of the skull, injuries of the thorax and abdomen, acute abdominal emergencies surely deserve mention in a book on emergency surgery. They certainly come under the eye of a busy hospital interne more frequently than chilblains, to which the author devotes a generous amount of space.

The book is a compilation of ill assorted subjects. Many of the statements seem to have the impress of reading rather than of practical experience. If tne amount of practical information is compared with that of theoretical instruction, the latter would seem to nave too large a percentage of space in a book which asserts that it is intended for a hospital interne who has just emerged from four years of theory and who is seeking a practical application of his knowledge. He is familiar, for example, with the pathology of surgical inflammations and infections, burns, or shock, and does not need to have them described to him again in a short practical book such as this is supposed to be. On the other hand, for "the general practitioner and even the specialist as well as the surgeon," whom the author also wishes to derive benefit from the book, the theoretical as well as the practical part of the work offers nothing that is not found more authoritatively given in the standard textbooks on surgery.

Handbuch der Hygiene. Unter Mitwirkung von Dr. R. ABEL, Berlin; D. J. BOETHKE, Berlin; Prof. Dr. C. FRÄNKEL, Halle: Prof. Dr. E. FRIEDEBERGER, Berlin; Prof. Dr. U. FRIEDEMANN, Berlin; Dr. H. A. GINS, Frankfurt a.M., et al. Herausgegeben von Prof. Dr. M. RUBNER, Berlin, Prof. Dr. M. VON GRUBER, München, und Prof. Dr. M. FICKER, Berlin. I. Band. Mit 134 Abbildungen und 1 Tafel. Leipzig: S. Hirzel, 1911. Pp. viii-788.

The first of the four volumes of the Textbook of Hygiene that are to be issued contains the following chapters: Introduction, M. von Gruber; History of Hygiene, M. Rubner; Study of Metabolism and Nutrition, M. Rubner; Food and Drink, J. Mayrhofer; Air, A. Lode; Hygiene of the Soil, W. Prausnitz; Temperature, M. Rubner; Clothing, M. Rubner; Bodily Exercise, F. Hueppe; Climate, A. Lode.

In the introduction Dr. von Gruber reviews interestingly the essential features of hygiene, particularly its effect upon the well being of all classes and races. How the death rate has fallen in all civilized lands and how, likewise, there has been an improvement in the general health. The greater part of the chapter is, however, devoted to a refutation of Karl Pearson's theories concerning the slight influence exerted by nature and hygiene upon the individual. Dr. von Gruber states that the figures given are questionable and are opposed to the experiences of many. He lays great stress upon the higher bodily averages, greater height, weight, chest measurement, and capacity, in the children of the well to do than in the offspring of the poor and ill nourished. He also holds that the diminished death rate of all classes is due partly to the increased resistance of the individual resulting from the improved hygiene of the present day.

The second chapter gives in some twenty pages a pleasing résumé of the history of hygiene, showing how in its earliest days it developed independently of the teachings of medicine. Starting some 4,000 years B. C. in the Babylonian-Assyrian period, then being carried onward in Egypt, Rome, and Greece, up to the middle ages with the beginnings of scientific investigations in the fifteenth century. From then on many well known names are mentioned, but beginning with the year 1800 the list of men famous for their works markedly increases, Duchatelet, Pettenkofer, Henle, Pasteur, and so on.

The remaining chapters do not admit of abstracting, but under their separate headings take up in thorough going detail the subjects mentioned. One hundred and thirty-five pages, constituting the third chapter, are given up to metabolism and nutrition, in which are discussed the general features of nutrition, manifestations of energy, metabolism, the influence of food upon the body, and the practical teachings of the study of nutrition.

The fourth chapter, of 196 pages, takes up the various forms of food, animal and vegetable, and beverages, such as coffee, tea, chocolate, wine, beer, and liquors.

In chapter five some 140 pages are devoted to the air, its gaseous composition, both normal and abnormal, the presence of foreign particles, its warmth, pressure, and movements and humidity.

Chapter six in about 40 pages discusses the bearing upon existence of the conditions of the soil, its composition, amount of water present, presence of microorganisms, its bearing upon house building, interment of the dead, etc.

Two short chapters on temperature and clothing, an interesting presentation by F. Hueppe of physical exercise, and a chapter on climate by A. Lode complete the book.

This first volume contains a great amount of valuable information interestingly put and should be in the possession of those who are concerned with the problems of hygiene.

NEW PUBLICATIONS.

Saleeby, C. W.—Surgery and Society. A Tribute to Listerism. New York: Moffat, Yard & Co., 1912. Pp. vii-395. (Price, $2.50.)

Guthrie, Charles Claude.—Bloodvessel Surgery and Its Applications. Illustrated. London: Edwin Arnold; New York: Longmans, Green, & Co., 1912. Pp. xv-360. (Price, $4.50.)

James, Alexander.—Pleurisy. Including Empyema and Bronchiectatic Conditions. With Illustrations. New York: William Wood & Co., 1911. Pp. xi-243. (Price, $2.25.)

Sommer, Robert.—Klinik für psychische und nervöse Krankheiten. VI. Band. 4. Heft. Halle a. S.: Carl Marhold, 1911. Pp. 385.

Schüller, Arthur.—Röntgen-Diagnostik der Erkrankungen des Kopfes. Mit 50 Abbildungen im Text, 5 photographischen Tafeln, und 5 dazugehörigen Skizzenblättern. Wien und Leipzig: Alfred Hölder, 1912. Pp. vii-219.

Shakespeare, William.—The Tragedy of Coriolanus. Edited by Stuart P. Sherman, Ph. D., Professor of English in the University of Illinois. (The Tudor Shakespeare.) New York: The Macmillan Company, 1912. Pp. xxii-191. (Price, 35 cents.)

Alderson, Wilfred E.—Dental Anesthetics. A Textbook for Students and Practitioners. With a Contribution on Analgesia by John Bolan, L. D. S., Lecturer on Dental Materia Medica and Therapeutics, Newcastle-on-Tyne Dental School. New York: William Wood & Co., 1911. Pp. viii-100. (Price, $1.25.)

Currie, Donald H., Clegg, Moses T., and Hollmann, Harry T.—Studies upon Leprosy. XIV. The Artificial Cultivation of the Bacillus of Leprosy. XV. Attempts at Specific Therapy in Leprosy. Public Health Bulletin No. 47. Washington: Government Printing Office, 1912. Pp. 62.

Schittenhelm, A., und Schmid, J. Die Gicht und ihre Therapie mit besonderer Berücksichtigung der Diätetik. Zweite, erweiterte Auflage. Halle a. S.: Carl Marhold, 1911. Pp. 66.

Doran, Alban H. G.—A Guide in the Series of Pathological Specimens Illustrating Injuries and Diseases of the Organs of Generation in the Female, Including Such as Are Incidental to Gestation and Parturition, in the Museum of the Royal College of Surgeons of England. Issued by Order of the Council of the College. London: Printed for the College by Taylor & Francis, 1912. Pp. 52. (Price, 6d.)

Balfour, Andrew; Archibald, R. G.; Fry, W. B.; O'Farrell, W. R.—Second Review of Some of the Recent Advances in Tropical Medicine, Hygiene, and Tropical Veterinary Science. Being a Supplement to the Fourth Report of the Wellcome Tropical Research Laboratories at the Gordon Memorial College, Khartoum. Published for the Department of Education, Sudan Government, Khartoum. London: Baillière, Tindall & Cox, 1911. Pp. 448.

Annual Report of the Board of Health of the Department of Health of the City of New York for the Year Ending December 31, 1909. Pp. 305.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending February 9, 1912:

Cholera—Foreign: *India,* Dec. 24 to 30, 51 cases, 46 deaths; *Italy,* Dec. 24 to 31, 6 cases, 1 death; *Java,* Dec. 17 to 23, 3 cases, 1 death; *Roumania,* 74 cases, 14 deaths; *Servia,* Nov. 26 to Dec. 17, 1 death; *Turkey in Asia,* Dec. 17 to Jan. 4, 10 cases, 7 deaths; *Turkey in Europe,* Dec. 7 to Jan. 2, 3 cases.

Yellow Fever—Foreign: *Mexico,* Jan. 14 to 20, 2 cases.

Plague—Foreign: *Chile,* Nov. 1 to Jan. 7, 9 cases; *China,* Dec. 17 to 23, 2 cases, 1 death; *German East Africa,* Nov. 13 to 15, 1 case, 1 death; *India,* Dec. 24 to 30, 19 cases, 20 deaths; *Java,* Dec. 17 to 23, 9 cases, 3 deaths; *Straits Settlements,* Dec. 10 to 17, 2 cases, 2 deaths.

Smallpox—United States: *Arizona,* Nov. 1 to 30, 1 case, 1 death; *Colorado,* Jan. 1 to 31, 19 cases; *Florida,* Jan. 21 to 27, 28 cases; *Louisiana* (New Orleans), Jan. 15 to 21, 4 cases; *Missouri* (St. Louis), Jan. 1 to 22, 20 cases; *Oklahoma,* Oct. 1 to 31, 3 cases; Nov. 1 to 30, 6 cases; Dec. 1 to 31, 17 cases; *Tennessee* (Knoxville), Jan. 21 to 27, 3 cases; *Utah,* Dec. 1 to 31, 214 cases.

Smallpox—Foreign: *Arabia,* Dec. 19 to Jan. 1, 3 cases, 1 death; *Canada,* Jan. 14 to 27, 43 cases; *Chile,* Nov. 21 to 30, 14 cases; *China* (Hongkong), Dec. 17 to 23, 11 cases, 9 deaths; *Cuba* (Habana), Jan. 19, 1 case; *France* (Paris), Jan. 7 to 13, 7 cases; *Germany,* Jan. 7 to 13, 1 case; *India,* Dec. 24 to 30, 8 cases, 5 deaths; *Italy,* Jan. 1 to 23, 418 cases, 134 deaths; *Java,* Dec. 17 to 23, 3 cases, 1 death; *Mexico,* Dec. 17 to Jan. 21, 30 cases, 19 deaths; *Spain,* Dec. 1 to Jan. 12, 27 cases, 12 deaths; *Straits Settlements,* Dec. 10 to 16, 2 cases, 1 death; *Teneriffe,* Jan. 1 to 13, 2 deaths; *Turkey in Asia,* Dec. 1 to 13, 75 cases, 12 deaths; *Turkey in Europe,* Jan. 8 to 14, 4 deaths.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending February 7, 1912:

Billings, W. C., Passed Assistant Surgeon. Granted one month's additional leave of absence, from February 16, 1912. **Cofer,** L. E., Assistant Surgeon General. Directed to proceed from New York, N. Y., to Providence, R. I., for conference relative to maritime quarantine at the Port of Providence. **de Valin,** Hugh, Passed Assistant Surgeon. Relieved from duty in plague work and directed to report to the medical officer in command at the Marine Hospital, San Francisco, for duty and assignment to quarters. **Kearny,** R. A., Assistant Surgeon. Relieved from duty at the Marine Hospital, San Francisco, Cal., and directed to proceed to Juneau, Alaska, and report to the commanding officer of the revenue cutter *Rush* for duty. **Lloyd,** B. J., Passed Assistant Surgeon. Directed to confer with the Health Commissioner of the State of Washington, and to proceed to Tacoma, Wash., if found necessary, for conference relative to campaign against rats in the city of Tacoma. **Leech,** Harry D., Pharmacist. Relieved from duty at the Marine Hospital, Stapleton, N. Y., and directed to proceed to New Orleans quarantine station and report to the medical officer in command for duty and assignment to quarters. **Stiles,** C. W., Professor of Zoology. Detailed to address the Association of Elementary Schools of South Carolina on the subject of school sanitation, on March 30, 1912. **Von Ezdorf,** R. H., Passed Assistant Surgeon. Directed to return to Mobile, Ala., from Houston, Texas, stopping at Shreveport, Alexandria, Baton Rouge, and other points in Louisiana, on the request of the president of the State Board of Health, for the purpose of lecturing on cerebrospinal meningitis.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending February 9, 1912:

Ireland, M. W., Lieutenant Colonel, Medical Corps. Ordered to attend the Eighth Annual Conference of the American Medical Association, in Chicago, on February 26, 1912. **Perley,** Henry O., Colonel, Medical Corps. Granted leave of absence for two months on surgeon's certificate of disability. **Stuckey,** H. W., First Lieutenant, Medical Reserve Corps. Ordered to the Philippines amended so as to read "to sail on March 5th" instead of April 5, 1912. **Sugges,** Frank, First Lieutenant, Medical Reserve Corps. Granted one month and seventeen days' leave of absence, and is relieved from active duty, to take effect at the expiration of the leave of absence.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending February 10, 1912:

Hayes, Oscar, Acting Assistant Surgeon. Resignation accepted from February 12, 1912. **Payne,** J. H., Acting Assistant Surgeon. Detached from the marine recruiting station, Boston, Mass., and ordered to the marine recruiting depot, Norfolk, Va. **Rodman,** S. S., Surgeon. Detached from the *Rhode Island* and ordered to the *Minnesota.* **Seaman,** William, Surgeon. Detached from the *Minnesota* and ordered to the *Rhode Island.*

Births, Marriages, and Deaths.

Married.

Day—Bailey.—In Talula, Ill., on Thursday, January 31st, Dr. J. U. Day, of Jacksonville, Ill., and Mrs. Bertha Bailey. **Thomas—Proudfoot.**—In Baltimore, Md., on Friday, February 2d, Dr. Joseph F. Thomas, of Tirzah, S. C., and Miss Margaret B. Proudfoot.

Died.

Albarran.—In Paris, France, on Thursday, January 18th, Dr. Joachim Marie Albarran, aged fifty-two years. **Atkinson.**—In Connellsville, Pa., on Wednesday, February 7th, Dr. Harry F. Atkinson, aged forty-seven years. **Barrett.**—In Chicago, on Saturday, January 27th, Dr. Darius N. Barrett, of Detroit, aged forty-two years. **Bleakney.**—In Worthville, Pa., Dr. Samuel McCartney Bleakney, aged seventy-seven years. **Brakeley.**—In Dunellen, N. J., on Monday, February 12th, Dr. Samuel Windt Brakeley, aged sixty-eight years. **Graber.**—In New York, on Thursday, February 8th, Dr. Sidney Sigmund Graber, aged fifty-one years. **Hektoen.**—In Kankakee, Ill., on Wednesday, January 31st, Dr. Martin Hektoen. **Horton.**—In Brooklyn, on Monday, February 5th, Dr. Lewis S. Horton, aged seventy-six years. **Kash.**—At Winchester, Kentucky, on Tuesday, January 30th, Dr. John M. Kash, aged seventy-five years. **Kirby.**—In Providence, on Monday, February 12th, Dr. William K. Kirby, aged forty-two years. **Love.**—In Kosciusko, Miss., on Sunday, January 28th, Dr. J. H. Love, aged sixty years. **Moore.**—In Philadelphia, on Monday, February 5th, Dr. Anthony J. Moore, aged thirty-five years. **Moore.**—In Griffin, Ga., on Saturday, February 3d, Dr. John L. Moore, aged seventy-four years. **Morris.**—In Salisbury, Md., on Saturday, February 3d, Dr. Louis W. Morris, aged forty-six years. **Mulhane.**—In Athens, Ohio, on Saturday, February 3d, Dr. Thomas Mulhane, aged forty-four years. **Scott.**—In Louisville, Ky., on Tuesday, February 6th, Dr. Joseph H. Scott, aged seventy-nine years. **Stokes.**—In Carmi, Ill., on Wednesday, January 31st, Dr. Hampton Stokes, aged seventy years. **Tallmadge.**—In Stamford, Conn., on Wednesday, February 7th, Dr. William H. Tallmadge, Jr., of New York, aged thirty-four years. **Van Sweringen.**—In Fort Wayne, Indiana, on Thursday, February 1st, Dr. Hiram Van Sweringen, aged sixty-seven years.

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Original Communications.

RELATION OF INTESTINAL TOXEMIA TO CHRONIC ARTHRITIS; TREATMENT.*

BY CHARLES CLYDE SUTTER, M.D.,
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Modern progress in medical science, both from clinical and laboratory research, has made such terms as rheumatism, neurasthenia, nervous prostration, constipation, etc., entirely unsatisfactory.

Formerly all neurasthenics received bromides or other nerve sedatives, and the rest cure, but now we consider neurasthenia as a symptom of some organic disturbance, such as arteriosclerosis, myocarditis, autointoxication, incipient tuberculosis, etc. (1 and 2).

It is not sufficient to prescribe laxatives in constipation, but we must search out a cause for the constipation and remove it. By so doing many times we will not need laxatives.

Formerly we described a group of conditions as rheumatism, but as we learn more, we separate it into different types and give definite names. Arthritis deformans is not the name of a disease, but of one of these clinical groups, which includes cases of deforming inflammations of the joints, the specific cause of which is unknown. That there are definite types of these rheumatoid diseases there can be no question. That the pathological and clinical features of these types are definite and constant is evident. Some of these types appear to be chemical in nature, for example, hypertrophic and gouty, and others bacterial, for example, infectious and atrophic.

The bacterial types are secondary to some focus of infection elsewhere in the body; tonsils, genitourinary tract, etc. In such cases, to cure the disease one must find the primary focus and treat it before he can expect to cure the joint condition. So with the types that are chemical in character.

It is now thought that many of the cases of arthritis deformans are due to absorption of poisonous products from the gastrointestinal tract. This condition has been based upon a close study of these cases. It was found in some that relief of the joint symptoms followed special diets, laxatives, intestinal antiseptics, lavage, etc. Vomiting often causes temporary relief.

*Read before the Pathological Society, Rochester, N. Y., January 25, 1912.

Exacerbations of the joint symptoms often follow definitely recognized increase of digestive or gastrointestinal disturbances. Some patients have had periodical attacks of toxemia with nausea, vomiting, general depression, loss of appetite, coated tongue, and indican in the urine. Calomel in these cases removes the symptoms of toxemia and at the same time the joint symptoms are improved. Many patients with arthritis are completely relieved by preventing the absorption of substances from the large intestine by purging, colonic irrigation, and regulation of the diet.

In this paper I wish to emphasize the fact that in some cases of chronic arthritis no definite cause can be discovered, while in others the removal of intestinal toxemia has been followed by cure or the symptoms have been relieved. On the other hand, I do not wish to create the impression that all cases of intestinal toxemia are accompanied by arthritis or that all such cases lead to organic disturbances. We must not overlook the fact also that intestinal toxemia often occurs secondary to arthritis.

The toxemia which in one case may be the cause of arthritis, in another case may manifest itself in arteriosclerosis, Bright's disease, cirrhosis of the liver, catarrhal otitis media (3), vascular and functional disturbances of the eye (4), skin lesions, such as eczema, urticaria, acne, erythema, pemphigus, impetigo, etc.; functional disorder of the heart and vasomotor system and neurasthenia (1 and 2), obstinate headache, epileptoid attacks, etc.

RELATION OF THE JOINTS TO THE GASTROINTESTINAL TRACT.

Many clinicians have recognized an obscure relationship between disorders of the digestive tract and joint affections. The following diseases show such a relationship:

1. *Typhoid:* Osler (5) says that arthritis is a rare complication and was present in only six cases, four of which were uniarticular and four multiarticular. He found in his own wards arthritis in five cases of typhoid. The complication is exceedingly rare, and yet Keen (6) has collected from the literature eighty-four cases of arthritis in 1,700 cases of typhoid.

2. *Bacillary dysentery:* Inflammation of articulations and tendon sheaths has occurred in bacillary dysentery. Sydenham (5) noted that dysentery was sometimes associated with rheumatic pain, and in certain epidemics joint swellings have been especially prevalent. They are probably not of the nature of true rheumatism, but rather analogous to those of gonorrheal arthritis. Garrod (7) says from

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three to four per cent. of cases of dysentery are complicated by joint disturbances.

3. *Appendicitis:* Sutherland (8) has been able to collect only six cases of appendicitis in which there have been pronounced arthritic pains, and these seem to be too few to indicate any real relationship, too few to seem more than mere coincidences (10).

4. *Amebiasis:* Garrod (7) has been unable to obtain any reliable instances of joint disease occuring with amebic dysentery, while Musgrave (9) records that chronic rheumatism, both of the articular and muscular types, is very frequently encountered, and in many instances seems to bear a definite relation to amebiasis of the intestines. Anders (5) says rheumatoid pains in the joints are observed in amebic dysentery.

5. *Parasites:* In one of my cases, a white female with arthritis and intestinal dyspepsia, examination of a stool showed *Ascaris lumbricoides* eggs. Under appropriate treatment only one adult female worm was found. We had thought at the time that this might be the cause of the arthritis, but its removal showed that it, at least, was not the whole cause.

6. *Fecal retention:* Marshall (10) reports a case of arthritis and psoriasis in a man who had no digestive symptoms except occasional slight abdominal pains at night. Colonic irrigations were given and at the end of eight days an enormous accumulation of fecal material was expelled. This resulted in complete recovery from the arthritis and the skin lesions. Colostomies performed for various rectal conditions reported by different surgeons (11) have been associated with cures of coexisting arthritis. This has been explained by Marshall (10) that, as a result of rest, while the surgical conditions were being cured, the absorptive function of the intestines was less active. Marshall also reports a case of colostomy for rectal ulceration in which the patient could tell when washings were needed by the pains that began in his joints. They always subsided with the washings.

The following case is also interesting in this connection.

Case I. In the case of a white, male, aged fifty-six years, there had been numerous arthritic attacks during the past ten years which he thought were due to a "sour stomach." These attacks were accompanied by very marked headache and belching. At that time he got in the habit of making himself vomit by putting his finger down his throat and this act usually relieved the headache. His joints began to swell three or four years after these attacks of gastric disturbance began. During the time that the arthritis was developing, the gastric attacks would be followed by acute exacerbations of the joint trouble. These exacerbations were characterized by more stiffness, acute pain on motion, and more swelling. During the period up to about one year and a half before admission to The Glen Springs the patient would empty his stomach two or three times a day on the theory that it would improve his joint symptoms, and for a long time he took large quantities of sodium bicarbonate. His bowels were regular, although the stools were constipated. Eight of the examinations of urine during the past year showed indicanuria. Colonic irrigations, which were started June 10, 1911, seemed entirely to relieve the pain in the joints for a period of about eighteen hours. The patient said the pain let up in one half to one hour after the irrigation and did not return until late the following morning. The free interval to date had not seemed to vary in length. His weight on July 1, 1910, was 116 pounds. On July 1, 1911, it was 142.5 pounds. The patient instead of being bedridden could now be about and had danced and played golf. This case will probably be reported in detail later.

Goldthwait and Brown (12) describe two cases in which the colon could not be properly drained by cathartics or lavage where this seemed to be the primary source of the diseased condition. Colotomy was performed by Dr. Hugh Cabot with entire relief of the symptoms in one case and with partial relief in the other.

In another case in which a colotomy was performed for the proper drainage of the colon, fecal matter was found caked on the wall of the bowel in pockets so that it finally had to be scraped off. Putrefactive changes went on under the fecal mass and led to ulceration. In this case, which was operated in, there was a distinct ulcerative colitis, from which the absorption was taking place, causing the joint symptoms. The colotomy was performed in order to relieve the ulcerative features so that the absorption could be checked.

Disturbances in the Abdomen which might lead to an Increased Production of Toxines and Ultimately to a Chronic Arthritis.

1. *Ptosis and dilatation of the stomach.* The pylorus and the first portion of the duodenum have very little mobility so that in any dilatation or ptosis of the stomach, the greater curvature will be considerably below the outlet of the organ. The drainage, therefore, is very poor and the gastric contents are retained. Fermentation goes on and after some time the walls of the organ weaken from loss of tone of the muscles. More sagging occurs and with it less power of the stomach to empty itself. There may also be added a kinking of the duodenum at the junction of the movable and fixed portions. The stretching of the stomach leads to atrophy of the mucous membrane and this in turn results in lessened secretion of hydrochloric acid and pepsin. Lavage or calomel relieves the symptoms of retention. Goldthwait and Brown (12) explain how such a ptosis will make pressure on the transverse portion of the duodenum, or, through its relation with the superior mesenteric artery, make pressure upon the duodenum and increase its obstruction. Pressure against the pancreas sometimes causes atrophy of the pancreas (13) and pressure on the portal vein may cause decreased function of the liver.

2. *Ptosis of the small intestines.* Ptosis of the small intestines rarely exists alone, but usually in connection with ptosis of other organs. In ptosis the mesentery is stretched, which causes an elongation of the superior mesenteric artery with a coexisting diminution in its lumen. This interferes with the blood supply and later with the secretions in the intestines. Intestinal digestion will be interfered with on this account and also because of lessened tone of the intestinal wall. Because of the increased mobility of the intestines there is greater chance of obstruction, volvulus, etc.

3. *Ptosis of the ascending and the descending colon.* Ptosis is rather frequent, especially in cases in which there is a mesocolon. Treves states that we may expect a mesocolon on the left side in thirty-six per cent. of all cases and on the right side in twenty-six per cent. of all cases. With the ptosis there is usually kinking, telescoping, etc. It is evi-

dent that, with such conditions present, there would exist very definite mechanical reasons for the irregular evacuation of the bowels. Abnormal pockets may exist from which it is hard to express the contents. The loose or collapsed folds may form valves to interfere with the continuity of the lumen, while the irritation which might result from a distinct kink of the bowel would easily explain some of the irritation or ulcerated conditions met with.

4. *Ptosis of the cecum.* Ptosis of the cecum sometimes occurs. The cecum may undergo exaggerated descensus, dropping well over the brim of the pelvis into Douglas's cul-de-sac. Unquestionably some of the exaggerated cases not only give rise to chronic appendicitis, but maintain cecal and iliac peristalsis with considerable pain, even after the appendix is removed. A very flabby cecum falling into the pelvis may be the cause of considerable disturbance in the discharge of fecal material from the ileum into the cecum.

5. *Ptosis of the transverse colon.* The transverse colon lies normally in a nearly horizontal position in the upper abdomen and is suspended by its hepatic and splenic flexures from the liver and the spleen and by the transverse mesocolon from the stomach and the posterior abdominal wall. The stomach lies immediately above the colon, so that a ptosis or dilatation of the stomach might readily cause a displacement downward of the transverse colon. Ptosis of the colon may also occur without ptosis of the stomach. No portion of the colon is subjected to greater variation of position than the transverse. It is indeed so variable that we may even doubt whether there is a normal situation and length. A marked redundancy is frequently found. Cases of this kind have been described in which the colon reached the pelvic brim, and in one of Clark's (14) cases it was found in a crumpled mass in the pelvis. In the latter case, eighteen inches had to be resected to permit the transverse colon to maintain a normal position. If the flexures are in position and there is a marked ptosis, the contents of the colon, which are usually solid, must pass in an upward direction to reach the splenic flexure. The greater the degree of ptosis, the greater, naturally, will be the mechanical difficulties. Added to this upward course of the intestinal contents there might be a kinking at the splenic flexure, so that it becomes nearly impossible for the gut to empty itself.

The bowel becomes distended and flabby and incapable of performing its functions. The slowing of the current affords ample time for bacteria to grow. Fermentation and putrefaction of the contents now take place with the production of toxines. The absorptive power is increased, and the toxines are carried to other parts of the body and cause some of the chronic disturbances to which such patients are heir. Many cases of chronic constipation may be accounted for by such alteration in the position of the colon. Cases occur at times with marked ptosis of the transverse colon without disturbances of the health, so the degree of ptosis does not determine the amount of disturbance which will result. Obstructions of the colon may occur from adhesions around the gallbladder. I have in mind several patients with intestinal toxemia who have histories of previous attacks of cholecystitis.

6. *The sigmoid.* The sigmoid has been the seat of much trouble. In the *Berliner klinische Wochenschrift* for June 27, 1910, Augsbach, a Russian, says that the statistics seem to show that abnormal positions of the sigmoid are the most frequent points of trouble, particularly volvulus. The sigmoid is quite frequently redundant, sometimes as long as twenty-four inches. This is often an occurrence with ptosis and such patients usually suffer from obstinate constipation. Strong laxatives are necessary at first and after a time drastic purgatives. Here again is an important point for the development of bacteria with resulting fermentation and putrefaction and the absorption of the toxines produced.

7. *Abdominal wall and posture.* During youth and early adult life the intraabdominal pressure is perfectly maintained by the tonicity of the abdominal musculature. A latent enteroptosis may be present, but it is not symptomatic, because the redundant colon is held in such a position that the lumen is not interfered with. As a result of birth or wasting diseases the tonicity of the abdominal musculature is replaced by a hypotonicity with consequent diminution of the intraabdominal pressure permitting a sagging of the intestines with the formation of kinks at the junction of the movable and fixed portions. If emaciation is present the degree of ptosis will be aided by the removal of the normal buttresses of the organs (fat). While faulty posture, as pointed out by Goldthwait and Brown (12), may have the same effect in addition to the removal of the normal buttresses of the organs, I am inclined to the view that posture and the characteristic body form in most of these individuals may be the direct result of faulty nutrition in infancy and childhood and are, therefore, a result and not a cause of the enteroptosis. Fecal stasis should be looked upon not as the cause of these conditions, but as a result of them.

8. *Gastric and enteric catarrh.* Gastric and enteric catarrh may be the source of origin of the toxines. A number of the cases of autointoxication have shown with each exacerbation of symptoms catarrhal conditions of all mucous membranes including those of the nose and throat. Constipation follows. These cases always require about twice the dose of laxatives at this time than at any other time. Whether the catarrhal inflammation is the cause or the result of the toxemia so far I have been unable to satisfy myself because both appear almost simultaneously.

THE GENERAL RESULT OF THESE ABDOMINAL DISTURBANCES:

Retention of food in the stomach with the imperfect stomach digestion due to general atony of the organ and improper drainage. Imperfect digestion due to inferference with the function of the pancreas. When there is distinct visceral ptosis the liver also sags, with consequent interference with its function and insufficient quantity of bile. Retention of feces in the colon or sigmoid causes fermentation and putrefaction. If such conditions exist long enough they might naturally result in disturbances so marked that they would lead to abnormal absorption and cause systemic manifestations of varying types.

Maury (13) shows that if the normal flow of these digestive elements into the intestines is interfered with, certain bacteria may be found higher up in the intestinal tract than is normal. Not only may the jejunum be invaded, but the duodenum also.

Bacteria may develop in such quantities, or reach such a degree of virulence that the individual becomes unable to resist, and undesirable absorption takes place.

Increased intestinal toxemia may be due to an increase in the bacterial elements alone from the retention of fecal matter in the colon with excessive absorption, or it may be due to a malposition of the organs causing a deficient amount or quantity of those digestive fluids upon which the control of the development of the bacteria to a considerable extent depends.

Granted that we have a toxemia, it is only an accident whether the systemic effect is chemical (metabolic) or whether it is bacteriological (infectious) in type, and it is an accident whether either one shows itself in the joints or in some other body structure. Many cases of arteriosclerosis, iritis, psoriasis, osteitis deformans, etc., no doubt originate in the same way. At present the opinion most widely held regarding the etiology of the cases classed as arthritis deformans is that they are caused by a specific infection or by the absorbed products of putrefactive processes. Among the toxic agents which have been suspected of causing arthritis deformans are the poisons produced by putrefaction of animal proteids in the intestines. Numerous varieties of bacteria of putrefaction are regular inhabitants of the human intestine. Flesh proteids ingested supply them a suitable culture medium, for not all the flesh proteids ingested are changed into soluble peptones and absorbed before these bacteria can get at them. It has been estimated that at least ten per cent. of the flesh proteids which enter the alimentary canal fall a prey to the bacteria of putrefaction. Multiplying in this culture medium these bacteria make various substances out of the complex albuminous molecules, some of which can produce toxic effects on the organs and tissues of the body. Being soluble these putrefactive poisons are to a considerable extent absorbed.

The body in health is well protected against these putrefactive poisons by the intestinal mucosa, the cells of which possess a considerable amount of toxicolytic power, and by the liver which is said to destroy two thirds of the poisons produced by intestinal putrefaction. Some also give the ductless glands credit of possessing a toxicolytic function. The toxines not destroyed in the body are eliminated by the kidneys and to a lesser extent by the skin. Putrefactive toxemia may then be increased by anything which increases the number of bacteria present, or anything which diminishes the function of the organs which possess toxicolytic power, or anything which diminishes the activity of the organs of elimination. Surgeons and obstetricians have learned from experience that when a patient has a sudden rise of temperature, which cannot be accounted for on the ground of infection, the best thing to do is to administer a cathartic or high enema and thoroughly empty the bowel, a procedure which is generally followed by a prompt reduction in the temperature, pointing to the fact that fecal retention and absorption of toxic products were at the seat of the trouble.

Bacteria may be increased by constipation, fecal stasis, diminished or altered secretions, or an increase of a suitable culture medium in which the bacteria may grow. Toxines may be in excess through hepatic insufficiency or altered glands in the intestinal mucosa or faulty elimination through the skin and kidneys.

The quantity of toxines produced does not determine the amount of disturbance which will follow, but it is the amount of toxines absorbed which is important. Disturbances from putrefactive toxemia also depend to a large extent upon tissue resistance. This varies greatly in different individuals so that an amount of putrefactive toxemia which is harmless to one individual may produce serious disease in another.

There is little doubt that chronic putrefactive toxemia can produce, or strongly assist in producing Bright's disease, arteriosclerosis, cirrhosis of the liver, obstinate headache, epileptoid attacks, functional disorders of the heart and the vasomotor system, irregular fevers, and neurasthenia.

In all of these conditions marked benefit is usually derived from treatment which diminishes putrefactive toxemia. Many cases of rheumatoid arthritis improve markedly under treatment directed against intestinal toxemia; namely, the prevention of the formation, the decrease of absorption, increase in the elimination or increase in the destruction of toxines.

The stools have been examined in a number of cases, but none of them showed any peculiarities that are not found in patients who do not have arthritis. No bacteria have been found other than the bacillus coli communis and spore forming anaerobic bacteria. It is wise always to examine the stools of patients with chronic arthritis, as many times they will show the existence of intestinal dyspepsia which may be the point of origin of the toxemia.

The urine in a number of these cases was examined by Helen Baldwin (15). All but two of the twenty-one cases showed either an excess of aromatic sulphates, or the presence of indican. Considerable variation was noted. In some instances indican was entirely absent, while in others products of putrefaction (aromatic sulphates) were in excess of normal. In still other instances indol, skatol, or phenol was found in excess, although their total amount was not usually great. There might be some question in such cases that they were not of intestinal toxemic origin.

In all cases tested at The Glen Springs indican was found at one time or another. I have also tried to work out the existence of acetonuria in cases of arthritis deformans, but so far have not reached any conclusion. This work will probably be reported later.

The following may be considered a typical case of arthritis deformans due to intestinal toxemia:

Case II. A white adult, female, aged forty years, small, poorly developed, with a history of slowly developing

arthritis from no apparent cause, accompanied by a muddy sallow complexion, lustreless eyes (icteroid), loss of weight and hypotonus of the abdominal wall. Attacks of depression occurred at which time there was a dry coated tongue. The scleræ were more icteroid and the skin was more sallow. The patient was irritable, nervous, restless, and had restless sleep at this time; constipation, intestinal gas, nausea, loss of appetite, and sometimes indican in the urine were present. This patient would have attacks of toxemia lasting four or five days and an interval of almost one week with very few symptoms. Under treatment for toxemia and the postural treatment the attacks became less severe, shorter in duration, and the intervals between the attacks longer. Calomel given at the first indication of an approaching attack would either prevent or lessen the attack.

In this case there was evident an accumulation of toxines until the resistance of the patient was passed, then a great absorption of toxines took place. Previous to nausea or vomiting the breath usually became progressively more offensive, due undoubtedly to decomposition. Vomiting or calomel usually relieves these symptoms, while tonics, stomachics, and digestive remedies have only indifferent influence.

The diagnosis is not always definite in these cases, but it can be made provisionally when intestinal toxemia is an important factor, and especially when it has been present previous to the advent of the first symptoms, and when a ptosis or malposition of the abdominal viscera can be discovered by the Röntgen ray test in cases of chronic arthritis.

Previous to the advent of the Röntgen rays as a diagnostic agent in enteroptosis, clinicians had made but little progress over the original discovery of Glénard, for there was no accurate method of determining the organ, or group of organs, chiefly participating in the visceral descensus. A great deal of attention has always been given to the stomach and small intestine, the process of indigestion and assimilation in the stomach and small intestine has been extensively studied, but until quite recently not much notice has been taken of the large intestine. The function of the colon seemed apparently to be that of a reservoir placed for the comfort of its owner, to be emptied at any convenient time. It apparently did not play an important part in the economy.

The value of the bismuth Röntgen ray test in cases of chronic arthritis which seem to be due to intestinal toxemia may be summed up as follows:

1. By means of the bismuth Röntgen ray test we can determine in each case the length of time consumed by the contents of the gastrointestinal tract in reaching each division of the tract and the time in which the division is completely emptied.
2. The normal motility of each part of the gastrointestinal tract can be definitely established.
3. The presence of ptosis, obstructions, redundant colon, gastric and duodenal adhesions (16).
4. The ordinary methods of medical treatment can be more intelligently applied with the definiteness of diagnosis accomplished by this test.
5. The advisability of a surgical procedure.
6. The bismuth Röntgen ray test is harmless and practical.

TREATMENT.

In this paper I shall omit the treatment of the joints proper and shall suggest only the principles which must represent the basis of the treatment directed against the removal of the intestinal toxemia and the improvement of the general nutrition. While metabolic osteoarthritis is a definite and perfectly characteristic joint condition, both clinically and pathologically, the general conditions with which it is associated vary within wide limits. In some cases there are absolutely no definite general symptoms, in others they are sometimes characteristic of one general anomaly and sometimes of another. With the aid of the Röntgen rays and by clinical and laboratory methods one can often prove a disturbance varying from an apparently insignificant, to a very definite deterioration of the general nutrition, and can often conclude that metabolic osteoarthritis is not due directly to the organic or constitutional conditions with which it is associated, but to the disturbances of the nutrition caused by them. The difficulty of formulating measures for the control of the bacterial processes concerned with the occurrence of chronic excessive intestinal putrefaction is obvious. No two cases that come under observation are quite alike, hence, specific measures which appear appropriate in one case cannot be recommended without modification in another. It becomes, therefore, almost impossible to describe a method of treatment with all the detailed modifications that are necessary in order to cover adequately the specific cases with which one has to deal in practice. Nevertheless, there are certain general therapeutical guides which, though by no means adequate for the direction of the practitioner in individual cases, are helpful in forming a conception of the principles that must enter into the treatment of the chronic arthritis. In order to treat successfully chronic arthritis, one must first determine whether the arthritis is due to a nutritional disturbance and, if so, determine how great a part chronic putrefactive toxemia plays and whether developmental anomalies and visceral malpositions are causative or disturbing features. The functional activity of the liver and pancreas and the gastroenteric secretions must be studied. The daily life of the patient is also very important. Unless we have made the foregoing investigations we shall be very much at sea as regards the proper treatment. We must attempt to remove the cause of the nutritional disturbance and at the same time aim to increase the joint resistance. The methods at our command at present are the regulation of the diet, aiding gastric and intestinal digestion and absorption from the digestive tract, correcting malpositions, and favoring normal mobility of the abdominal viscera, eliminating stagnation of the fecal content of the intestines, improving the local and general metabolic processes, and increasing the tissue resistance.

It is important to lay stress on the avoidance of putrefactive bacteria entering with the food. It is impracticable to live exclusively on food that is sterile, but it is well to avoid uncooked food which contains large numbers of putrefactive bacteria. In a normal stomach these putrefactive bacteria are quickly disposed of, but in cases of chronic excessive intestinal putrefaction the secretions are altered and may permit the passage of putrefactive bacteria unharmed. An important measure bearing upon the introduction of putrefactive bacteria

into the intestine is the proper cleansing of the mouth, especially where there is dental caries.

There is absolutely no necessity for markedly restricting the diet. Patients in bed, naturally, must receive more easily digested food than those who are about. All that is required, in the vast majority of cases, is a nutritious mixed diet as generous as can be digested and assimilated by the individual patient without producing putrefaction. It is obvious, that in order to secure the best possible condition of absorption from the intestinal tract, it is important not to permit the consumption of excessive quantities of food. This is especially important in the case of proteids, particularly those of meat, poultry, and fish. The use of an excessive quantity of meat frequently goes hand in hand with imperfect mastication. The result is that many masses of muscle fibre find their way through the small intestine into the lower ileum and large intestine, where they are attacked by putrefactive bacteria. The putrefactive bacteria find in meat proteid and casein good media for their support. In the light of Chittenden's well known researches it ought to be possible to maintain patients on a relatively low quota of protein so long as the other nutrients are supplied in reasonable amounts. In practice, I usually put the patient on a low protein diet equivalent to about fifty grammes of meat daily. Complete deprivation of meat in persons who have long been accustomed to its use in large quantities would be followed by loss of strength, and this would hardly be compensated for by the slight gain in the direction of a diminution of the anaerobes in the large intestine.

If the patient is weak, anemic, and emaciated it is much better to devote a few weeks to the elevation of the digestive functions than to proceed hastily to inaugurate a generous and excessive diet. Even under the most favorable conditions the effect of a diet must be carefully watched. If rest can be secured to the patient, and a more thorough digestion and resorption of food can be achieved, it becomes safe to increase the food gradually. Irritants, such as pepper, mustard, excess of salt, and acids, such as vinegar, lemon juice, etc., should be excluded from the diet. The use of raw apples, uncooked celery, spinach, and salads may be detrimental for purely mechanical reasons. Buttermilk, kefir, koumyss, Bacillac, etc., or the rectal instillation of autogenous bacteria and strains of human *Bacillus coli communis,* as recommended by Anthony Bassler, may be of some benefit.

"Suitable care of the stomach may also be a factor in controlling putrefactive decomposition in the intestine. In persons suffering from atony of the stomach, with or without pronounced dilatation, putrefactive microorganisms may gain a hold and initiate high up in the digestive tract a process which normally begins only in the region of the lower ileum" (Herter) (17).

If the chronic arthritis is dependent upon a nutritional disturbance, resulting from a dilatation of the stomach or a visceral ptosis, naturally the first thing to be desired is to restore the organs to as nearly their normal position as possible, and at the same time to correct or relieve any imperfection in their functions which may have resulted from the malposition. The usual treatment instigated in such cases is, small meals at frequent intervals, a diet which is easily assimilated, gastric lavage for temporary relief of symptoms, or as often as demanded to remove food particles in the stage of decomposition, sinusoidal electricity and massage to the abdomen to tone up relaxed muscles, and the postural treatment given according to the method adopted by Goldthwait. In this posture there is a normal position of the abdominal viscera during the process of digestion. If the malposition is quite marked and the foregoing treatment proves ineffectual, a visceral supportive apparatus must be employed to correct the visceral displacements and overcome the stasis of the intestinal contents which is quite likely present. Goldthwait and Brown have emphasized the frequent association of malposition of the viscera in cases of chronic arthritis, a sufficient number to warrant investigation of their presence in every case. Whether they are the origin of the nutritional disturbance causing the chronic arthritis or merely an associated condition or a result of the nutritional disturbance matters not. They at least will cause troublesome symptoms and may hinder the progress of the treatment directed against the chronic arthritis.

All the measures which aid in securing prompt digestion and absorption from the small intestine will operate to diminish intestinal putrefaction. An improvement in the quantity of gastric juice secreted and in the quantity of hydrochloric acid which it contains, usually goes hand in hand with the betterment of motility.

Well recognized atrophy of the pancreas is frequently found at autopsy in chronic joint cases. In the light of the recent work of J. E. Draper Maury (13), the absence of, or the diminution in the amount of the pancreatic juice probably explains many of the phenomena met with in such cases. The influence of imperfect pancreatic secretion may safely be assumed to be important, but in this case direct clinical observation is not possible and one has to infer the absence or presence of a pancreatic achylia by means of the test meal, by an examination of the stool, and by the Cammidge reaction.

The most important physiological factor in the partial or complete restoration of the normal gastroenteric secretions is probably rest. The rest which should be secured in such cases is in part physical and in part mental, emotional, and sexual. Even the interest attendant on free and animated conversation may be injurious. Such factors as grief, fear, severe nervous shock, and great physical or mental strains have an association with the joint manifestations. The responsibilities and actual physical strain of family and household duties also contribute to its production; therefore, they should be eliminated. The patient should avoid excessive physical exertion, especially during the more active stages, but should not be kept absolutely quiet. Every effort should be made to stimulate the local, as well as the general metabolic processes.

Digestive enzymes, such as pepsin, trypsin, pancreatin, etc., have been highly recommended by many, but I have never been convinced that their use is really an important factor in determining the ultimate outcome in marked cases of chronic exces-

sive intestinal putrefaction. Herter says: "The use of an efficient diastatic ferment gives more tangible results and there are cases in which a better utilization of carbohydrate is noticeable in consequence of the use of an active diastase. The criterion in such cases has been the better tolerance for carbohydrates, which is manifested by the reduction in habitual flatulence, especially in the upper part of the digestive tract."

Among the agents most used with a view of reducing fermentation and putrefactive decomposition in the gastrointestinal tract are the so called intestinal antiseptics. These drugs, however, should be used with caution. If the chronic arthritis is due to a deterioration of nutrition, it is well not to increase the deterioration by giving irritating and depressing drugs. All experiments with a view of determining the value of intestinal antiseptics have left out of account a quantitative study of the putrefactive anaerobes of the feces—a study which obviously is beset with great difficulties and could only be undertaken under especially advantageous conditions for work. One difficulty in measuring the action of many of the antiseptic substances which have been used, depends upon the fact that they either decompose with the liberation of aromatic substances capable of pairing with sulphuric acid and forming ethereal sulphates, or they themselves are aromatic bodies capable of pairing in this manner. A study of indican is not open to this objection, but, as already pointed out, there are cases of intestinal decomposition in which the ethereal sulphates may be considerably above the normal, although little or no indican is excreted. Again, in such observations, it is most important that the quantity of proteid food, especially meat, should be regulated in an exact manner, since an increase of putrefaction in the intestine, through the use of excessive quantities of meat, can easily be demonstrated. The ability of antiseptics to control fermentative processes in the stomach cannot be questioned, and in cases where such processes are excessive they may indirectly do good by diminishing the opportunities for putrefaction in the intestines by placing obstacles in the way of the development of the sugar splitting, gas forming anaerobes. It cannot be denied that through the use of glutoid or other protective capsules, antiseptics can be made to reach the intestine itself before they are liberated. Herter says he has found in certain instances that salicylates, aspirin, and salol have exerted some action in diminishing the output of indican, but beyond this he has not been able to satisfy himself that the effect of intestinal antiseptics is pronounced.

Another agent which has been used by clinicians in cases of chronic arthritis is thyroid extract. I saw beneficial results in two early cases of arthritis deformans. Considerable benefit may be derived where this organ is atrophied and the vasomotor phenomena peculiar to the disease are prominent, and in cases of obesity associated with arthritis.

Thymus extract was used by Nathan (18) in 186 cases; 103 cases seen early gave excellent results in the majority of them, while eighty-three severe cases doomed their victims to hopeless crippledom.

It is well known to clinicians that the use of laxatives is followed by great temporary benefit in many cases of excessive intestinal putrefaction, with or without constipation. In Marshall's case there were daily evacuations of the bowels and yet there was an enormous fecal retention. The mere acceleration of the contents of the digestive tract will greatly aid in the prevention of putrefaction. In bedridden and sedentary patients there is a tendency to constipation, which must be relieved by mild laxatives or enemata. Daily evacuation of the bowels must be secured, but I have seen absolutely no indication for drastic eliminative treatment, and I have seen no case of true metabolic osteoarthritis in which such measures were not harmful. Many times we increase the amount of absorption of toxic products from the intestinal tract by making the contents of the intestine liquid. It is easy to render the digestive tract excessively irritable through their use, and it often happens that patients fail in nutrition owing to the diminished absorption of foodstuffs. The long continued and frequent use of cathartic remedies has, in my experience, nearly always resulted badly. Laxatives should be employed mainly for the control of the disturbances of a subacute or chronic character arising in the course of chronic derangements rather than for the treatment of the chronic conditions themselves. The bowels can often be controlled through regulation of the diet, regularity of going to stools, exercise, abdominal massage, correction of kinks or ptoses of viscera or malposition of pelvic organs, and by an abdominal supportive apparatus. Any of these measures are much more desirable than the continued drugging with laxatives. No one procedure should be kept up indefinitely.

Colonic irrigations are used to a great advantage in these cases by removing irritating particles in the state of decomposition and at the same time giving daily evacuations. It is possible to introduce the tube into the descending colon and, by means of physiological salt solutions, the large intestine may be washed free of its contents. This procedure has now been frequently practised with extremely beneficial results in the direction of diminishing excessive intestinal putrefaction. Herter says he has known it in several instances to be followed by a reduction in the output of ethereal sulphates and in the excretion of indican by the urine. It also gives relief from headache, mental depression, irritability, flatulence, and the joint pains which are common in these cases. If the lavage be practised cautiously with respect to the avoidance of an excessive volume of fluid, the method may be applied for a considerable period of time without discernible harmful effects. It is perhaps better to employ irrigation two or three times a week than to use it daily. Where excessive quantities of fluid are used, distention of the colon occurs and may be followed by troublesome atony. Great discomfort may also be caused and the patient may rebel against the treatment.

Operative procedures may be demanded, such as colostomies, cholecystostomies, appendicostomies, resection of redundant colon or sigmoid, and operations on the stomach. It seems highly probable that the relief afforded in these cases has been due in most instances, in part at least, to the greatly im-

proved conditions of bacterial activity which followed the removal of a source of stagnation and putrefaction in the digestive tract. Pyloroplastic operations have been known to be followed by diminished ethereal sulphates.

PROGNOSIS.

The prognosis in cases of chronic arthritis is best in those persons whose symptoms have not only been of moderate duration, but who have had little opportunity to care for themselves, persons who have continued actively at work and have committed gross errors in diet, in sexual life, etc., the removal of the obviously injurious conditions in these cases is almost always followed by a quick and satisfactory improvement, provided the patient is not burdened by significant neurotic taint or has not developed a considerable degree of anemia. In persons where we find local or anatomical defect, by correcting the defect we can often cure the patient. In persons who have had the benefit of much rest and recreation and have cared for themselves under luxurious conditions of living, the outlook is much less promising, because in many of these cases most of the ordinary therapeutic measures have already been exhausted. It should be remembered, however, that even in such cases a period of rest of one or two years, under favorable conditions, may bring about a great change in the physical state, while short periods of rest show very little effect on the patient. For those who find it very difficult to follow in a rational way the advice of a physician, owing to inability to exert the necessary self control, a period of residence in a good sanatorium under the immediate supervision of a tactful and intelligent physician may do much more good than home treatment. The general resistance of the patient can be much improved at the same time.

The hydrotherapeutic and mechanical measures, baths, electricity, baking, massage, etc., which must be employed, can be carried out much more systematically and effectually in an institution equipped with such apparatus than in the home. There must be a complete mental diversion from business and family cares. These patients are, as a rule, depressed, so they must be kept occupied at something, golf, touring, reading, music, etc. They must be kept in a cheerful atmosphere, and one must let them understand from the beginning that there must be persistence on the part of the patient as well as the physician. The mere disappearance of symptoms does not always mean that a condition of normal health has been reestablished. Where the toxemia depends upon an obscure intestinal disturbance, which has proved resistant to treatment directed against the same, the outlook becomes unfavorable. In case the joint disturbance is far advanced, and where the tissue resistance is lowered, the progress again becomes less favorable. In long standing cases, especially where the exact source of the toxemia has not been definitely located, improvement is extremely slow, even under the most favorable hygienic conditions. There is a discouraging persistence of symptoms until the critical time is reached. The depression of functions is so considerable that there may be a real gain in functions without an immediate and corresponding subjective improvement. Relapses are common and discouragements frequent, but by keeping everlastingly at it the patient may be greatly benefited or a cure effected.

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CREATIVE SURGERY.

A Cell Discovered and Found Essential in Growing Tissues, Thereby Making Creative Surgery Possible.

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In a previous article on constructive surgery, a phrase used for the first time, and describing a type of work having no priority, a quotation from a scholarly article by Dr. Ewing Mears was used, and as the scope of my work has greatly broadened since then, once more will his charming language be cited:

> Will the operative surgeon enlarge his sphere of action, and become as well the constructive surgeon, doing the combined work of architect and builder? Are these the fantastic images of a prophetic vision? The history of the development of the growth of surgery in the past gives reality to our expectations and hopes of what the future may unfold, and is this in truth not the great work of surgery of the future?

It has been indeed a pleasure to prove the correctness of the farsightedness of this author, and to bring about, as it were, a realization of his dream. In the first work, scarcely past the initiative or experimental period, three cases of constructive surgery (5) were reported, and once more, in order that the great variety of this work can be noted and the work observed in regular sequence, these cases will again be recorded.

Since the first work, virtually every avenue of



FIG. 1.—Case I, white middle finger grown on black hand.

technical knowledge has been followed, hoping that some light could be thrown on this type of surgery, which I shall call creative.

The cell, and often its life giving associate, albumen, first used by me, has been a source of much persevering study, extending over a period of thirty-seven months. The country's largest libraries have been visited, while the chemical and biological laboratories have been begged for information, and last but by no means least, the Hon. James Wilson, Secretary of Agriculture; this department's animal husbandryman, Mr. George Rommel; Professor Jeffries, a Canadian, now in charge of the Department of Poultry, at the North Carolina Agricultural and Mechanical College, and Dr. C. W. Stiles, U. S. R. M. Service, a zoologist now stationed in Wilmington, N. C., doing special research work on parasites, especially hookworm, have been all personally interviewed, but all of no avail, each in turn quickly acknowledging his absolute ignorance of the cell I had found, and only wishing me success. Since these interviews, at the suggestion of Mr. Rommel, two research workers of note, biologist Ramond Pearl, of Orono, Me., and M. E. Pennington, chief of food research laboratory, Department of Chemistry, U. S. A., were consulted. These wrote me of their inability to aid me on lines bearing on my discovery.

A number of varieties of poultry have been kept as a necessary adjunct to the laboratory and operating room. Besides having guineafowls, Cornish Indian games, Rhode Island reds, Plymouth rocks, spangled hamburgs, white leghorns, and buff orpingtons; the embryological developments, as well as the cell media, have been carefully studied and compared. While no breed seems to have a marked superiority, it is safe to say that the healthiest, best nourished hens, which have an opportunity of obtaining lime salts gravel, have the thickest and most easily manipulated cellular substance. I have seen no necessity for coloring the cells (3), and thereby possibly tinting the media. All of the flesh grown soon adapts itself to the color of the body save in the case of negroes. Here it will be mentioned that the part grown is more delicate than that surrounding.

In only one book, that of Professor Lillies, in June, 1911, at the Congressional library, was I able to find a line bearing on this discovery (3): "The shell membrane consists of two layers, a thin white outer layer next to the shell, and a thin one next to the albumen. Both are composed of mottled organic fibres, more delicate on the inner than the outer layer, crossing one another in all directions."

By the associating of living cells, and even with the apparently dead cells, I have been able to revitalize structures, and to create anew tissues, osseous excepted, up to the time of my first work in November, 1908 (reported in November, 1909), considered a menace to the body or forever destroyed.

In order to fructify lifeless, or to renew lost tissue, the utilization of a little understood animal substance proved ideal, and now places itself as a positive factor, and allows one to do creative surgery. After satisfying myself that I had found the necessary cell, I can emphatically state that these cells are the realization of the ideal, and henceforth make creative surgery possible.

Some days prior to the hatching of the chick, and certainly at that time, if one examines the membrane, a number of well developed bloodvessels vir-



FIG. 2.—Case III, white finger grown on black hand.



Fig. 3.—Case III, white finger grown on black hand.

tually forming a plexus (11) can be observed in the inner or cell bearing surface, while the outer side is glistening and apparently undisturbed with naturally its patency remaining, which allows a free interchange of gases.

As an undoubtedly successful adjunct to this cell, salt water, recently procured and kept in sterile flasks, is used, with the following analysis (5):

RESULTS FROM COMBINING ACIDS AND BASES (DITTMAR) OF OCEAN WATER SALTS.

Sodium chloride,	77.758
Magnesium chloride,	10.878
Magnesium sulphate,	4.737
Calcium sulphate,	3.600
Potassium sulphate,	2.465
Magnesium bromide,	0.217
Calcium carbonate,	0.345
Total salts	100.000

This is always allowed to partially evaporate from the surrounding regions, prior to the introduction of the new media. It is advisable to keep the patients very still, with no dressing save one layer of coarsely woven sterile gauze, until the cells have had an opportunity to become well rooted in the new field.

In order to keep up the vitality of the cells, and to hasten the growth of the tissues, the presence of atmospheric air is imperative. This can best be noted analogically in studying the marked porosity of the shell.

In cool or cold weather, in all the cases, woolen dressings were substituted for cotton gauzes.

TECHNIQUE OF GENERAL PROCEDURE.

The wounded, destroyed, or partially destroyed portion being as nearly aseptic as possible, hemorrhage being controlled or infinitesimal hemorrhage being allowed, each piece of work of creative surgery being a law unto itself, as my conclusive critical analysis of the cases will show, the cells of the inner celllular substance covering the albumen of the egg are either detached, using a sterile spoon and specially designed forceps, or the strips of fresh cellular media are cut away and brought to, or near, the soil from which the new structures are to be produced before the cells are sown. The residue or partially evaporated saline water, procured from the ocean, is brought in contact with the place from whence the new growth is to spring. Sterile dressings and splints or gauze cushions, as will be seen under the heading of my criticism, depending on the portion of the economy under consideration, are resorted to as required.



Fig. 4.—Case IV, triangular ear wound.

As the cells were preserved in salt water for a period of several days while carrying out some of the research it is logical to believe that this might be done so that the cells might be used at all seasons.

In all cases, from time to time, new cells were introduced to facilitate the growth of structures or to hasten the growth of granulating surfaces; the growth of the different structures seemed to be in perfect harmony. The nerves were pronouncedly well developed, sensory motor as well as tactile corpuscles, as well as responsive to heat and cold.

THE PHOTOGRAPHIC PART.

A special paragraph must necessarily be set aside for this important part of the work.

As my laboratory is not large enough for a pho-



Fig. 5.—Case VIII, gunshot wound before and after operation.



FIG. 6.—Case XII, before and after operation.

tographic room, local studios have been resorted to. One of the artists having been many years at work, kindly consented to make pictures of the negro patients. This was especially fortunate, as on account of the superstitions or fears of a rogues' gallery, and general nervousness, the greatest amount of tact imaginable had to be used in order to get them to consent to a picture. In case i (November 6, 1908), I was not able to be present, and instead of the same fingers on either hand being held, it will be noted that an index instead of middle finger has been photographed to show the symmetry of the middle fingers; in examining the fingers, no difference can be seen. In the second photograph, taken two years afterward, the whole finger is dark. This is due to a continuous crusade of staining, the patient being of a very superstitious nature. In examining the finger carefully, it will be noted that the member seems to have grown, and the nail is much more natural in size.

In only three cases was it possible to get a photograph until after the cases were finished. For these I am especially grateful. On account of the exigency of the injuries, and the patients not permitting, no photograph could be secured.

None of the negatives has been retouched or altered in any way.

I am indebted to Mr. Robert Holt for taking the photographs of their employee, Smith Herring.

CONCLUSIVE CRITICISM.

While none of the cases reported have been in children, except case xvii, and realizing the ease in which growth will be facilitated, if such ever is my good fortune, I feel compelled to use the musical words of an anonymous author, so with apologies to all cynics, I quote (6): "I look at the dainty fingers, perfect as arbutus blossoms, and I know that all the scientists and artists in the world could never make so much as one tiny nail flushed with a life tint."

The quotation is very applicable to some of the work, especially to case iii, where white fingers grew on a black hand. The appearance of the nail was the greatest surprise of my life, and had I read the anonymous writer's fascinating book, I would have used every possible effort to have had a photograph made daily. It was in this case that objection to have a photograph taken was strong.

This case, when finished without his knowledge, so astonished my father, who referred the patient to me for amputation, as to compel him to say that he would with difficulty believe the work possible unless he had seen the hand before the creative surgery was done.

The case of S. H., case ix, will particularly demonstrate the colossal power of supremely sparse cells. All of the tissue completely surrounding the lost metacarpal phalanx was destroyed and apparently far below the nail cell area, and yet if one examines the finger, as the photograph shows, virtually no difference exists in the members.

In a number of the patients a long period of waiting was necessary, in order that I might eliminate all infection and, as it were, prepare the soil prior to planting the seed. A turpentine prepara-



FIG. 7.—Case XIV, before and after operation.

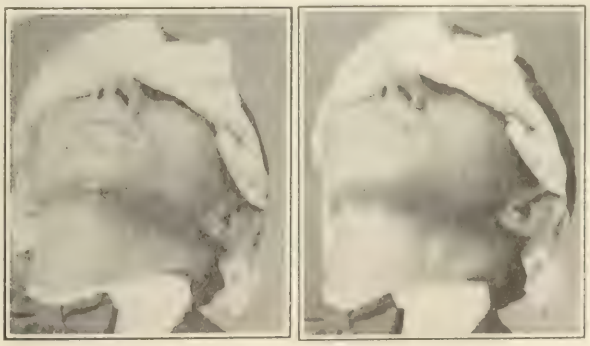


FIG. 8.—Case XV, chin tumor before and after operation, with perfect results.

tion and oxygen baths were used in hastening the destruction and the elimination of purulent organisms.

The terpene preparation is a distillation of *Pinus sylvester*, and is a product practically free from turpentine and methyl alcohol, and is especially advised as a destroyer of infection.

One of the most important parts of the work is having, in all cases where infection has existed, as nearly as possible, an absolutely aseptic soil.



Fig. 9.—Case XVI, fecal fistula, tissue grown.

A daily observation of the part growing is imperative. It may be further noted that to stimulate a granulation by an escharotic or a curette, the best judgment is necessary; nitrate of silver and balsam of Peru and a sharp curette can be used. It should be stated that the use of Volkmann's spoon is often quite an advantage. The use at all times, until the work is done, of sterile dressings and aseptic methods is obligatory. In most of the cases the second or third day's examination shows an increase of tissue, but it is necessary for at least three weeks to pass before an appreciable amount of newly grown tissue can be seen.

The life power of these new cells must depend on the duration for complete embryonic development, and in only one case (Kutt), that of a growing boy, has there ever been a tendency for the newly grown flesh, so to speak, to overstep the bounds, that is, become larger than the original member or portion of the anatomy, as is noted in the chin case. In these cases the tissue was curetted and the growth stopped.

At no time have I deemed it necessary to seek corroboration for the discovery of this new cell by carrying out a line of work on the lower animal, neither has it been deemed necessary to make microscopical sections of the newly created tissues, as well as those of the opposite side of the body. This work is absolutely conclusive and in no way is it possible to classify it as scar tissue.

It is with extreme pleasure that I express my sincere thanks to my assistant, Miss Child; to her it is due that we have achieved much of the successful results of creative surgery; and to Doctor Mohler and Doctor Dorset, biologists of the Agricultural Department, Bureau of Animal Industry.

CASE REPORTS.

Case I. E. W., crushed and torn last palmar phalanx middle finger. This patient had a box weighing over 100 pounds fall for a distance of some inches on his finger, literally crushing out at least one third of the end of the finger. After using every known method for some days, a deep gaping, concave wound, going to the phalanx, still remained. At the same time the nail was removed. In order to get the opening to heal, I, from time to time, placed cells and strips of membrane over the end of the phalanx, as described by me under head of technique. The finger not only completely healed over, but has been so built up as to virtually make it stand out as the others. The patient, a mulatto, has only a modified color of the joint, it being rather white, while to the feel it is very velvety.

Case II. E. N., first, second, third fingers, first and second joints of little finger torn away by rice threshing machine. After trimming out and endeavoring to save as much of his hand as possible for two or three weeks, freeing it from all infection (the patient having been seen six hours after he had met with the injury on a rice plantation some miles down the river), I found that in several places, especially the joint of the little finger, there was virtually no covering, and in these places, cells were rather freely used, as well as over the end of the index stump. Patient is now well, and by having saved one phalanx of the little finger, as well as having replaced parts of the first, second, and third metacarpophalangeal joint covering, this man is able to perform a fair amount of work, using a hoe in the fields.

Case III. C. H., sloughing ungual first and second index finger joints; phalanges exposed and bones necrosed; absence of nail and skin; metacarpophalangeal joints double size (chemically pure carbolic acid burn). This case was referred to me by a physician with a request that amputation be made. After I had seen the woman once, she went to the hospital without my knowledge, and there she tells me a consultation of surgeons was held, and they decided to amputate her hand. She again reported to me and I found an indescribable condition. Considerable cellulitis of the hand existed. The finger had only last phalangeal joints; necrosed bones, foul smelling, were showing, protruding through a sloughing mass of tissue unenveloped with skin. The metacarpophalangeal joint was as large as her thumb. The history of the case was that at some time she had shown evidence of syphilis and had a mild attack of hemiplegia, but had been successfully treated by her physician. The woman implored me not to amputate her finger. Large doses of antisyphilitic preparations were administered, and her finger and hand carefully treated by the usual antiseptic methods. At different times, necrosed bones of two last phalangeal joints was removed by incisions being made on the side of the finger, avoiding the tendon, or at least, what was left of it. By the application of splints, we succeeded in keeping the member in excellent position.

It was most interesting to see the white tissue growing on the jet black hand, and, to our surprise, to find new nail cells sprouting. As the weeks passed, and even months, the finger began to assume original proportions, as a part of a nail had grown and the two joints were partially restored, with a distinct line of pinkish white and black in evidence. While the patient has no control over the movements of the two joints, partial flexion and extension of finger exists, she has to all appearances a slightly shrunken white finger grown on a black hand. This patient, a woman about sixty years of age, was seen

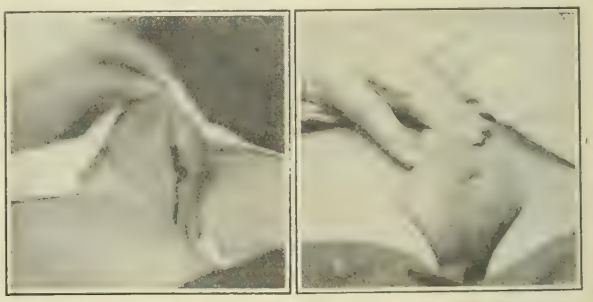


Fig. 10.—Case XVII, before and after operation.

and hand dressed seventy-two times in the space of three months.

This case seems incredible, but it is the greatest proof of my twenty years of study and research, that apparently useless parts of the body can be restored or saved, by reconstruction, with patience and application of unique, novel methods.

Case IV. S. E. Large jagged incised wound. Left ear wound. A robust ex-officer was brought to my operating room by M. K. one morning, thirty hours after the pre-

ceding case. The history afterward detailed in court by witnesses was as follows:

The patient was sitting by the side of a table and wearing his stiff hat. His stepson, with whom he had quarrelled several days before, came up from behind and without notice endeavored to brain his victim, using a newly turned table leg measuring one and three quarter inch in diameter, raising it well above his head and driving it into the derby hat, which caused the wood to glance thereby and go through the hat into the ear, mashing out a trianguar piece one half inch at the upper surface and tapering one and one half inch to the external auditory meatus, which naturally allowed the posterior portion to fall back. Hemorrhage was quite profuse. This was soon controlled and my technique was followed with the exception that for the first time a human hair was used as a suture. It had been used on the bloodvessels of cats as suggested by F. V. Guthrie and C. C. Guthrie, of Pittsburgh, Pa., Suture of Bloodvessels with Human Hair, *Journal of the American Medical Association*, January 29, 1910. My reason for using this type of suture was due to the bloodless area just above the auditory meatus, realizing that naturally if material of greater size was used it would exert too great pressure. I have since used this type of suture, doubled, in an emergency. It is easily sterilized. In this case cushions of gauze and many other methods were used in accommodating my dressings. This case was treated for six weeks, although the flesh grew from the first, a thick covering of cells being freely used. A slight scar exists, the result of a heavy string used in holding his hat in place. It was impossible to get a photograph at the first dressing of this case, and even until it was finished on account of the methods employed.

Case V. Richard Neal (col.), 32 calibre bullet wound. Right ear, above lobe. This patient, a stout, healthy negro, called me one morning at 1:30, and said that he had been struck with a rock, and a part of his ear had been knocked out. Examination revealed the injury as detailed. A first aid dressing was applied and on the morning of February 18th he was sent to the operating room and the wound rendered more aseptic, and the method as detailed in technique carried out. The patient was treated several times, and refusing photograph, I called Mr. Walter Kingsbury who has always been interested in my work, to examine the case. He stated he could not tell which ear had been wounded. This case was under observation three weeks.

Case VI. Marshall, nail injury, radiocarpal side left hand, wrist fold. Lacerated contused wound, in this area one quarter inch deep, three eighths of an inch wide, three quarter inch long, bleeding and painful. Rendered aseptic as soon as possible. Unable to suture, consequently left to grow over; this was done, about thirty days being required. No scar.

Case VII. Jasper Bailey (col.), lacerated crucial wound, forehead. This man, a magnificent specimen of the African race, had got into a fight with several of his race, and with either brass knuckles or finger rings, they had literally cut out in a splendid black forehead a cross one and one half inch long by three eighths inch wide, exposing the glistening front of the bone. Sutures would have given me a granulating wound and scar, but as Jasper had a "jularky" as fine a Nigerian princess, as one can imagine, he had come to me saying that she knew I would give him no scar, and this being the fact, she would not mind going to the altar. The technique being followed, Jasper has lost his cross, but he has a good laundress.

Case VIII. H. W., gunshot injury, external side right foot, third and little toe. Two boys, about the same size and age, were attempting to shoot ducks, or as a matter of fact, anything they could find, game being scarce. One of the boys, for some unknown reason, while standing about six feet away, aimed and fired his gun at his companion's foot. The choke bore drove the shot with virtually ball like effect and the whole load went into the foot. The foot was prepared, pieces of stocking were removed and other detritus including twelve shot and three wads. The hemorrhage was stopped and I noted two mangled toes and an irregular, circular concavity, measuring one and one half inch by one and one half inch in diameter, and three fourths of an inch deep posterior to the toes. For five days the member was dressed with solutions, and on the sixth, the growth was started. More than fifty dressings were made, and after the first week the youngster returned to work. More than sixty days were devoted to this case, but as the photographs show, virtually no difference exists in the two feet, while function is perfect.

Case IX. S. H. Log hook wound, removing end of second finger, including nail and flesh, last phalanx exposing bone. This man, employed at a plant veneering tupelo and all gum logs, was attempting to take hold of a hook suspended upon a hoisting crane, and in some way his finger was caught, and he was immediately sent to the operating room. This case was one of the most interesting in the series, as all tissue was torn away apparently below the nail cell area, leaving area exposing an absolutely bare phalanx, for three fourths of an inch. For days the finger was dressed with moist gauzes and the technique was carried out. This patient was treated fifty times.

Case X. M., aged nineteen years, sloughing finger near joint. Young machinist; finger mashed. Infection and general cellulitis. Numerous incisions were made, causing deep concavity, involving second joint, when finger was rendered as nearly aseptic as possible. Creative surgery technique soon brought about a perfect result.

Case XI. R. I., incised wound severing right index finger. While grinding meat, finger was caught by machine knives, and incised for one third of an inch, involving tissue on either side and completely across base of nail. Cells were soon introduced and the new nail allowed to gently remove the old; during all the time, partial vitality was kept up and the patient seemed to suffer little inconvenience. No deformity.

Case XII. Colored boy, Jenkins, aged eight years. Wound by railroad spike. Concave wound. Absolute removal of skin, areolar tissue, fat, fascia, and temporal muscle, including periosteum of temporal bone, one half inch above right molar process, one third inch in diameter around opening. History, as testified during the trial, was as follows: While walking along a railroad track, returning from school, a vagrant youth (colored) threw an old rail spike, striking boy and giving the injury described. Fig. 6 shows result of technique in three weeks with complete recovery.

Case XIII. F., beef hook laceration of left shoulder infraspinal region. This man was employed in a large butcher shop, and while attempting to hang up a large quarter of beef, he was compelled, on account of the height, to stand on a high step ladder, and lost his balance and fell, being caught by a lower hook, from which he was lifted. Examination revealed a lacerated linear wound, two and one half inch long, one half inch deep, and three quarter inch wide. My technique was carried out. Before the case was completed, patient suffered on account of the necessary dressings, the weather being exceedingly hot. Perfect result.

Case XIV. N., carpenter, aged twenty-four years, infected tendon, partially necrosed bone, cellulitis of right index finger. Hammer wound. Skin infection. Joint involved. Neglect. This man struck his finger a sharp blow with a hammer. From the beginning he felt pain. The member began to swell, pain increased, and the whole finger became tense and greatly swollen. He went to a druggist and got a salve. After suffering severely for two days, he came to the operating room, and as I was away for the time being, the hand was put up in hot solutions by an assistant; on my return, I opened it up in several places and had it photographed. It was rendered partially aseptic for six days, and my technique followed. An examination of the photograph, Fig. 7, tells the story. This case was difficult and lasted six weeks. He has very fair function, the flexor tendon having been grown.

Case XV. D. J. Scar tumor. Chin removal. New tissue grown. Perfect result. A man, aged twenty-seven years, some years before had his chin badly cut in a railroad accident, and for some unaccountable reason, an exceedingly irregular scar measuring three fourths of an inch long, three eighths of an inch wide, and one third of an inch high was left. Patient absolutely declined to be photographed. A deep dissection was made, a frac-

tion larger than the tumor. Compress was applied, and after twenty-four hours an infinitesimal hemorrhage was allowed. The technique was carried out and three times repeated. Perfect result. When last seen, several hairs were observed coming through new tissue. First seen July 2, 1911; last seen September 20, 1911.

In September, the patient decided to allow a photograph. Consequently, the tumor, which had been hardened was glued over the area from which it had been removed, and the other photograph shows the absence of tumor and no scar.

Case XVI. C. L., aged twenty-seven years. Unique. Ruptured, gangrenous appendix. Purulent peritonitis. Fecal fistula. Recovery. This young man, an insurance agent, came to my consultation room, at 5 o'clock in the afternoon. He looked very sick and complained of abdominal pain. His temperature was 96° F. I soon took it again and the thermometer registered the same. In less than five minutes he was sent home and put to bed. I feared perforation and an operation seemed imperative. His temperature soon rose, his pulse grew in strength, and his pain lessened. In a short time he was put on the table in the James Walker Memorial Hospital, and anesthetics were given by Doctor Lang. To do this was exceedingly difficult, and three times during my work hiccoughs compelled me to stop. Doctor Hughes assisted me. After making a Kammerer incision, a general purulent peritonitis with a ruptured appendix vermiformis was noted.

The appendix was freed from its many adhesions, on account of the depth of the abdomen, with great difficulty; the appendix was so friable and softened, including the cecum for some centimetres, as to make handling it exceedingly hazardous, and as a matter of fact, ligature after ligature pulled out and hemorrhage seemed slowly to reach a troublesome stage, so I took no further chances, and clamped the bleeding points with three eighth inch Tait clamps, and trimmed away the gangrenous tissue. This region was walled off, and three long gauze rubber tube drains were introduced.

When the patient was removed from the table, he was *in extremis*, although the work was done very rapidly. The greatest interest was taken in the case by all of the house staff and nurses, and on the third day, with fullest preparations for another operation if necessary, with almost breathless interest I removed one of the clamps, on the next day, another, and on the third day, the last. From day to day the packing was loosened, and on the sixth feces were observed. This discharge continued until the twenty-fourth day, when it ceased. On the twenty-second day the patient was transferred to his home, with a large gaping wound. In three days the parts were apparently aseptic, and I began the technique necessary for creative surgery.

It was phenomenally interesting to see the new tissues constructed, the patient being on his back. A large number of cells was often necessary, and I have every reason to believe that there would have been not even a scar, but the patient was impulsive and impetuous, and seemed to be determined to get up. This he did on the fortieth day, and on the fiftieth was walking over a farm. He has no hernia, and a very small scar.

Case XVII. S. L., aged sixteen years, sawmill accident, completely removing an oval area two and three quarter inches long, one and one half inch wide, of integumentum dartos, intercolumnar fascia, cremasteric fascia, infundibuliform fascia, and parietal portion of left tunica vaginalis.

This bright, polite youngster, was walking across the sawdust floor of the mill house with his employer. In order to let him pass, the boy stepped aside, when instantaneously the engine started up, gripping the patient, tearing his clothes away, and bringing in contact with the injured parts some eight penny nails he had in his pocket. These, in some extraordinary way, acted as knives and hastened the infection. Marked shock followed the traumatism, and the patient was brought from his home near the mill, fourteen miles away, to my operating room. Reaction occurred and for five days a battle was fought to conquer the infection. This done, cells were brought into the destroyed area and a new growth was started. From time to time, some infection would start, but it would soon be stamped out. The patient's vitality became greatly lowered and on account of the direct glandular traumatism, it was quite possible that a chain of local and reflex nervous symptoms would follow.

Case XVIII. M. T., aged thirty years, laundress. Middle finger, right hand, caught in wringer. Patient came to the operating room soon after the accident. Whole side of finger badly lacerated. Nail injured. Rendered aseptic in forty-eight hours. My technique followed for twenty days. Perfect result.

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The Plaza.

SARCOMA OF THE INFERIOR MAXILLA; REPORT OF A CASE.

By J. Dawson Whitall, M. D.,
Philadelphia.

Sarcoma of the inferior maxilla may be divided into three types: 1. Giant celled; 2, spindle celled; 3, small round celled; the last named being the most malignant as far as producing early metastasis is concerned, next in order the spindle celled, while the giant celled variety is least dangerous. The younger the patient, the more rapidly fatal the termination. Here, as elsewhere, the growth is localized at first so that early diagnosis and prompt operation offer the only chance in these unfortunate cases. Where the growth has perforated the periosteum and is adherent to the overlying structures, the operation should be considered late and the prognosis is bad.



Fig. 1.—*A*, Extent of growth, showing lighter areas.

Case. N. A., white, male, aged twenty-three years, machinist. Family history, entirely negative as far as malignancy or tuberculosis was concerned. Personal history: Had always been in the best of health; no venereal history; used tobacco moderately, no alcohol.

Present trouble: In April, 1909, while at work, an iron bar struck him on the right side of his jaw. The injury at the time was so slight that he hardly noticed it; in fact the skin was not even broken. One year later he noticed a small lump over the original site of injury, but

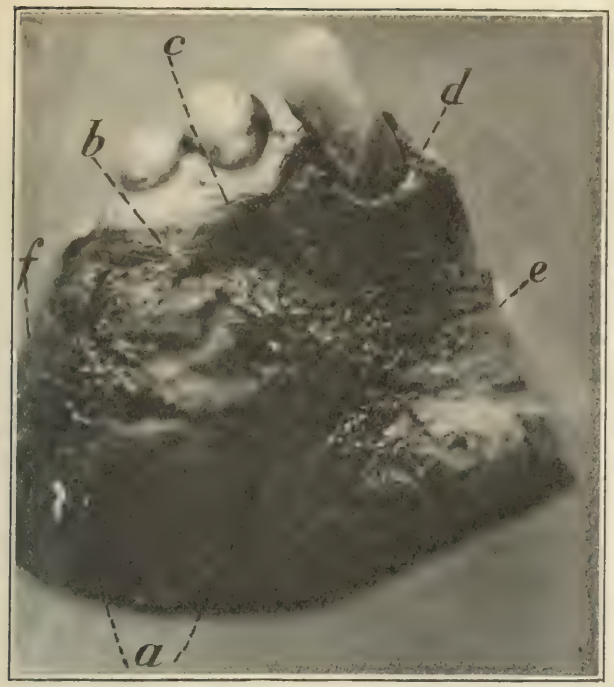


FIG. 2a.—External surface; *a*, growth protruding through periosteum; *b*, mucous membrane insertion; *c*, ulcerated bone; *d*, canine alveolus; *e*, distal end of maxilla; *f*, proximal end of maxilla.

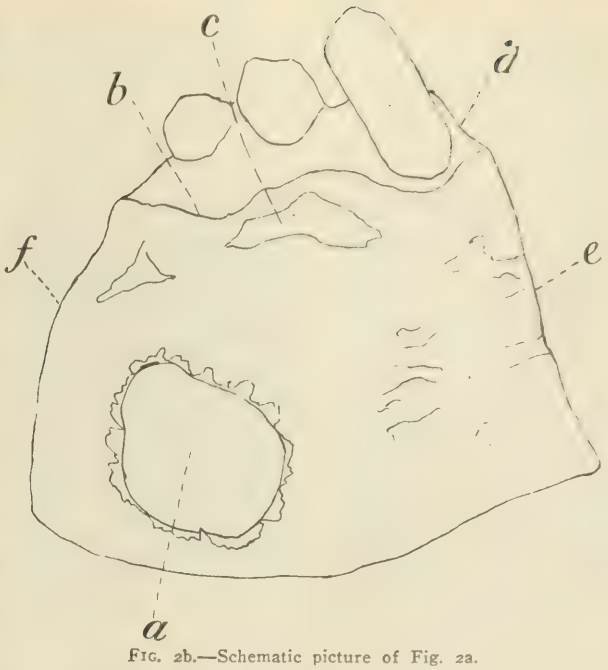


FIG. 2b.—Schematic picture of Fig. 2a.

paid no attention to it. I first saw the patient July 27, 1911, at which time he had lost steadily in weight but felt normal otherwise.

Physical examination revealed a young man fairly well nourished; heart and lungs apparently normal. On the right inferior maxilla there was a mass, hard, immovable, and painless, about the size of an egg. It occupied a position about midway between the mental process and the angle of the jaw, and was intimately attached to the bone. Inspection in the mouth showed a slight encroachment of the growth upon the oral cavity. Palpation revealed the immovability and stony hardness of the growth. On the inferior portion of the tumor, pressure elicited pain. The diagnosis was osteosarcoma of the inferior maxilla. The x ray examination, for which I am indebted to Dr. Mulford K. Fischer, revealed a thinning in areas of the affected bone, while trabeculæ could be faintly made out. (Fig. 1.)

Immediate operation was advised, but I had a hard time convincing the patient that surgery was imperative, as he felt so well and had no pain. On August 1, 1911, he was admitted to the Northwestern General Hospital, and received the routine preparation. On August 2nd, under ether narcosis, an incision was made down to the periosteum on the inferior surface of the maxilla and parallel to it, while the growth was explored. It had entirely escaped the periosteum in one area about the size of a quarter dollar, presenting as a dark red mass which bled easily. Upon dissecting the tissue free inferiorly, another ulcerated portion of bone was encountered. The incision was extended

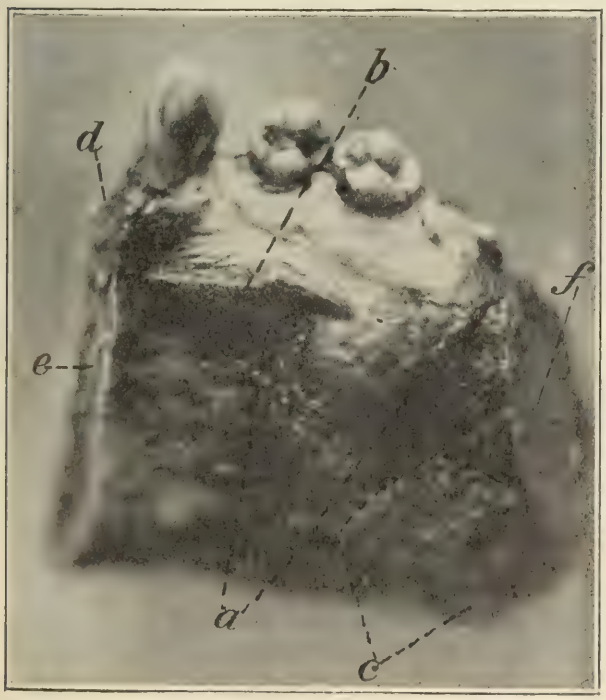


FIG. 3a.—Internal surface; *a*, growth protruding through periosteum; *b*, mucous membrane insertion; *c*, ulcerated bone; *d*, canine alveolus; *e*, distal end of maxilla; *f*, proximal end of maxilla.

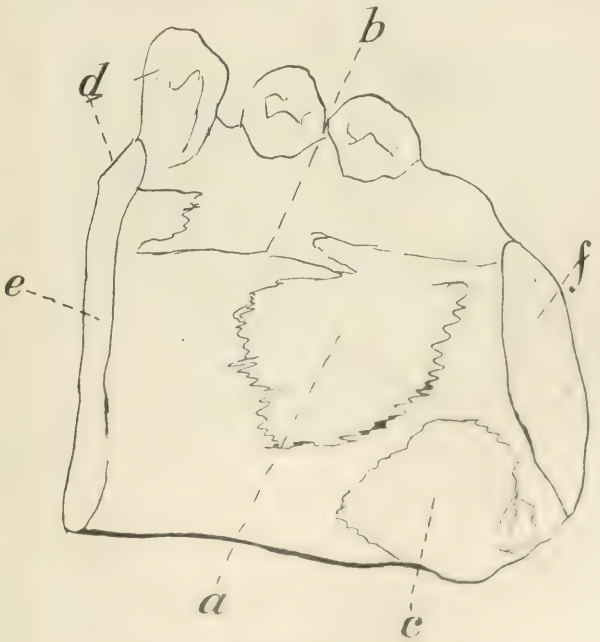


FIG. 3b.—Schematic picture of Fig. 3a.

freely in both directions (the facial artery was pushed posteriorly and other small branches clamped and cut) until what seemed to be healthy bone was reached. By blunt dissection all the tissue was gradually freed from the bony structure on the external and inferior surface, working from below upward. The canine tooth was extracted,



Fig. 4.—Patient eight weeks after operation; anterior view, showing no deformity.



Fig. 5.—Patient eight weeks after operation; lateral view, showing incision.

the mucous membrane perforated, and a Gigli saw passed around the bone in the space left. The bone was then divided and held by a lion jaw forceps to overcome the muscular spasm of the buccinator, masseter, and temporal muscles. The same procedure was then carried out near the angle of the jaw, leaving the last molar tooth with the idea of later bridging the gap made by the resection. Hemorrhage was surprisingly slight and was easily controlled after turning out the divided bone and freeing the attached muscles and mucous membrane. The space left by the resection was too great to bridge with a bone plate. The edges of the bone were trimmed, all the edges of the mucous membrane were caught and united by a continuous No. 2 chromic gut suture, by which means the mouth cavity was shut out from the operative field. The muscles and fascia were next brought together by the same suture material. The incision was then closed by interrupted silkworm subsutures, a few strands being left in the posterior angle of the incision. Dressings were then applied, and were held in place by a cardboard chin piece and bandage. The patient received morphine sulphate, grain ⅛, hypodermatically. A mouth wash consisting of a fifty per cent. solution of peroxide of hydrogen and alkaline anti-

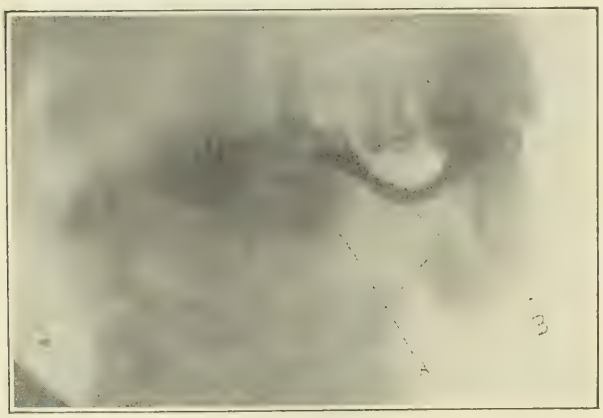


Fig. 6.—*A* shows cut edges of maxilla; *B* shows hard rubber plate in position.

septic was ordered, while a forty per cent. solution of argyrol was swabbed on the line of sutures within the oral cavity every three hours. The patient had a great deal of drooling, which gradually cleared up in about four days; he had no pain and slept well. He received albumen water or milk through a sterile catheter passed well to the opposite side every two hours. On the second day the patient was about the ward. It was realized that the chance of recurrence was very great, for with ulceration present, the likelihood of a complete extirpation of all the sarcomatous tissue was not great. For these reasons he received Coley's fluid (which was obtained from Dr. Martha Tracy) in the following manner:

	Amount Coley's fluid.	Reaction.
August 5....	m. 0.25 in right buttocl	Temperature 100.5°; no chill.
August 7....	m. 0.5 in left buttock	Temperature 100.6°; felt feverish and had prickling sensation.
August 10...	m. 0.5 in back	Temperature 100.5°; peculiar sensation in the incision; no chill; more drainage.
August 11...	m. 0.75 in back	Temperature normal; no chill.
August 13...	m. 1 in back	Temperature normal; no chill.
August 14...	m. 1.50 in back	Temperature 101°; no chill.
August 16...	m. 2 in back	Temperature 100.6°; drainage profuse; right side of face very much swollen.
August 18...	m. 2.50 in back	Temperature 100°; no chill; the injections were suspended on account of the amount of swelling.

On August 30th the patient was placed on x ray treatment up to September 15th, when owing to a pronounced reaction it was discontinued. There were nine treatments in all.

Two spicules of bone were discharged from the two openings (one from each sinus) when the swelling gradually subsided and the drainage ceased entirely by September 30th.

The patient was then sent to Dr. L. E. Martin, a dentist, who gradually separated the transverse ramus from the opposite (sound) side, which had a decided tendency to sink in, preventing the articulation of the teeth from the opposite side, and making it impossible for him to masticate food. At the present time he is wearing a hard rubber plate, which later will be replaced with a plate having teeth. This will be anchored to the last molar tooth on the affected side and the incisors on the sound side.

On October 3rd, Coley's fluid was again used, starting with one quarter minim and increased as follows:

	Amount Coley's fluid.	Reaction.
October 3.....	m. 0.25 in back	Negative.
October 5.....	m. 0.75 in back	Negative.
October 9.....	m. 1 in back	Negative.
October 12.....	m. 1.50 in back	Negative.
October 16.....	m. 2 in back	Negative.
October 21.....	m. 2.50 in back	

One and a half hour later the patient had peculiar sensations in his head and palpitation of the heart. Noises were exaggerated. His temperature rose to 103° F. He vomited and was purged severely, and had severe chills. The following day he was much prostrated and felt very weak; his stomach was much upset for several days. The injections were discontinued.

The pathological report was small round celled sarcoma.

This case report is merely a preliminary one, the writer realizing that not until the three years' limit has expired can the patient be said to be free from the danger of recurrence, especially as he had the most malignant type of sarcoma.

2025 Chestnut Street.

REMARKABLE RESISTANCE TO COMBINED ASCARIS AND HOOKWORM INFESTATION.

By Emilio Echeverria, M. D.,
Limón, Costa Rica.

The following case is reported on account of the singular resistance shown by a five year old child, poorly fed and constitutionally feeble, to a combined infestation by ascarides and hookworms.

Case. J. F., half breed, Indian and Black, five years old, arrived at the United Fruit Company's hospital 7:50 p. m., August 14, 1911, with the following history: He had been knocked down by the engine of a work train at 3 p. m., sustaining lacerated wound of right arm and shoul-

der. Wounds were dressed by dispenser on the road; the accident happened fifty miles away from Limón. The wound occupied the whole external aspect of the arm. There was only a bridge of skin from the axilla to the internal condyle. The whole fascia was destroyed at the wounded part and a good portion of the muscular tissue was also mangled. The wound was washed and placed in antiseptic compresses. The patient looked very thin and had a very large abdomen.

August 15th: At 2 p. m. his temperature rose to 38.4° C. and he received three grains of euquinine every three hours.

August 16th: Looked better. Dressings were changed for ten per cent. ichthyol ointment. These were changed every day after washing with carbolized oil. His temperature never went higher but kept between 37° and 38° C. until the 18th.

August 22d: Good deal of sloughing at upper end of lesion. These pieces of necrotic tissue were removed by scissors; the part was washed and covered by compresses wet in iodine and ichthyol solution, ten per cent. of each. These compresses were daily renewed until August 28th, when they were changed for ichthyol and iodine ointment. The euquinine was reduced to three grains morning and evening. He received a tonic of citrate of iron, quinine, and arsenic; codliver oil, as well as rubbings of cacao butter all over his body.



Fig. 1.—Showing injured arm and the large abdomen.

September 1st: At 6 a. m., slight stiffness of neck. At noon, the patient had attacks of muscular contraction of his neck and back at short intervals. Temperature 37.6° C. During the night he had such a severe convulsion that he fell out of bed.

September 2d: Patient in same condition. Chloral hydrate, five grains, every three hours. His temperature went up to 38.4° C.

September 3d: Well marked trismus; 10 c. c. antitetanic serum given at 11 a. m.

September 5th: Slight amelioration; injection was repeated; both times given into flank.

September 6th: Balsam of Peru and ichthyol ointment.

September 15th: Able to take milk, soup, and cereals; no more difficulty in swallowing; wound looked well; ten per cent. balsam of Peru ointment.

September 26th: Weight, twenty-five pounds. October 26th, weight thirty pounds. Discharged, having done well during this period. Dry dressings were used after October 21st.

At present, the boy's shoulder and elbow can be moved in every way with complete ease. No ankylosis of any sort was left. The scar looks well and healthy, but for some keloidal tissue at the lower internal margin of the wound. There was no skin grafting done, but the patient was also treated for his intestinal parasites, with the usual remedies.

EXTRADURAL HEMORRHAGE; RECOVERY AFTER TREPHINING.

By Benjamin T. Tilton, M. D.,
New York.

The following case seems to merit a report on account of the unusual conditions associated with the injury and with the operation for the relief of the urgent symptoms. The case came under my observation and treatment during a recent visit in the Adirondacks.

Case. C. R. J., a practising physician, on the afternoon of December 30, 1911, received a moderate blow over the left temporal region from the fist of an epileptic patient who had suddenly become violent. The blow was followed by momentary stunning which did not interfere with his attending to his professional duties the same afternoon and evening. He retired in his usual health except for a feeling of nervousness and excitation resulting from the encounter.

About midnight he was awakened by a very intense pain in the head, associated with nausea and vomiting. This was followed gradually by marked restlessness, interference with respiration, inability to move the right arm and leg, and slowly developing stupor. I saw the patient for the first time at 8 a. m. and found the following conditions: Temperature 97° F., pulse 60 and high tension; respiration only 8. He was stuporous, but could be roused to answer questions. The right arm and right leg were completely paralyzed, the sensation in both was markedly diminished, and the tongue was deviated to the right. The pupils were even and responded slowly to light. The patient groaned from the intense pain in the head and had considerable embarrassment of respiration. The region of the left temple was very tender to palpation, but there were no external marks of violence. From the history of injury, the location of the blow, the free interval following, the embarrassed respiration, high tension pulse, paralysis on the opposite side, the increasing stupor, and the marked tenderness over the temporal bone a diagnosis was made of an extradural hemorrhage probably caused by rupture of the middle meningeal artery.

It was easier to make a diagnosis than to apply the appropriate treatment. As the symptoms were most serious and progressing, it was evident that the only chance of saving the patient's life lay in an immediate trephining for the purpose of evacuating the blood which was to such a marked degree encroaching upon the space allotted to the normal endocranial contents. The difficulty now arose as to the means at my disposal of carrying out this purpose. Having brought no instruments of my own, and being too far from New York and Montreal to secure the proper ones within the necessary space of time, I was forced to make use of the unsuitable ones at my disposal.

The patient was moved on a cot by sleigh from his room in the inn to a small infirmary used in the summer season but now deserted. Here a room had been warmed from a temperature near zero to a safe one. Instruments and dressings were sterilized on the kitchen stove and an operating room was prepared.

The only instruments that I was able to secure for making an opening in the skull were a small antiquated trephine with several teeth gone, a small gouge, and an ordinary carpenter's hammer. The trephine proved worthless, as the remaining teeth broke off almost on the first turn made. I was compelled, therefore, to chisel out the bone over the selected area.

After shaving the entire head, the usual omega shaped flap with base over the zygomatic process was dissected up, exposing the temporal bone. No fracture of the external plate was found. A piece of bone about the size of the usual trephine opening was chiselled out, exposing

the dura, which did not pulsate and showed marked congestion.

The opening was gradually enlarged by a rongeur, and soon a collection of fluid blood was exposed and evacuated. It came from a wound in the posterior branch of the middle meningeal, and was estimated as about a small cupful.

As soon as the blood escaped, the brain began to pulsate normally and the congestion diminished. A small drain of plain gauze was inserted to prevent further hemorrhage, and the wound was closed down to the drain.

The patient, whose condition during the hours just before operation had grown markedly worse, reacted well, and as soon as he had recovered from the immediate effects of the anesthetic, began to use the right arm and leg.

The respiration rose from eight to twenty in a minute, the pulse tension became normal, and the stupor cleared up. The patient has since made an uninterrupted recovery.

The case illustrated perfectly the classical symptoms of acute cerebral compression from extradural hemorrhage. Had it not done so, I feel that I might have hesitated to subject the patient to a trephining under such unfavorable surroundings and with such unsatisfactory instruments at my disposal.

Had it not been for the kind and valuable assistance of Dr. Charles C. Trembley and Dr. R. M. Brown, of Saranac Lake, I should not have attempted the operation, nor could it have been brought to such a successful conclusion.

14 East Fifty-eighth Street.

DEPARTMENT OF VACCINES IN TUBERCULOSIS.

By W. H. Watters, Ph. D., M. D.,
Boston,

Director of Department of Pathology and Bacteriology, Evans Memorial for Clinical Research and Preventive Medicine; Professor of Pathology, Boston University.

Without much doubt a paper upon the subject of vaccines would have aroused more feelings of curiosity several years ago than it does at the present time. Then, the subject was new and the possibilities were unknown or at best only guessed at. Now, much more definite information is at hand, and in certain lines we know somewhat definitely the possibilities of the new therapeutic procedure. Thanks to some too zealous adherents of the method who claimed for it a cureall, or possibly to some who were actuated by various financial interests, entirely too sweeping assertions were at first made with very insufficient foundation. As a result many others became convinced that the technique was simple, the application easy; and the results certain, without any attempts at individualizing the cases. As might be expected, disappointment and failure followed this arbitrary, empirical usage, and those who were at first open minded and sympathetic became honest sceptics or even active opponents. It is against such varied feelings that those who are now using vaccines have been compelled to contend. Doubtless many of the readers of this article feel that vaccines are either a thing of the past or that they are practically without value. It is for the purpose of demonstrating the fallacy of this belief, in one field at least, that this paper has been prepared, and is now presented.

It goes without saying that the field of vaccines is limited to that of infections and infectious diseases. This field may be divided roughly into two sections, the acute infections and the chronic ones. The former have been elsewhere considered in various phases and will not here be taken up. I cannot refrain, however, from expressing my firm conviction that there is a large field for vaccines in acute lesions, but must also emphasize the fact that here they should be used only by or under the immediate direction of an experienced immunizator. Not only in typhoid, erysipelas, and pneumonia but in acute septic infections, peritonitis, empyema, infected wounds, and similar conditions, have vaccines been used with good results. I sincerely believe that lives are constantly being lost in our hospitals that might be saved by the early and proper use of these substances. Too much is often expected of the treatment. Because it fails to benefit one or several cases is no reason for decrying it, particularly as it is entirely without harm even when of no use. (Can the same be said of all the new or much vaunted medicines, or of every new surgical procedure?)

Again, only too often vaccines are employed as a last resort, when the patient is moribund or too far gone to be able to react. The difference is too often not recognized between passive immunization, as with antitoxine where no reactive change is required of the body, and active immunization as with vaccines, where the resistant forces must be present, to a slight extent at least.

Without further digression, however, let me approach the main topic of the paper, vaccines in tuberculosis. In the first place, an axiom may be laid down to which I limit my work as closely as possible. This is, that every precaution must be taken to prevent any systemic symptoms in the form of aggravation of the existing lesion or of producing other conditions due directly to the inoculations. Such an ideal is not always maintained, but it is seldom that any noticeable deviation is made from it. In other words, the treatment is harmless when properly used.

Without any doubt, the chronic infection that, above all others, is of most interest to us here in America is tuberculosis. It is needless for me to elaborate upon this topic or to classify the various forms at this time. In one of its protean aspects it menaces every man, woman, and child in city and in country. Rendered less formidable though it has been, as a result of modern research, it is still a fearsome scourge, that lays low many of all classes. Nineteen years ago the world resounded with the amazing discovery that a potent specific treatment would cause a complete elimination of the disease. You all know of Koch's tuberculin, its high claims, its disappointments, and its disasters. It fell into oblivion as a therapeutic measure for years and it is due to two men, Wright and Trudeau, more than to any others, that its true value has finally been demonstrated. These men found that the question was entirely one of dose; that the substance prepared by Koch was capable of producing or aggravating certain symptoms when used in large doses, similar to those that it could ameliorate or eliminate when used in much smaller amounts. As a result, the doses of one, five

or ten milligrammes were replaced by others of 0.0001, 0.00001, or even 0.000001 mg.

What are the results of the treatment thus administered? First, let us consider pulmonary tuberculosis. Statistical studies are here difficult on account of the varied methods used by different investigators in judging improvement. Some consider the regulation of fever the important criterion; others the pulse; others the amount of expectoration, or the number of the bacilli in the sputum. Probably the greater number of writers watch the disappearance of the bacilli as an indication of improvement. In a very general way they may all be classed together according to published records. In this rather loose summary, including several hundred cases of the disease in all stages and treated by various men, approximately forty-five per cent. lost the bacilli under tuberculin treatment, while an equal number of control cases under identical environment but without tuberculin showed a loss of bacilli in only about twenty-five per cent. I have yet to find reports of tuberculin treatment properly administered in which the results are not superior to those where it has not been used.

The question naturally comes: What is the proper use of tuberculin? There are at present two schools of opinion: one led by Trudeau begins with about 0.0001 or 0.00001 mg., gradually increasing to the limit of toleration; sometimes one or two mg.; the other, led by Wright, making 0.001 mg. the maximum. To the latter I have always given my allegiance, and it is gratifying to note that the believers in the larger doses are also coming to the more infinitesimal ones. In pulmonary tuberculosis the dose is most carefully regulated. beginning with 0.00001 *Bacillen Emulsion,* each succeeding dose is increased 0.00001 mg. until 0.0001 is given; then by very gradual steps it is increased to 0.0005 mg. or very rarely 0.001 mg. After reaching the maximum I often drop to the minimum and run the scale a second, a third, or even a fourth time. The interval between inoculations varies from four to five days at first, to once a week later.

What are the suitable cases for this treatment? By almost universal consent persons with evening temperature of over ninety-nine or one hundred degrees should not receive tuberculin. I personally think there are exceptions to this rule, but as a general guide it is at present satisfactory. Those with a lower temperature may be classed as suitable. Without further elaboration, therefore, I consider it definitely proved, both from personal experience and from that of others, that suitable cases do better with tuberculin than without it, and that their chances of benefit or cure are increased from twenty-five to one hundred per cent.

So much for brief consideration of those cases suitable for tuberculin. What of those unsuitable? Is there no hope for them? Most decidedly, yes! Some one has said that if it were not for the secondary infections most consumptives would die of old age. While possibly somewhat overstated, this contains much truth. To these secondary infections are due the higher temperatures, the chills, the hectic conditions, and particularly the extensive tissue destruction with the resultant toxic absorption. The invaders are usually the pneumococcus or the streptococcus, occasionally the staphylococcus, or a combination of two or three. In just these cases, I believe, will some of our most striking results be attained. We are here dealing with pyogenic organisms, and if there is sufficient vitality in the patient, can hope with confidence to establish a degree of immunity varying with the reactive ability of the body. It may seem overenthusiastic, but I believe that every patient with nightly elevation of temperature over 100° F. should have a vaccine for his or her secondary infection (if there is such), just as strongly as I do that all others should try tuberculin for not less than three months, even if no benefit is apparent before that time. When benefit is noted the treatment should be continued from nine to eighteen months or longer. And even in incipient cases I have repeatedly found benefit to follow more rapidly where an autogenous pyogenic vaccine was used in alternation with the tuberculin. Also after some weeks or months treatment of febrile cases with vaccine, where tuberculin is contraindicated, these contraindications have been gradually eliminated and tuberculin has been used with very gratifying results.

A case illustrative of each of the two conditions may be here cited:

Case I. Mr. H. Incipient tuberculosis. No fever; no increased pulse; steadily increasing cough with considerable expectoration; sputum containing numerous bacilli tuberculosis. Physical signs in right apex. Was advised to leave town for a sanatorium for six or eight months. Circumstances seemed to forbid this, and so somewhat under protest I tried the vaccine treatment. For about a month he remained at home, resting in the open, night and day, coming to town once or twice a week for treatment, and at that time doing a little office work. Expectoration and cough at the end of that time had entirely disappeared, with marked subsidence of physical signs. The second month three trips to town each week were permitted; the third, daily ones, gradually increasing the duration of the stay there. From that time to the present an interval of more than two years, no evidence of the disease has been apparent in spite of quite hard work both physical and mental. The hygienic habits are still followed and treatment is continued somewhat irregularly.

Case II. Mr. G. Advanced tuberculosis with extensive cavity formation. Man about thirty years old in a town near Rutland, carefully and conscientiously taking the general sanatorium treatment under the direction of an able physician. Severe sweats, chills, daily fever, 104° F. to 105° F.; no appetite, rapid loss of flesh, severe racking cough with profuse expectoration. The case was recognized by all as entirely hopeless. With the possibility of some palliation borne in mind, an autogenous vaccine was made. Within about a month or six weeks the chills had disappeared entirely; the temperature at its highest was not above 100° F.; appetite had reappeared and some increase in weight was noted. The cough and expectoration was better and the feeling of well being of the patient had increased remarkably. This went on for several months in spite of the fact that the disease itself was not materially checked. The fatal termination came as was anticipated by all, possibly delayed somewhat by treatment, but the very gratifying feature throughout was the great comfort of the patient as compared with his condition when first seen.

These cases are merely examples and can be duplicated, if desired.

The conclusions, then, in pulmonary tuberculosis, are: If the patient is doing well under routine treatment, his chances for doing better will be much increased, probably doubled, by the use of vaccines. If he is not doing well under routine

treatment, then by all means give to him the advantages of vaccines. If he is very advanced and hopeless, vaccines are strongly indicated as palliative and possibly as curative agents as well.

As will be seen, therefore, vaccines are indicated in all stages of the disease, a statement that may seem very sweeping, but one that I most sincerely believe.

If, then, this new method of treatment is recommended in pulmonary tuberculosis, it is still more strongly urged in the various forms of the disease, located elsewhere. Not as an infallible cureall do I urge its use, for in instances not a few it will completely fail, as will any other remedial agent. I do urge it, however, as a very important addition to the usual measures.

Tuberculous infection of the lymph nodes, particularly those of the cervical region, is widespread and common. Some cases disappear spontaneously as autoimmunity develops, some break down and suppurate for weeks, months, or years, and some are removed surgically. Cases in large numbers have now been reported as subsiding under proper use of tuberculin. In the earlier stages, before caseation or calcification have occurred, tuberculin will usually prove to be sufficient, when combined with proper hygienic treatment. It will not, however, remove caseous or calcareous material, which may be done surgically, although it should tend to arrest the further progress of the disease. Our method of choice in treating a broken down gland is merely aspirating out the softened tissue rather than by opening more widely and producing an opening that is certain to become secondarily infected. An illustrative case:

Case III. Miss M., aged twenty-eight years, operation twice performed for removal of infected cervical nodes. After operation persistent recurrence. When first seen had several very palpable bunches, the largest the size of an almond shell, steadily enlarging for past three months, and supposed to be going just as previous ones had, to softening and breaking down. Tuberculin once a week for several months resulted in complete disappearance and no further recurrence now for two years.

Conclusions. In the so called tuberculous cervical adenitis, unless very advanced to caseation, tuberculin should be used for from three to six months at least before resorting to surgical interference, thereby reducing the necessity for such interference by fifty or seventy-five per cent. It should also follow every operation for the removal of glands in order more certainly to insure complete recovery.

Tuberculous osteomyclitis. As this is usually recognized only when advanced or at the time of operation, the use of tuberculin in my personal experience has been limited to its postoperative application. Undoubtedly, when the diagnosis can be made before destruction has occurred, tuberculin may remove the need for operation. Later, however, the necrotic tissue must be removed by the surgeon, after which tuberculin should be used to prevent further extension.

Here secondary infection is almost invariable, and accordingly vaccines made from such are valuable adjuncts to alternate with the specific treatment. Illustrative case:

Case IV. Mr. O'M. This was about as bad a case of multiple foci of tuberculous osteomyelitis as I had ever seen. Free pus was coming from several sinuses in both legs, both above and below the knee. X ray showed involvement of the head of the humerus and much pain was here experienced. Patient had been in the hospital for a number of months with several operations. He was steadily becoming worse, was absolutely confined to bed, and was showing a regular afternoon fever from 100° F. to 101° F. The pain from the various foci was exquisite. Cultures showed the staphylococcus to be the secondary infection and a vaccine was made. This was used in alternation with tuberculin for eleven months. Within two weeks the pain had practically entirely disappeared and the preceding steady decline had been arrested. The swelling in the shoulder subsided in one month and patient could be placed in wheel chair and taken out of doors in six weeks. In less than two months he was on crutches. He left the hospital in ten weeks and came as an out patient for weekly inoculations. All sinuses had long ago ceased to discharge pus, and soon healed completely. He was able to go back to his former occupation. For about a year he was well. He then stopped the inoculations, contracted gonorrhea and syphilis, married, and began drinking heavily. The old trouble returned. He went to another institution and died after a few months.

Here again case after case might be cited. One bad tuberculous knee, starting again after resection, was completely cured by tuberculin, and the owner became so interested in medicine that he is now a senior student in one of our medical schools, with a firm and unshakable faith in the efficacy of vaccines.

Tuberculous enterocolitis. Here I believe vaccines have the field to themselves as far as distinct treatment is concerned. Let me illustrate their use by a case:

Case V. Mrs. X. A very advanced case of intestinal tuberculosis seen in consultation by two of our best men and by both pronounced as entirely beyond any chance of benefit. Intestinal dejections were almost constant. Small watery blood stools. Persistent high evening temperature 101° and 103° F. Complete loss of appetite, profound prostration, and great emaciation. When first seen the weight was seventy-nine pounds instead of the normal 120 to 130 pounds. It was an effort merely to lift the head from the bed, while even to sit up in the bed was a complete impossibility. This condition had been steadily progressing for months and seemed to all to be inevitably leading to a fatal termination. Autogenous colon vaccines were alternated with tuberculin three times a week with very early cessation of decline and evidence of improvement.

Without further detail may be stated that now nearly two years after the patient is running her own automobile, is ruddy of cheek, weighs over 120 pounds, and looks to be in perfect health. The inoculations are still continued. The results are little short of miraculous.

Renal tuberculosis. We cannot deny that the most rapid means of eradicating the disease is by surgery. For this, however, one must be sure that only one kidney is involved, as the disease is often bilateral. One must always consider the dangers and suffering of operation with the resultant mortality.

In view of these contingencies, the use of vaccines is well justified when the patient can be under observation. One writer estimated that fully thirty per cent. of operations can be thus saved, with the resultant elimination of mortality and suffering.

A prominent New York surgeon states that every case of renal tuberculosis should have the advantage of three to six months' vaccine treatment before surgery is considered, unless there is urgent need. By this means he maintained that many will be cured without operation and the oth-

ers will be in a much better condition for the operation. In vesical tuberculosis the indications for vaccines are still greater.

CASE VI. Miss ——; two operations for renal tuberculosis, both unsuccessful, and patient came very near death during both. Abundant pus in urine for two years, with numberless colon bacilli and some bacilli tuberculosis. Frequent paroxysms of pain and pyrexia. Colon vaccine (autogenous) and tuberculin have been alternated for two years. The pus is now practically absent, the attacks of colic are infrequent and less severe, and the general well being of the patient has vastly improved. This improvement is so great that she can now attend to her regular business, that is of a rather active out of door character, and is entirely able to take care of herself in all respects.

In *lupus*, my experience has been limited, but from those who have treated a number of cases I receive enthusiastic reports.

One case recognized by many of Boston's best clinicians as *tuberculous meningitis* responded well to vaccines and is now perfectly well. When we remember the mortality of 100 per cent. in this disease, even one case cured in three treated is very encouraging.

Mesenteric tuberculosis, with or without involvement of the peritoneum, should always be treated with tuberculin, irrespective of what other treatment may be involved.

One may therefore summarize the facts already advanced into a single inclusive statement, that in tuberculous infection wherever located one should first consider proper hygienic and dietetic treatment, and following close to this comes the use of vaccines in some form according to the individual need or condition. Such a statement I should not have made two years ago, but after much personal observation and study it has come to be my firm belief.

80 EAST CONCORD STREET.

FIBROUS TUBERCULOSIS OF THE PERITONEUM, INVOLVING OMENTUM, INTESTINES, AND UTERUS.*

BY C. LESTER HALL, M.D.,
Kansas City, Mo.

Mrs. Bessie L. entered the Post-Graduate Hospital with the statement that she had been operated upon at the Bell Memorial Hospital, of the University of Kansas, and that the surgeons had been unable to remove all the cysts. She gave a very indefinite history, and all active symptoms had subsided. Her general condition was good, but apparently there were extensive adhesions in the lower abdominal and pelvic cavities, and to relieve this the operation was done on December 6, 1910. She was dismissed from the hospital, December 26, 1910. All the contents of the abdomen had adhered together in growths resembling cartilage involving the omentum, uterus, and bowels.

For the early history of the case I am indebted to Dr. Don Carlos Guffey, who had charge of the case at the Bell Memorial Hospital on March 31, 1910, which is as follows:

CASE. Mrs. Bessie L., aged twenty-three years, married, houseworker, Norwegian. Pain in right side of pelvis; menorrhagia and metrorrhagia.

Present Illness: Began about one month before with pain in the right side of the pelvis and profuse uterine hemorrhage. The pain usually was dull, but sometimes sharp. In December was the last regular period, which continued scantily for ten days. Since then flow had been almost constant. The blood was very dark and frequently came in large clots.

Previous Illnesses: Measles in childhood, which settled in eyes, leaving patient nearsighted. At twelve years of age had intermittent fever. Four years ago patient had an attack of inflammation of tubes and ovaries. One year later (three years before) a curettage was done for the control of an irregular hemorrhage which had lasted five weeks. The patient had been nauseated and vomiting for three months previously.

Family History: Mother well, fifty-two years old. Father died at thirty-nine years of paralysis (?); four brothers and three sisters living and well. One sister died from accidental poisoning. Paternal grandfather died of old age; the other three were living. One maternal uncle died of dropsy and an aunt of consumption.

Menstrual History: Menses began at seventeen years. Patient was so frightened that she washed clothing in branch, the menses being suppressed thereby for three months. Thereafter it was regular until a miscarriage two years previously, since which time it had frequently appeared twice monthly, lasting seven to ten days with a free flow. There had been much intermenstrual pain. The last regular period, in December, was very scanty.

Child Bearing Record: One miscarriage two years before at five and one half months, cause unknown. She received an anesthetic and the fetus was removed manually. She was in bed for six weeks with fever all the time. In September, or October, 1909, the patient, believing herself to be pregnant, consulted Doctor Moses, who found an enlargement to the right of the womb.

A premenstrual leucorrhea existed. This began four years before when she had the attack of pelvic inflammation. It was white, thick and nonirritating, but profuse (requiring a napkin). Now, not so profuse.

Pain was usually sharp. Frequently she had felt like fainting, which had been associated with hemorrhage and nausea.

Physical Examination: General temperature 98.6° F.; pulse 98; respiration 24. The skin was smooth and nonpigmented, but of a dusky, muddy hue (hardly a cachexia). The left pupil was large and irregular in shape. The ocular reactions were normal, except that the left was imperfect. There was a slight prominence of the eyeballs. Hearing was defective, the patient being unable to hear a watch with the left and at only two inches with the right ear. The teeth and throat were negative. There was a slight enlargement of the thyroid and a very slight tremor in the outspread fingers. The thenar eminence of the left hand was atrophied.

The digestive system was negative. The urinary system was also negative. Uranalysis; acid, 1.024; clear; no albumin; no sugar; amorphous urates and mucous threads; a few crystals of calcium oxalate.

The abdominal examination showed tenderness low down on right side. Tumor palpable immediately about Poupart's ligament of the right side, apparently extending down into the pelvis.

The vaginal examination showed the cervix to be slightly softened and enlarged; the lower uterine segment hard; the fundus enlarged, hard, and to the left. To the right and in front (especially) was a soft, yielding, tender mass, the size of an orange. Apparently it was immovable and attached to the uterus.

Microscopical examination showed carcinoma of the ovary with metastatic nodules.

Operation: A laparotomy revealed a large, hard, grayish mass in right side of pelvis, with buttonlike masses in the omentum, covering the intestines, right broad ligament, and right pelvic wall. The condition being inoperable, several of the masses were removed for microscopical examination and the abdomen was closed in the usual way.

On April 13, 1910, the patient left the hospital. The abdominal incision healed by primary union.

Further investigation into the case convinces me that the title of my paper, as printed in the pro-

*Read before the Western Surgical Association, December 18-19, 1911.

gramme, should be changed to read as I have it above.

Three prominent forms of tuberculosis of the peritoneum are miliary tuberculosis, chronic diffuse tuberculosis (cheesy tubers), and chronic fibroid tuberculosis, which is a terminal stage of the preceding varieties. Kelley says, contrary to expectations, recognizable tuberculosis of other organs in connection with pelvic tuberculosis is not common, not even in the lungs. In fact, the presence of tuberculous peritonitis of the pelvic organs seems often to offer immunity to tuberculosis elsewhere. The avenue of infection is often difficult or impossible to determine. It might occur at any age, but most frequently in middle age. Heredity often furnishes a cause, but in the history of the present case only one member of her family—an aunt—died of tuberculosis. It may come from an infected lymphatic gland in remote parts of the body, carried in the circulation to the pelvic organs. It may have followed the marital relation. A surprising condition is found in such cases, in that notwithstanding the extensive matting together of the intestines, the peristaltic function of the bowels is not interfered with, and we do not have the trouble often found with a single adhesion of the bowels.

An interesting feature in the case was the unusual size of these nodules, varying from that of a mustard seed to a small hazel nut, which were not simply implanted on the tissues, but were buried down in the omentum and mesentery, making it impossible to remove them without tearing into the bowel. As stated, all evidence of acute inflammation had subsided. Doctor Guffey having seen the patient some time before, it is highly probable important changes had taken place and active symptoms had subsided at the time I operated.

Recovery from the operation was uneventful and to-day, twelve months after the operation, the patient reports herself to be in fair health and physical condition.

STATEMENT OF THE PATHOLOGIST.

In tuberculous infection of the alimentary tract, the lymphadenoid apparatus—tonsils and intestinal lymph glands—form the most frequent avenues of infection. The bacteria, either free or engulfed in cells, undertake to pass the lymph glands and gain entrance to the general system through the blood. These little glands, here, as in other infectious diseases, act as filters and become thereby themselves infected.

Tuberculous lymph glands of the omentum and mesentery resemble somewhat the typhoid lymph glands of the same region, with the exception that the latter are more acutely involved, and either break down or recover in three weeks' time from the inception of the disease. In tuberculosis of the lymph gland, the onset is more gradual, and, if recovery takes place, it does so only after months, and sometimes years have elapsed.

After the patient recovers from typhoid fever, the lymph glands usually resume their normal, healthy, and physiological condition; in tuberculosis of the lymph gland, this is hardly to be expected, since the prolonged infection causes the normal structure of the gland to be replaced with dense connective tissue. This transformation into fibrous connective tissue is called fibrosis.

Early changes in the lymph gland, following tuberculous infection, such as tissue degeneration, inflammatory exudation, proliferation, giant cell formation, and caseation of the cells, more centrally located; and fibrosis of the supportive structure of the node, especially its more external portions—the more centrally located portion may pass through the aforementioned stages and ultimately form calcareous concretions. The outer connective tissue may, when the case terminates favorably, form a very dense, compact layer, which encroaches upon, and frequently replaces all the caseated area, the calcareous deposit alone remaining to mark the focus of early infection. The glands remain simply a ball of scar tissue, in which may or may not be found calcareous concretions.

525 Bryant Building.

ANESTHESIA IN TONSIL ENUCLEATION.

By G. Garthwaite-Fisher, M. D.,
Flushing, N. Y.

A great many operators regard with disfavor the enucleation of the tonsil under local anesthesia. In most cases the cause of this prejudice lies in the amount of pain which they believe the patient has to endure.

Were this pain really a necessary accompaniment of the operation, the objection would be a very valid one, but where local anesthesia is properly applied, little and most frequently no pain need be experienced.

The instruments required for anesthetizing the operative field in this procedure are an ordinary syringe of about ten c.c. capacity, and a cannula of moderate length with a fine needle attached. Doctor Lovell's modification of his own instrument, and one recently devised by Dr. C. A. Freligh, answer the purpose admirably.

Different solutions may be used to produce a satisfactory anesthesia, but quinine and urea, alypin, or cocaine are the ones most frequently employed. The cocaine is to be used approximately in the strength of one fifth of one per cent., that is one grain of cocaine to seven drachms of sterile water and one half drachm solution adrenalin, one to 1,000. This latter prevents to some extent the absorption of the cocaine, and at the same time aids in securing a bloodless field.

A cotton wound applicator is now moistened with ten per cent. solution of cocaine and applied for a short time to the mucous membrane over the anterior pillar of the fauces. At this spot the needle, with its point directed downward, is first introduced beneath the mucosa only, in such a way that it can be distinctly seen through the translucent mucous membrane. It must not penetrate into the muscular tissue of the pillar. Two or three drops of solution are injected and gather under the mucous membrane like a blister. The mucosa now becomes blanched. The needle is again introduced at the lower part of this vesicle, and the submucous tissue infiltrated in like manner to the base of the tonsil. The point of the needle is now inserted upward through the first puncture and the infiltration carried across the superior lobe and down the posterior pillar of the tonsil.

Frequently this latter is not to be seen till brought

into view by the last few drops, which are injected across the top of the tonsil.

One last puncture is made deeply at the base of the gland into the fibrous tissue which forms the pedicle near the base of the tongue, and which is to be snared later.

This is nothing more nor less than the loose capsular tissue drawn into folds.

In all, about six insertions of the needle are required (as accompanying illustration shows), from



FIG. 1.—Showing six points of insertion for needle in anesthetization for tonsil enucleation.

three to four c.c. of solution are used, and perfect anesthesia is secured in a few moments. The operator may now proceed to enucleate the tonsil, assured of complete insensibility to pain.

The advantages of this method are the good anesthesia, the small amount of solution used, the perfect line of tonsillar demarcation, and the facilitation of enucleation. When the solution is injected into the muscle tissue of the tonsillar pillars no line of demarcation results; in fact, the contrary is the case, as they are tightened around the tonsil.

434 AMITY STREET.

THE OFFICE ANESTHETIC FOR SMALL SURGERY, NITROUS OXIDE AND AIR, SELF ADMINISTERED.

BY ARTHUR E. GUEDEL, M. D.,
Indianapolis.

The general anesthetic for small office surgery is often an annoying problem to the physician. To open a felon or bubo, to remove a small skin tumor, to curette or cauterize a wound, etc., are operations of hardly sufficient gravity to merit the slight risk and unpleasant sequelæ attendant upon the use of ether or chloroform. Yet the patient often wants a general anesthetic. Also the office of the average physician is not equipped with a recovery room, and following an ether or a chloroform anesthetic all other office work must wait until the patient recovers consciousness, a matter sometimes of an hour or two. Frequently a patient is taken to the office of a neighboring dentist for nitrous oxide anesthesia.

The writer wishes here to report results obtained in small office surgery with nitrous oxide and definite quantities of atmospheric air administered by the patient himself. Two different anesthetic states are used—that of complete narcosis and that known as analgesia.

COMPLETE NARCOSIS.

This method suffices well for very short operations and has to its credit many advantages over other anesthetics and even over nitrous oxide itself as administered by an attendant. The safety of the method is almost absolute, the action of the gas itself being a safeguard against accidents.

The patient simply holds the inhaler to his nose and breathes. When complete unconsciousness supervenes, the inhaler either falls or is removed by the concurrent anoxemic muscular spasm, and recovery soon occurs. The available surgical anesthesia thus secured lasts usually from ten to twenty seconds, which allows ample time to complete various short operations.

Nausea and depression are extremely rare, even though a meal has just been taken. Patients as a rule have no fear of such an anesthetic, as is often so manifest when the inhaler is held by another, and indeed in return cases they often seem to anticipate pleasantly the exhilarant effect of the gas.

To secure this short complete narcosis, about ten per cent. of air is admitted with the gas, which, as has been known for years, although it is less rapid in its action, gives a slightly longer available anesthesia than when pure gas is used.

ANALGESIA.

This we know is an early stage in all general anesthesia, and consists of a pleasant sensation of numbness of the entire body, resembling closely alcoholic intoxication just short of narcosis. It is not peculiar to nitrous oxide alone, but occurs with any inhalation anesthetic agent. However, the difficulty of control of the vapor anesthetics render them useless for this purpose.

In this analgetic state, sensibility to pain is not entirely abolished, but is lowered to a surprising degree.

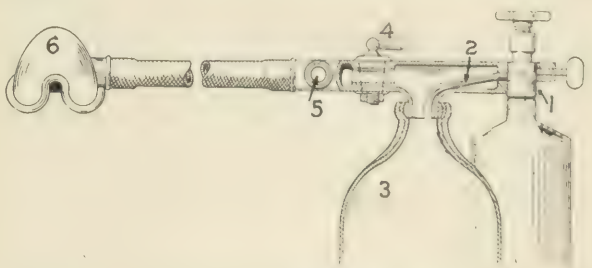


FIG. 1.—*1*, Hood connecting apparatus with valve of gas cylinder. *2*, Conduit for conveying gas from cylinder to supply bag. *3*, Gas supply bag. *4*, Three way stop cock to prevent the escape of the gas from the supply gas when so desired, and at the same time admit a full column of air through to the inhaler. It is sometimes advisable to permit a few breaths of air to reassure the patient before admitting the gas. Also the operation is often completed before narcosis is deep enough to cause the removal of the inhaler by the patient, and anesthesia may be terminated by simply turning this cock. *5*, Respiratory valve, arranged to admit definite percentages of air and to regulate the quantity of rebreathed gas. *6*, Plain nasal inhaler connected with apparatus by flexible tube.

The patient holds the inhaler to his nose continuously throughout the operation, and breathes a mixture of about seventy-five per cent. nitrous oxide with twenty-five per cent. air, the depth and maintenance of this state depending entirely upon the quantity of air admitted. The percentage of air differs somewhat in various individuals. The patient is at all times in full possession of his faculties and able to follow the directions of the physi-

cian, unless complete narcosis is permitted by insufficient air supply. The state may be maintained indefinitely without any unpleasant results.

Dentists are recently making use of this analgesia, secured by the admixture of pure oxygen with nitrous oxide, for dental operations. However, the oxygen is expensive and inconvenient to handle, and is not necessary to the success of the method.

For the application of this method, such cases as crushed or lacerated fingers, lacerations of various parts of the body or scalp, burns, painful dressings, etc., are well suited. Strange as it may seem, a man in this partial anesthetic state will permit the amputation of a crushed finger with very little or no protest, he being apparently unheedful of the knife, scissors, or bone forceps.

Occasionally it is desirable to combine the two methods described above, as in the following case.

Case. Circumcision. Patient, a young man was permitted to become completely narcotized during the dorsal incision and again while the prepuce was cut away, the remainder of the operation being completed under analgesia. The patient had no recollection of the larger incisions and did not mind the suturing.

The apparatus used is one devised for the purpose and is herein described. However, the same results can be obtained with a little practice with any nitrous oxide-air apparatus.

509 Prospect Street.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXIX.—What drugs, if any, in your experience have you found it advisable to withhold during the menstrual period, and why? (Closed February 15, 1912.)

CXX.—What are your views on the various substitutes, commercial and other, for mother's milk? (Answers due not later than March 15, 1912.)

CXXI.—What does hematuria signify to you and how do you treat it? (Answers due not later than April 15th.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not required) *that the answers be short, if practicable no one answer to contain more than six hundred words; and our friends are urged to write on one side of the paper only.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the Journal. Our readers are asked to suggest topics for discussion.

The prize of $25 for the best essay submitted in answer to Question CXVIII has been awarded to Dr. William Brady, of Elmira, whose article appears below.

PRIZE QUESTION CXVIII.

TREATMENT OF THE MOTHER AFTER CHILDBIRTH WITHOUT AN ASSISTANT.

By William Brady, M. D.,
Elmira.

Every household, even the veriest hovel, has an oven, some clean rags, and a yard or two of old sheeting or toweling; so there is never a good excuse for applying unsterilized vulvar pads in an emergency case of labor. Every mother dreads "blood poisoning" and fever; instruct her how unwashed fingers, touching her pads, her vulva, or her breasts, may induce the complication she dreads and you may rest assured there will be no puerperal infection.

Without an assistant, or with an assistant, it is the duty of the obstetrician to remain at the woman's side at least twenty minutes after the birth of the placenta, with a hand resting on the fundus. As to the use of ergot there are three points one should always bear in mind. First, that a physiologically active and recently made supply must be carried; second, that the effect of ergot continues only half an hour, semihourly doses being required if the effect is to be maintained. Third, that it acts in fifteen minutes by mouth. In a normal confinement, ergot is certainly unnecessary and should not be given as a routine practice. If, for any reason, it is indicated during the second stage, it should be administered without fear of the bugaboo of hour glass contraction. This condition, like that of "adherent placenta," I have never observed in a fairly active practice in country, city, and hospital service. One who has mastered the technique of Credé's method of delivering the placenta will find it difficult to credit the old wives' tales of afterbirths "growed fast to the spine"!

Folded in a sterile towel I carry an emergency kit of sterilized instruments, scissors, scalpel, hemostats, needles, sutures. With this at hand it is a simple matter to cut the cord and dispose of the infant; also, if need be, to repair a lacerated perineum. In a primipara with a rigid perineum, or where the fetal head is large, or the occiput posterior, the preliminary placing of perineal sutures is a harmless and satisfactory measure; it gives better coaptation than is possible otherwise and is much easier than the post partum suture.

No douche, no enema, no breast pump, no massage, no binder is a good rule to follow in all normal cases. Nature's germicide—the lochia—surpasses anything medicine can supply. Most breast abscesses are the result of pernicious interference by ignorant or uncleanly persons. A woman's "figure" is not preserved by wrapping about her a wrinkled, rolled up, hot, ill fitting, unhygienic "binder"; the binder binds only in imagination, unless an insertion of elastic webbing is used.

When the patient begins to complain of backache, strap the relaxed sacroiliac joints with adhesive plaster strips across from spine to spine of ilium.

When she fails to urinate in twelve hours, set her up on a chamber pot—not a bed pan—and do *not* resort to the catheter. Most women are still good Indians; they do not drop dead when allowed to sit on a chamber pot.

Do not permit the temperature to be taken unless the patient is obviously ill.

When the lacteal secretion begins, support the breasts for a few days, if painful, with a binder or bandage. Repeat the warning: "Hands off." See that the baby is put to the breast every four hours from birth and every two hours after the milk appears.

On the third night a purge should be given—phenolphthalein, five to ten grains, well masticated,

and followed in half an hour by some fruit; or jalap, five to ten grains; or castor oil, one ounce, in milk or in emulsion. For the stool, too, the patient should be permitted to sit on a commode if she so desires.

1008 Lake Street.

Dr. Louis L. Hoff, of Springfield, Mass., writes:

After delivery, the placenta should be looked over to see that no part of it has been torn off or left behind. Firm contraction and retraction of the uterus should be secured by applying Credé's method to the abdomen and giving the patient one drachm of fluid extract of ergot immediately after delivery. The soiled linen pads are removed, the parts are cleansed from blood stains with a bichloride solution, one to 5,000, and dried with a clean towel. Then put under the hips a clean dry draw sheet, and the patient is now ready for the binder and vulvar dressing. The binder must be wide enough to reach from below the projecting trochanters of the femur to the ensiform cartilage, and should be long enough to go around the abdomen once and overlap enough for the fastening with strong safety pins. It should be seen that there are no creases under the back, and it should be applied as tightly as is comfortable to the patient.

The vulvar pads are applied, composed of sterilized cotton wrapped in cheese cloth, or apply linen strips soaked in a bichloride solution, one to 5,000, and wrung out and covered with a clean dry napkin. These are kept in position by being fastened to the abdominal binder above and below for the purpose of receiving the lochial discharge. The parts or genitalia are cleansed with bichloride solution, one to 5,000, before each pad is applied.

Before any dressing is applied the perineum should be inspected for lacerations. If any are found, they should be repaired at once by suturing with aseptic catgut, or the sutures may be passed before the placenta is delivered, and tied after its delivery, as the parts are less sensitive immediately after labor, and the anesthesia produced during delivery still remains.

In case there has been a superabundance of lochial discharge or after the discharge having lost its red color will again become bloody, which is usually due to getting up too soon after delivery, I put the patient to bed, and if this alone does not restrain the flow, I give fluid extract of ergot three times a day in doses of thirty minims, or a hot vaginal douche, 110° to 115° F., continued about ten or fifteen minutes. We must also recognize any foul or putrescent odor in the lochia, as that calls for immediate investigation and thorough cleansing with bichloride solution, one to 2,000.

By getting firm contraction and retraction of the uterus, by securing complete emptying of same, after pains may be prevented.

In case of retention of the urine from loss of sensibility of the bladder, or swelling of the urethral canal, I relieve the retention by applying a glass catheter, sterilized, three times a day or less, according to requirements, until the parts resume their normal functions.

The patient after delivery requires very little food during the first or second day. A liquid diet chiefly consisting of milk and soup is better.

I keep my patients in bed from ten days to two weeks in normal cases, and longer, depending on the character and complications of the labor, the strength of the patient, and the conditions of the uterus.

Dr. Louis Neuwelt, of New York, observes:

The process of labor and delivery being a physiological one, the attitude of the attending physician should be that of observer rather than that of actor. Here as in all therapeutics "meddling" should be avoided as much as possible.

There being more or less traumatism to the parturient canal and resulting hemorrhage, the physician should ascertain the cause of the bleeding at once. It may be due to a relaxed uterus, in which case grasping and kneading and pushing the uterus from without, downward and forward under the symphysis pubis, will stop the flow of blood. If the hemorrhage still continues, a vulval or vaginal examination must be made.

The vulva and inner side of the thighs are then cleaned with an antiseptic solution of corrosive sublimate one to 4,000 or a two to three per cent. lysol solution, always being careful not to let the washings flow over the vulva or into the vagina. It is advisable to wash centrifugally away from the vulva. A vulva pad is then applied, consisting of a piece of sterile cotton (size 12" by 6") surrounded by sterile gauze. This is to be left in place till soiled, and then to be replaced by another.

About this time there very often occurs the post partum chill, for which the patient should be covered with blankets and one or two hot water bags placed at her side. Half an ounce of whisky may be given.

The soiled bed linen and clothes are then removed and clean ones put in place with as little disturbance to the patient as possible. The mother should lie flat on her back with the head lowered.

There are few things for which a woman is more thankful than the return of her normal shape after delivery, and a little attention to detail will never be forgotten. The physician should personally see to it that the abdomen is tightly bandaged. To prevent the binder from slipping, it should extend well below the hips, and should be held in place by retention straps fastened around the lower thighs.

Of prime importance during the puerperium is asepsis. Here, as in the early stages of labor and in the later puerperal stage, vaginal manipulations and examinations should be as few as possible. Douches should be absolutely avoided unless there is a positive indication for them.

The mother should be instructed to wash the nipples of her breast with equal parts of alcohol and saturated solution of boric acid.

Frequently a very distressing feature are the so called after pains. Ergot will sometimes relieve. In fact, some obstetricians advise the routine administration of ergot immediately after delivery for the first twelve to twenty-four hours.

The breasts should be bound tightly to the chest, especially when large and pendulous. They should be lifted as high as possible on the chest and bound down by a tight binder or corset cover. In this binder, as well as in the abdominal binder, the safe-

ty pins should be inserted vertically, not horizontally.

The physician should remain at least one hour after delivery, during which time he should advise the diet for the first day or two to consist of milk, light coffee or tea, gruel, toast, bread, soups, broth, and plenty of water. Medication should consist of a saline laxative as citrate of magnesia, six ounces, or Epsom salt, half an ounce, once daily.

After all this, the most important requisite for the parturient is a good, sound sleep. Very few visitors should be allowed, and the room should be darkened and quiet enjoined.

The last thing for the departing physician to do should be the examination of the fundus uteri for thorough contraction.

Dr. Louis Julian Ginella, of New Orleans, asks—

Labor completed, what is needed most and desired only by the mother? Absolute quiet, rest, warmth, and assurance of safety for self and child. What most does the physician want? No further infection, avoidance of shock, control of hemorrhage. How best to cover all these hopes and wants in the homes of the poor without a ready assistant? Very easy. Place a clean wad of cotton over the vaginal opening, throw the largest and cleanest cover over the mother and child (if living), turn the light low, and, bringing all the best of our personality to bear, say, "Now all is over—are you not a lucky mother?" Then let the poor, worn-out, cold, bruised, and often torn young mother rest, rest, rest for about two hours in peace, warmth, and quiet.

After this, if you believe in stitching the torn cervix and perineum at once instead of later; if you want the bed clothes changed, mattress cleaned, and gown removed; if you want to weigh the baby, or otherwise add to your importance and reputation, do so; but the one essential fact in this answer is: What to do for a mother immediately following labor if no one is near to assist?

Give her a little well earned rest and guard against further infection.

(*To be concluded.*)

Correspondence.

LETTER FROM CANADA.

Dominion Registration in Quebec.—Health Officers and Vaccination in Ontario.—Fighting Tuberculosis in Newfoundland.—Medical Profession Act in Alberta.—Hospital for the Insane, London, Ont.—Miscellaneous Items.

Toronto, *February 17, 1912.*

As the government of the Province of Quebec has signified its intention to support the ratification legislation necessary to render the Roddick Act, or the Canada Medical Act, operative in that Province, there is scarcely any doubt that the bill introduced at Quebec will pass the legislature, and another step be taken toward Dominion registration in Canada. In the legislature recently, Doctor Finnie, M. L. A., was the champion of medical reciprocity, stating that there were now only two Provinces beside Quebec which had not fallen into line on this important question, namely, Ontario and British Columbia. The Roddick bill will provide that any medical man who has been ten years in practice in one Province may go into any other Province to practise merely by paying a license fee. Those not ten years in practice will be compelled to undergo examination by a Dominion board which will sit in Ottawa the first year and in successive years in various university towns. The Premier, Sir Lomer Gouin, promised government support for the measure, although he thought legislation in the direction of interprovincial reciprocity would have been the preferable way rather than through the medium of Parliament at Ottawa. But slight objection was offered in the legislature to the measure.

Legislation has been introduced into the Ontario legislature, which will place the absolute control over the vaccination of children, whether in public or private schools, in the hands of medical health officers and local boards of health throughout Ontario. The new legislation will take any power formerly vested in school boards away from such bodies, and there will be no longer any distinction made between public and private schools. Formerly, people not wishing to have their children vaccinated would withdraw them from the public schools and send them to private ones, a ruse which will be obviated by the new legislation. The government considers that the health authorities and not the boards of education are the proper authorities to control the situation, as they are charged with the duties of enforcing the health laws of the Province. While this is not a new law, but merely a revision of the old, it will provide that all children born in the Province must be vaccinated before they are three months old. They must be presented eight days later to show that the operation has been successful; and when smallpox exists or is threatened in epidemic form, every one not successfully vaccinated within seven years must submit to the operation. The progress of the measure through the legislature will be watched with great interest, and the discussion will serve to call public attention to the leading features of the bill.

Newfoundland has long been considered almost a veritable hotbed for tuberculosis, but war is at last to be waged with determination and upon an extensive scale. Writing to the Premier, Sir E. P. Morris, Mr. W. D. Reid, president of the Reid Newfoundland Company, offers on behalf of his brothers and himself to build, on a site provided by the government of the island colony, a $50,000 sanatorium, and to furnish and fully equip the same. When completed this will be handed over to the government, unconditionally, for management and control. This will be for the city of St. John. In addition, in each of the sixteen eastern districts of the island, on sites provided by the government, they will build, furnish, and fully equip $3,000 sanatoria. When completed all of these will be known as The Reid Sanatoria.

The College of Physicians and Surgeons of the Province of Alberta has affiliated with the University of Alberta. Henceforward, the medical council of the Province will admit upon its register any person who shall produce a certificate from the

registrar of the university that such person is duly qualified to practise medicine, surgery, midwifery, osteopathy, or homeopathy. The examinations of candidates shall be under the control of the university, the examiners to be appointed by its senate. Except as to osteopaths and homeopaths the subjects for examination shall be such as shall be prescribed by the university with the approval of the council of the College of Physicians and Surgeons. Any person who has practised osteopathy in Alberta for the last four months immediately preceding the passing of this act shall be granted, without examination, a certificate that such person is duly qualified to practise osteopathy, provided that such person is a graduate or licentiate of a school, college, or association of osteopathy recognized by the American Osteopathic Association.

In the January issue of *The Bulletin of the Ontario Hospitals for the Insane,* the superintendent of the London Hospital, Dr. W. J. Robinson, gives some interesting statistics of 500 consecutive admissions to that institution between January 1, 1908, and June 6, 1910. Of this number sixteen were admitted during that period, so that the histories of 484 individuals are recorded. The males were 251; female, 233. Examining the family history of these, 153 patients, or thirty-one per cent., showed insanity as having occurred in some relative. In forty, or 8.26 per cent., alcoholism in some member of the family is reported, and in seventeen a combination of alcoholism and insanity was found. Reviewing the personal history, fifty-seven, or 11.7 per cent., showed a history of alcoholism. They were not all confirmed alcoholics, but the histories show that at some period of their lives they drank to excess. In only ten cases was a history of syphilis found, but as the Wassermann reaction was not taken, it is more than probable that the disease existed in others. The largest number of cases in any single classification was dementia præcox, 199 cases; eighty-nine or 44.5 per cent., were discharged, recovered, or improved; thirteen, or six per cent., ended fatally; ninety-one, or forty-five per cent., still remaining under observation. Alcoholism shows eleven, or ninety-one per cent., discharged, recovered or improved; one still under care. Of the total, 233 patients, or forty-eight per cent., were discharged as recovered or improved; eight discharged, unimproved; sixty-seven, or thirteen per cent., died; five eloped; four were transferred; five were deported; 162, or thirty-three per cent., remaining in residence.

The Hebrews of Montreal are conducting a campaign to provide $25,000, necessary for the annual maintenance of their Mt. Sinai Sanatorium for Consumptives at Ste Agathe, Quebec. A short time ago the temporary hospital on their grounds had to be closed for lack of funds.

The Ontario Government has secured a square mile of land near Whitby, Ontario, forty miles from Toronto, for a new hospital for the insane. This will replace the Toronto institution and when completed the city institution will be closed.

The death rate in Montreal fell during the year 1911 by 1.01 per mille over 1910. The total deaths numbered 9,974, a rate of 21.39 per 1,000. The deaths of children under five years of age numbered 5,355, being 53.69 of the general mortality, or a decrease of 0.50 per cent. over the infant mortality of 1910.

The pathological building of the new Toronto General Hospital has been completed, and according to arrangement the students of the medical department of the University of Toronto are in occupation. This will greatly relieve the overcrowding in the medical department.

Montreal corporation is being sued for $10,000 as the result of compulsory vaccination of a school child nine years of age. The vaccination was ordered by a medical inspector and performed by a municipal vaccinator. Infectious neuritis followed. The jury in the case will be asked to decide whether vaccine can cause infectious neuritis, and whether the quality of the vaccine used was good.

Therapeutical Notes.

Sciatica.—A. Lange's method of treatment consists in injecting physiological salt solution containing one per mille beta-eucaine, in quantities of from 70 to 100 c.c. into the sciatic nerve at its point of exit from the foramen, using considerable pressure. A sudden jerk of the leg muscles follows when the point of the needle has pierced the nerve sheath.—(*Münchener medizinische Wochenschrift;* through the *Practitioner,* January, 1912.)

Treatment of Eczema in Children.—Galewsky, quoted in *Medizinisches Correspondenz-Blatt des württembergischen ärztlichen Landesvereins* for January 20, 1912, recommends the following preparation for arresting the watery discharge in the eczema of children:

℞ Zinc oxide, ... } Talc, ... } Glycerin, ... } .....āā 20 grammes;
Dilute alcohol, . } Distilled water, } .....āā 10 grammes.

Moist dressings of one quarter to one half per cent. resorcin are also effective.

M. Ft. mistura.

Venereal Prophylactic Treatments.—Holcomb and Cather (*United States Naval Medical Bulletin,* January 6, 1912) report 3,268 treatments for the prevention of venereal diseases. The treatment is as follows: 1, Wash the penis, head, shank, and under frenum with a one to 5,000 bichloride of mercury solution and a cotton sponge; 2, pass water and take a urethral injection of a two per cent. protargol solution and hold to count sixty; 3, rub fifty per cent. calomel ointment well into foreskin, head, and shank of penis, with particular care about the frenum. Treatment taken within eight hours after exposure in 1,385 cases shows nineteen infections, or about 1.37 per cent. In the interval from eight to twelve hours after exposure, in 741 cases, shows twenty-five infections, or 3.31 per cent. Between twelve and twenty-four hours in 920 cases shows forty-six infections, or 5 per cent. Of the fifty-six cases of gonorrhea occurring in the first twenty-four hours' interval, twenty-six were recurrent cases; the remaining thirty were primary infections.

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NEW YORK, SATURDAY, FEBRUARY 24, 1912.

DR. G. ARMAUER HANSEN.

The death of Dr. G. Armauer Hansen, which occurred on Tuesday, February 13th, has been announced from his home in Bergen, Norway. Bacteriology, the newest of the biological sciences, is old enough to mourn the loss of her pioneers and first group of distinguished sons, who are now nearly all numbered among the dead—first, Louis Pasteur, recently Robert Koch and Lord Lister, and now Hansen. The great Norwegian discoverer of the leprosy bacillus was a worthy member of this brilliant galaxy of scientific men. His labors, with those of his immediate predecessor and father-in-law, Danielssen, had already made his native town, Bergen, a centre for the scientific study of leprosy and had attracted the visits of many noted foreign pathologists and dermatologists, among them Virchow and Hebra, when, in 1872, he described the clumps of bacilli and separate rodlike organisms found in fresh, leprous nodules, which are the specific cause of the disease. These he successfully stained with osmic acid and, ten years later after Koch's memorable discovery of the tubercle bacillus, he demonstrated them more clearly with the aniline dyes by adopting the methods of Koch and Weigert. Other important work of Hansen's consisted in his careful studies of the geographical and family distribution of leprosy in Norway, which led to the rejection of the generally held belief that the disease was hereditary, and to the adoption of the leper law of 1885, which he framed and which has been a model for other countries. The humane segregation of lepers in sanatoria under Hansen's wise direction has resulted in the remarkable diminution from nearly 3,000 cases in the whole of Norway, in 1860, to not more than 400 to-day. Twenty-five years ago Doctor Hansen visited the United States and made a study of leprous immigrant families in the States of Minnesota and Wisconsin.

The climax of his career was fittingly reached in the Second International Leprosy Congress, which convened at Bergen in August, 1909, and was an extraordinary personal tribute to its venerable and honored president. It is doubtful if any similar congress was ever so truly international; delegates were present from every country in Europe, from the United States, Cuba, South America, Australia, Iceland, Java, Persia, China, and Japan, to unite with King Haakon VII and his distinguished fellow countrymen in paying their tribute of respect and affection to Doctor Hansen. One of the incidents at the scientific session of this congress was the demonstration by Doctor Hansen of leprosy bacilli in a section of the skin of the leprous American soldier, Early, thus settling a recent, somewhat sensational controversy which had been raised in New York, and sustaining the diagnosis of the Washington authorities in this famous case.

Modesty and simplicity of character, the usual attributes of genuine greatness in scientific achievement, were strongly marked in Doctor Hansen, and he possessed almost to the last of his long and useful life that robust physical vigor and mental alertness which, to an unusual degree, are so characteristic of old age in the Scandinavian peninsula. He was the last of four remarkable men—the others, Ibsen, Björnsen, and Grieg, whom Norway gave to the world in the nineteenth century.

HENRY L. SHIVELY.

THE PHYSICIAN AS SPEAKER.

Every physician comes upon interesting data which would be most useful to his colleagues should he choose to make them known. Excellent opportunity for so doing is provided in medical meetings—as in those of county societies, which are held periodically in small halls or in the parlors of public libraries. Yet how frequently is the following experience reduplicated: In a meeting of some thirty practitioners a well prepared paper on syphilis was read. Now this is a subject about which every doctor knows something; yet when the pre-

siding officer called for discussion there followed a silence and a gloom the like of which must have environed that craft which Charon used to pilot across the Styx. In a praiseworthy effort to break the silence, the president then called upon each physician in turn, but without result. Is not this a sorry compliment to a colleague who had gone down deep into his experiences, and who had given hours of research to the preparation of a real addition to the profession's thesaurus? It is the physician's duty to add what he can in the discussion of such papers.

Again, there are now many lay assemblages in which matters of the common health are ventilated; it is often difficult to get medical men to take part in these meetings. Yet this is a physician's duty, apart from his practice; especially because he knows most about the subjects under discussion.

And those evasions are generally from no other cause than a timidity — which sometimes amounts even to terror —at the idea of rising and saying something to the point; it has been well observed that no man, shipwrecked on a desert island, without so much as a cannibal for company, is so utterly alone as one at a public function during the first few moments that he gets on his feet. It is in the hope of dispelling such diffidence that the following suggestions are respectfully offered the inexperienced.



GERHARD HENRIK ARMAUER HANSEN.
1841-1912.

Public speaking is not to-day in the oratorical style which Webster made so famous; that which now generally obtains is the colloquial or conversational style. He who can speak distinctly, agreeably, and coherently at a dinner table or in a sitting room is qualified to address an assembly of ordinary practitioners. All he needs is the courage he ordinarily evinces in his every day affairs; having this he shall certainly triumph.

The physician who is called upon to make a brief address in public will be armed at all points if he will beforehand make a sensible and harmonious arrangement of the various parts of his subject; and if he will then put down in logical order the section or paragraph headings, he cannot go amiss when he stands before his auditors.

If he has beforehand clearly thought out his address he will be an adequately good (though perhaps not a great) speaker; for "our voice is where we are thinking." A discourse may be read, but this is never so effective or so inspiring as speaking straightforwardly. A heavy meal should not be taken before the occasion; wines might befuddle the intellect; a cup of good tea is an excellent incentive to reasonable speaking; and a nap of half an hour before the meal (that is to precede the speaking) will clarify the brain wonderfully.

Gesticulations may be left altogether to take care of themselves; for the earnest speaker (and he who is not sincere had best not venture to address an audience), will subconsciously gesticulate in conformity with his ideas. And if one is to speak half an hour or more, an anecdote or two will never be amiss if it comes in pat with the subject matter. A colleague, who is a famous speaker, "gives them a joke every ten minutes," but he is of Hibernian extraction and simply cannot do otherwise.

THE QUESTION OF VENTILATION.

Recently there has been much discussion in the lay press concerning the ventilation of school rooms. This is manifestly a matter of the very first importance, for it is essential to the well being of a race that children should be brought up under healthy conditions. Unfortunately, the problem of how to ventilate school rooms efficiently, a vital point in the uprearing of children, has not been solved and perhaps may never be solved with com-

plete success. In the first instance, it is impossible in cities to allow as much air to the individual child as scientists say he is entitled to. It is not with this phase of the matter, however, that the discussion has dealt, but rather with the best means of ventilation under existing conditions.

At the meeting of the British Association, held some few months ago, this question of ventilation was debated at length, and Mr. Leonard Hill, an acknowledged authority, read an able paper, pointing out that neither in theory nor in practice had the subject been mastered. With the most elaborate systems there not infrequently appears to be a decided lack of fresh air. According to Mr. Hill there are three properties of the air which have nothing to do with its chemical purity, viz., temperature, movement, and humidity. These exert an action on the nerves and skin. When the air of a room is hot, moist, and still it is unpleasant and enervating. Movement of the air undoubtedly cools by promoting evaporation, but this is not its only effect; it affects the cutaneous nerves and thus affords a stimulus to the nervous system. This accounts for the comparative nonsuccess of openings admitting air to a room and causing a circulation, but not impinging directly on the skin, which does not produce the same freshening effect as the open window. Many authorities now hold that the open window is the best means of ventilation. Perhaps it is not possible to have the windows always so placed in school rooms as to afford a thorough draught, nor may it be advisable to keep the windows of a school room open sufficiently long to provide all the ventilation necessary. On the other hand, on the open window the main dependence for the ventilation of school rooms must be placed, and at least during the recreation time, windows should be thrown wide open in order that the air may be renewed as effectually as possible.

PNEUMOCOCCAL PULMONARY EDEMA.

At present it is known that, beside pulmonary edema of toxic origin, there exist instances of edemas having a pneumococcal etiology, a subject very ably discussed by Caussade and Milhit (*Gazette des hôpitaux,* July 11, 1911). In the first place they recognize an acute form in which the pulmonary edema may be the only manifestation of a pneumonic pneumococcal infection. This is, unquestionably, an infrequent condition, but will probably become more common when hemoculture is resorted to more systematically in acute conditions.

Occasionally acute pulmonary or laryngeal edema may be the only symptom of a pneumococcal septichemia which later on will become localized, such as in an arthritis or a pneumonia. Then again, an acute pulmonary edema is encountered during a pneumonia without any appreciable determining reason, or, on the contrary, when it is present at the same time as a cardiopathy.

Beside the acute forms, one has the subacute type of pulmonary edema in which the pneumococcus predominates in the sputum. Likewise, in pulmonary edema of agony or in that of the aged, Caussade and Milhit have, at autopsy, been able to demonstrate the presence of numerous virulent pneumococci in the serum obtained from these edemas. These various subacute edemas are met with in the most varied affections, as well as the divers types of pulmonary infections.

From the viewpoint of pathogenesis, Caussade and Milhit are of the opinion that, as far as the acute cases are concerned, there occasionally are some in which the edema is the result of the pneumococcus alone, but ordinarily there will be found an association of several factors.

To the infectious process, whether septichemic or not, a toxic process should be added and, perhaps, the action of a sudden retention of the chlorides or a paroxysm of arterial hypertension, in itself the result of an increased functional activity of the adrenals, which are actively struggling against the intoxication. During pneumonia, with or without a cardiopathy, according to the case, cardiac collapsus or a mixed infectious or toxic process may be invoked. In subacute cases, beside the unquestionably infectious factor, the retention of the chlorides must be incriminated and also the toxic and hypertensive phenomena, perhaps caused by an increased functioning of the adrenals endeavoring to overcome the infection.

VISUAL DISTURBANCES PRODUCED BY TUMORS OF THE HYPOPHYSIS WITHOUT ACROMEGALIA.

The diagnosis of tumors of the hypophysis with acromegaly is relatively easy, but when the latter is absent it becomes more difficult. Sapersonne and Cautonnet (*Archives d'ophtalmologie,* 1910), point out that there are three groups of symptoms which may be encountered, namely, glandular signs, which are the least constant; physical signs, characterized by an enlargement of the sella turcica appreciable by radiography; and last, mechanical signs, these being, perhaps, the most constant. They are characterized by a general endocranial hypertension and phenomena of localized compression, particularly of the oculomotor nerves and peripheral optic tracts.

These ocular disturbances are of the utmost im-

portance, while their constancy should be compared with the variability of the other signs, all the more so because on account of their reaction on the ocular apparatus, particularly over the visual field, tumors of the hypophysis draw attention to their presence at an early date.

The changes in the visual field are among the most important, and in about forty-six per cent. of the cases there is complete or partial optic atrophy. Papillary stasis is far less frequent (16.20 per cent. of cases), being due to the rarity of endocranial hypertension. It is probable that the enlargement of the sella turcica increases the capacity of the cranial cavity and to a certain extent prevents hypertension. Likewise, optic atrophy, which often appears early in the process, undoubtedly prevents the occurrence of stasis. Among the infrequent symptoms may be mentioned ocular paralyses, exophthalmia, and transitory obnubilations of the sight. Radiotherapy has occasionally a happy influence over the visual process, resulting in a marked amelioration of sight.

PYORRHŒA ALVEOLARIS.

It is significant that this disease, which was relegated entirely to the dental profession a few years ago, should recently have been taken as the subject for a thesis by a candidate for the degree of M. D. in the University of Dublin. Victor Greer Best, in the *Dublin Journal of Medical Science* for February, 1912, states that he chose this disease as a subject because many other diseases, medical and surgical, are the outcome of it, because its seriousness is apt to be overlooked, and—what is of high importance and novel as well—its progress can be checked and the condition permanently cured since the introduction of the vaccine treatment. This treatment may require to be carried out for a long period of time, and the vaccines should be prepared from the patient's own organisms, among which are likely to be found *Streptococcus conglomeratus* and *Diplostreptococcus rheumaticus*. There is no doubt in the author's mind of the connection between pyorrhœa alveolaris, appendicitis, rheumatism, rheumatoid arthritis, and gastrointestinal infections. Other conditions probably related are pernicious anemia, acute endocarditis and nephritis, septic laryngitis and tracheitis, chronic gastritis, and sapremic symptoms. It seems that the medical profession might well study this not uncommon condition profoundly from the pathological viewpoint. Mere oral sepsis is not sufficiently prophylactic; there is a constitutional predisposition that solicits investigation.

THE QUARANTINE APPOINTMENT.

The appointment as health officer of the port of New York of Dr. Joseph J. O'Connell to succeed Dr. Alvah H. Doty, has been confirmed by the Senate. Doctor O'Connell has acquired fame as a specialist in diseases of the nervous system, which means that he will probably make a success of anything professional he may undertake. With the flood of light thrown upon quarantine matters by the report of the proceedings at the Academy of Medicine in our issues for February 10th and 17th, the mind of the profession will be thoroughly set at rest. National sentinels stand at the second gate, on Ellis Island, and the unobtrusive yet strong arm of the Federal government comes to the assistance of the local staff whenever cholera or other danger becomes particularly threatening. Even with a very inefficient State official our peril would not be great, and with the talents of the new incumbent at our service we may well congratulate ourselves.

READERS' DISCUSSION CXVIII.

Contributors who favor us with papers in these discussions should read both the conditions and each question itself with care. A large number of papers had to be eliminated from the present discussion, and much material removed from some of the papers published, on account of the ignoring by the writers of the very plain handicap in the question, the absence of an assistant. Measures were detailed, particularly with regard to the observance of asepsis, that would be quite impracticable to an obstetrician working alone; and several references were made to subsequent visits, when, obviously, it would be in the physician's power to summon a veritable army of helpers. Much of the material thus cancelled was interesting and valuable in a way, but had to be cast to one side as not pertinent to the question as formulated.

PROFESSOR EHRLICH TO THE NEW YORK MEDICAL JOURNAL.

In a personal communication referring to a notice which appeared about a week ago in the lay press on his research in cancer, Professor Ehrlich, of Frankfort am Main, cables us that the reports are very much exaggerated, and that he wishes to protest most emphatically against such indiscreet statements, which can only compromise his scientific position. We are glad to give our readers this sharp correction, which we are sure will be appreciated by the many admirers of the great German scientist. We wish only briefly to reiterate our

statement that there is a great difference between the cure of cancer artificially produced in mice and carcinoma in man. The experimenters with the eosin preparation and Professor Ehrlich himself have repeatedly warned against overestimation of the results so far achieved.

Medical Law.

I. THE RIGHT TO PRACTISE MEDICINE AND SURGERY.

The Supreme Court of the State of South Dakota, in a well considered decision, has recently passed upon the constitutionality of the medical act of 1903 of that State, with the result that the portion of it providing for the taxation of itinerant practitioners is eliminated.

By section one of the act (chapter 176, Laws of 1903) a medical board of seven members is created for the examination, regulation, licensing, and registration of physicians and surgeons. By section seven of the act it is provided that "on and after the taking effect of this act all persons desiring to begin the practice of medicine and surgery or obstetrics in any of their branches in this State shall make application to the said board for a license to practise," and requires the applicant to pass an examination upon various subjects therein named and defined, and, in addition requires evidence of medical instruction in a legally organized and reputable medical college recognized by the board of medical examiners, and a diploma from such medical college. Section eight prescribes the mode for conducting examinations and requires the applicant to pay an examination fee of $20. Section ten authorizes the board in its discretion to accept and license applicants upon the payment of the license fee, without examinations upon the presentation of a license from the examining boards of other States and Territories under certain conditions. Section nineteen which, with the exception contained in section twenty-four, is the section offending against the constitution, provided that: "Any physicians practising medicine, surgery, or obstetrics, or professing or attempting to treat, cure, or heal diseases, ailments, or injuries by any medicine, appliance, or method, who goes from place to place or from house to house, or by circulars, letters, or advertisements, solicits persons to meet him or her for professional treatment at places other than his office, at the place of his permanent residence, is hereby declared to be an itinerant physician and shall, in addition to the ordinary physician's license as in this act provided, procure an itinerant's license from the State board of medical examiners for which he shall pay to the secretary of the board the sum of five hundred ($500) dollars per annum, upon the payment of the said sum of five hundred ($500) dollars the board shall issue to the applicant therefor a license to practise within the State as an itinerant physician for one year from the date thereof." Section twenty prescribes the penalty for a breach of section nineteen. Section twenty-two provides that the act shall not apply to ". . . resident physicians and surgeons of this State regularly licensed and practising at the time of the taking effect of the act." Section twenty-three prescribes the penalty for practising medicine and surgery or obstetrics without having obtained the license required by the act.

In this case (State v. Doran, 134 N. W., Rep. 53), Doctor Doran was convicted of having practised as an itinerant physician without procuring the license provided for in section nineteen of the act. It appears from the case that Doran was licensed in the State as a physician before the act went into effect, but it also appears that he was not a resident physician of the State when the act went into effect so as to bring him within the exception of section twenty-two. The question, therefore, squarely presented to the court was whether the provisions permitting physicians resident at the time the act took effect to thereafter practise as itinerant physicians without paying a license, but requiring all qualified physicians subsequently becoming resident practitioners to pay $500 a year did not offend against the section of the State constitution providing that: "No law shall be passed granting to any citizen or class of citizens privileges or immunities which upon the same terms shall not equally belong to all citizens," also the section that provides that "all taxation shall be equal and uniform."

State legislation, prescribing qualifications to be possessed by those desiring to practise medicine, has, by a long line of decisions in the courts of the several States and also in the Federal courts, been held to be proper and within the police power to be exercised by the States. So, also, it has been frequently held that the legislature may permit those practising in the State at the time the act was passed to continue without diploma or other evidence of competency, such prior practice in the State being receivable as sufficient evidence of competency, and equivalent to an examination and license under the act, and that such an act is not unconstitutional because of discrimination between persons or classes. But, said Mr. Justice Smith, speaking for the court:

It is perfectly clear that section nineteen above quoted is not and does not pretend to be legislation involving the exercise of police power. It contains nothing requiring special fitness or qualifications for practising medicine as an itinerant physician nor does it pretend to be regulatory of such practice. It is plainly an occupation tax and involves only the exercise of the taxing power. . . . The legislature may lay an occupation tax on physicians and surgeons as upon other professions and occupations. . . . But the constitution does require that an occupation tax shall be equal and uniform as to all persons embraced within the same class. . . . Section twenty-two of the act under consideration undertakes to exempt certain classes of physicians from the operation of the act both as to requirements of an examination and payment of examination fees, and from payment of an itinerant's license tax. . . . It is clear that the practical effect of the act would be that every physician residing and licensed to practise in the State prior to the date of the act may practise as an itinerant, free from tax, while every person who, even though a resident of the State when the act was passed may have been licensed as a physician after that date, as well as every physician whether licensed or not, who became a resident of the State after that date, would be subject to the tax. A part of the class engaged in identically the same occupation or profession defined by the statute as itinerant physicians, would be exempt from the tax, while others of the same class are subject to it. The exemption of resident licensed practitioners from the examination fee and other requirements as to qualifications is clearly valid as a proper exercise of legislative discretion within the police power. But the exaction of a license tax is controlled by the constitutional requirement of equality and uniformity in taxation.

The court further held that if the discrimination were based upon the ground of nonresidence in the State, it was in violation of article fourteen of the Amendments to the United States Constitution.

The court therefore held that section nineteen of the act was unconstitutional and void, but the remainder of the act was declared valid and enforceable.

News Items.

Changes of Address.—Dr. Walter Handy Janney, from Thomas, W. Va., to Coketon.

Personal.—Dr. Alvah H. Doty, the retiring Health Officer of the Port of New York, and for many years in that capacity a member of the Board of Health, has been elected a member of the Medical Advisory Board of the Department of Health.

The Clinical Society of the New York Nose, Throat, and Lung Hospital will hold its annual dinner in the Green Room of the New York Athletic Club, on Saturday evening, March 9th, at 7 o'clock. Those who purpose attending this dinner should communicate at once with Dr. W. D. Tracy, 46 West Fifty-first Street.

A Dinner to Doctor Finney.—Three hundred members of the medical profession attended a dinner given in honor of Dr. J. M. T. Finney, on the evening of February 17th, by his associates in Baltimore, as an expression of their pleasure at his decision to remain in Baltimore instead of accepting the presidency of Princeton University. Dr. W. S. Thayer was toastmaster, and the speakers included Doctor Patten, Doctor Hibben, Doctor Remsen, Dr. Robert Abbe, of New York, Surgeon General Stokes, of the Navy, and Surgeon General Torney of the Army. A fund of $10,000 has been raised to bring to the university lecturers on surgery from abroad, which has been called the Finney Fund.

Insanity in New York State.—According to the annual report of the State Commission in Lunacy, at the close of the last fiscal year there were in New York State, in the various institutions, 33,331 committed insane patients. Of this number, 31,051 patients were confined in State hospitals, of whom 14,569 were men and 16,482 women. That the State institutions are overcrowded is shown by the fact that their capacity was exceeded by 3,043 patients. The commission recommends the speedy development of the newly established Mohansic State Hospital, the development of the Creedmoor branch of the Long Island State Hospital, and the extension of the lease of Ward's Island for fifty years.

The New Dispensary of the Philadelphia Polyclinic Opened.—The formal opening of the new dispensary building of the Philadelphia Polyclinic and College for Graduates in Medicine took place on Monday afternoon, February 5th. This institution, which conducts one of the largest charitable medical services in Philadelphia, found its capacity overtaxed several years ago, and in 1907 the Board of Trustees undertook the construction of this new building, which is designed especially to accommodate the patients who visit the dispensaries and accident wards, though it also makes available to the institution much needed space in the old building for additional beds and for a more satisfactory operating room for private patients, and separates entirely the accident ward and out patient service from the hospital. The new building, which adjoins the old, is constructed on the most approved fireproof plan, with the latest ventilating devices, and is hygienic in every particular. The institution throughout is equipped with modern appliances, and is now prepared to treat its large number of patients and render increasingly satisfactory services to its students.

The Control of Typhoid Fever.—The commission of physicians and sanitarians, appointed by the Department of Health of the City of New York to inquire into the methods of the department regarding the administrative control of typhoid fever, held its first meeting on February 15th. Among those present were Professor William T. Sedgewick, of the Massachusetts Institute of Technology; Professor George C. Whipple, of Harvard University; Professor C. E. A. Winslow, of the College of the City of New York; Dr. John W. Brannan, Dr. Alexander Lambert, and Dr. Herbert D. Pease. The department of health was represented by Commissioner Lederle, Dr. Hermann M. Biggs, Dr. Walter Bensel, Dr. William H. Park, Dr. John S. Billings, Jr., Dr. Marion B. McMillan, and Dr. Charles F. Bolduan, who was appointed secretary of the conference. The meeting was devoted to a permanent organization of the commission, and to a general survey of the work to be taken up, the officials of the health department explaining in detail the methods now in use in dealing with typhoid fever.

A Bureau of Hospital Statistics Proposed.—A bill has been presented in the United States Senate by Senator Fletcher, of Florida, the object of which is to authorize the Public Health and Marine Hospital Service to collect, classify, and maintain in such a manner as to make accessible to all hospital authorities and institutions of learning, the plans of hospital and dispensary buildings, descriptive matter relative to their equipment, their rules and regulations, reports of committees, etc., and other matter and literature relating to hospitals, asylums, dispensaries, and like institutions.

A National Movement for Mental Hygiene.—At the fourth annual meeting of the National Committee for Mental Hygiene, held in New York, on February 17th, a campaign was inaugurated which has as its object the improvement of conditions affecting the mentally afflicted. An anonymous gift of $50,000 enables the committee to start the work without delay. Dr. William L. Russell, superintendent of Bloomingdale Hospital, was appointed chairman of a subcommittee which will direct the first steps in the campaign, which will be a survey of the national field, under the personal leadership of Dr. Thomas W. Salmon, of the United States Public Health and Marine Hospital Service, who has been granted leave of absence for this purpose. Dr. Llewellys F. Barker, of Johns Hopkins University, was elected president of the committee.

Medical Education, Legislation, and Public Health.—Announcement is made by the Council on Medical Education and the Council on Health and Public Instruction of the American Medical Association that a conference on medical education, legislation, and public health will be held in Chicago on Monday and Tuesday, February 26th and 27th. Monday will be devoted to the eighth annual meeting of the Council on Medical Education, and on Tuesday there will be conferences on medical legislation and public health. A public meeting has been arranged for Tuesday evening, at which addresses will be made by Senator Robert L. Owen, of Oklahoma, and Senator Robert M. La Follette, of Wisconsin. All who are interested in the subjects of medical education, legislation, and public health are cordially invited to attend the conference and participate in the discussions. Complete programmes will be issued shortly.

The New York Physicians' Association held a stated meeting in Tuxedo Hall on Thursday evening, February 22d. Dr. Armin Nettle presented a patient with congenital subluxation of the lens, and Dr. B. T. Tilton presented two patients on whom gastroenterostomy had been performed for pyloric obstruction. Specimens of intussusception and ectopic gestation were shown by Dr. Archibald E. Isaacs and Dr. Alexander Schulman, respectively, and Dr. Abraham L. Wolbarst gave a practical demonstration of the intravenous injection of salvarsan. Two papers were read as follows: Fads and Fashions in Gynecology, by Dr. Henry C. Coe, and Abbott's Method of Correcting the Fixed Spinal Curvature, by Dr. Dexter D. Ashley. At the close of the meeting a collation was served at the Hotel Savoy. The annual dinner and "smoker" of the association will be held this evening at the Marie Antoinette Hotel.

Meetings of Local Medical Societies to be Held during the Coming Week:

MONDAY, *February 26th.*—Medical Society of the County of New York.

TUESDAY, *February 27th.*—New York Dermatological Society; New York Psychoanalytic Society; Metropolitan Medical Society of New York City; New York Medical Union; Riverside Practitioners' Society, New York; Valentine Mott Medical Society, New York; Washington Heights Medical Society, New York; Woman's Hospital Society, New York; Alumni Association of Seney Hospital, Brooklyn.

WEDNESDAY, *February 28th.*—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society; New York Society of Internal Medicine; Medical Union, Buffalo.

THURSDAY, *February 29th.*—Brooklyn Society for Neurology.

FRIDAY, *March 1st.*—New York Academy of Medicine (Section in Surgery); New York Microscopical Society; Brooklyn Gynecological Society; Manhattan Dermatological Society; Practitioners' Society of New York.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

February 8, 1912.

1. JOHN B. HAWES, 2D: Responsibility of the Medical Profession for the Early Diagnosis and Prompt Treatment of Pulmonary Tuberculosis.
2. FRANCIS P. MCCARTHY: Influence of Race in the Prevalence of Tuberculosis.
3. SAMUEL T. ORTON: Fly Problem at the Worcester State Hospital, 1911.
4. LLOYD T. BROWN: Inefficiency of the Ordinary Bar Rest. Its Correction with a Thigh Support.

1. Early Diagnosis and Prompt Treatment of Pulmonary Tuberculosis.—Hawes makes the following suggestions: 1. Every patient, or at least every patient in whom there is the slightest suspicion of lung trouble, should receive a routine physical examination, stripped to the waist. Examination of the sputum should be a part of this routine. 2. A "hemorrhage" should be considered as definitely indicating consumption unless there is clear evidence to the contrary, which there practically never is. Furthermore, the patient should be told so. 3. Do not put off making a definite diagnosis until you find bacilli in the sputum. The real early diagnosis should be made long before bacilli appear in the sputum; afterward it can hardly be called an early diagnosis. 4. Look more at the patient himself and his history and less at his lungs. 5. In every doubtful case have the patient keep a record of his temperature and pulse, taken at the hours of 8, 12, 4, and 8 o'clock, and report in a week. 6. Talk plainly, openly, and frankly with the patient, and if he has consumption see that he knows it. 7. Try to get him into a sanatorium or hospital at once. Even if he stays but a month or six weeks, he will there learn more than in a much longer time at home.

2. Influence of Race in Tuberculosis.—McCarthy believes that a definite resistance has been acquired by certain races as a result of contact with tuberculosis over a long period of time, brought about by urbanization; that the Indian and Negro races have acquired as yet very slight resistance against the disease; that preventive measures are practically the only means of stemming the mortality, and that the high mortality rate among the Irish can be lowered considerably by the educational and preventive measures now in vogue. It is possible to raise the resisting power of a race against tuberculosis, as shown by the relatively low mortality in the Jewish people against the high rate among the aboriginal races.

BRITISH MEDICAL JOURNAL.

February 3, 1912.

1. A. F. HERTZ: Motor Functions of the Alimentary Canal.
2. G. G. TURNER: Pelvic Deposits in Abdominal Cancer.
3. H. J. JOHNSTON-LAVIS: Chronic Toxemias at Vittel.
4. R. ALCOCK: Iodine Dressing for Operation Wounds.
5. E. M. LITTLE: New Material for Surgical Appliances.
6. J. L. THOMAS: Anchored Dressings in Surgery.
7. P. B. UNWIN and A. EDDOWES: Erythema and Death from Intestinal Catarrh.
8. F. GARDINER: Penetrating Power of Some Ointment Bases.
9. A. K. ARMSTRONG: Hydrocephalus as a Sequel to Shock.

1. Motor Functions of the Alimentary Canal.—Hertz presents the results of his studies of these functions by means of the x ray. Considering the stomach, he finds that with the patient standing, the fundus of the normal organ always reaches below the level of the umbilicus, whereas in the horizontal position it rises one or two inches and comes to lie above the umbilicus. The lowest part of the stomach can be lifted between two and four inches by voluntary contraction of the abdominal muscles. There is always gas in the stomach, which, when vertical, occupies the fundus; when empty the organ contains gas in the pear shaped upper third, while the rest of the organ has the form of a collapsed tube. It is clear, then, that percussion of the stomach can give information regarding the area of the contained gas only and none as to size or position of the organ. By no means other than x rays can gastroptosis be accurately diagnosticated. By this means also one can distinguish the functional from the organic form of hourglass stomach, for, in the latter, the neck does not run from the lowermost part of the organ. The tone of the viscus can be accurately studied by observation of the adaptation of the organ to its contents; this being almost lost in atony. Much less information is to be had from the study of the small intestine, but kinks and obstructions can be well seen. Hertz does not believe that kinking plays any part in the etiology of duodenal ulcer. The functional and organic conditions of the large intestine are subject to accurate study. The rate of passage of food through this portion can be estimated, and Hertz gives it as follows: The cecum is reached a little more than four hours after the bismuth meal, the hepatic flexure two hours later, the splenic three hours after this, and the beginning of the pelvic colon twelve hours after the meal was taken. Under normal conditions the feces do not pass into the rectum until just before the act of defecation; they remain at the sharp pelvirectal flexure until this time. The etiology of constipation, the effects of cathartic drugs, and the results of surgical operations are all subject to close study by the proper use of the x rays.

2. Pelvic Deposits in Cancer.—Turner directs attention to the importance of deposits of cancerous tissue in the pouch of Douglas in cancer of the abdominal viscera, particularly of the stomach. He calls attention, also, to the fact that these deposits may be quite large without giving any symptoms which would attract attention to their existence, and it is only upon routine rectal examination that they will be found. When present they constitute a contraindication to operation in even such a case as would otherwise seem quite suitable. How these growths find their way to the pouch is a matter of question, but Turner advances the hypothesis that, in the majority of cases at least, they probably pass down the omental surface by gravity. In a series of 435 cases of carcinoma, 307 of which were of the stomach, such secondary deposits were present in no less than twenty-eight cases, or 6.5 per cent. This serves to further emphasize the necessity of a routine rectal examination in all cases of suspected cancer of the upper abdominal viscera.

4. Iodine as the Sole Dressing for Operation Wounds.—Alcock puts forth the argument that the greater part of skin infection comes from the microorganisms lurking in the sweat glands and that it is precisely in this location that they are most completely inaccessible to our present methods of sterilization. Further, that our methods, which

macerate the skin and promote the activity of these glands, and our thick hot dressings are admirably designed to bring forth these bacteria at just that time when the tissues are most suitable for their growth. Upon this hypothesis, Alcock has been led to the consideration of iodine, for it has been shown that it is destructive to organisms with which it comes in contact; that it penetrates the skin fairly well; and that by its hardening action upon the skin it has a tendency to lock in those germs that lie unkilled in the depths of the glands. He has employed the following technique: All the bleeding points in the incision are to be stopped during the operation and the wound kept dry; no wet swabs are to be used, and only that blood is to be removed which comes away with these used dry or with the iodine covered swab. The wound layers and the skin edges must be brought into very close apposition, and each layer is to be united separately. Iodine is then to be applied immediately after the operation and again in three hours. The wound is not covered save by a clean night gown. In the case of wounds which need some support, a sterile towel may be placed over the wound and some supporting straps of adhesive plaster used. When the perineum is the site of the operation the iodine is to be applied after each micturition, and the legs are to be kept apart to prevent sweating. All his operations are done through no other preparation than iodine following a dry shave. He allows no water whatever, save the taking of a bath on the day preceding the operation. In a series of thirty-one cases, covering a wide range of operations, he has followed out these measures with absolutely perfect success, there being not even so much as a stitch abscess.

LANCET.

February 3, 1912.

1. G. H. Savage: Medicolegal Relationships of General Paralysis.
2. J. Cowan, G. B. Fleming, and A. M. Kennedy: Heart Block in Acute Infections.
3. A. Foerster: Salvarsan.
4. A. Morison: Syphilitic Aortitis.
5. S. Russ: X Ray and Radium Measurements.
6. D. Forbes and H. P. Newsholme: Membranous Rhinitis.
7. A. B. Raffle: School Closure in Measles.
8. C. A. Bucklin: Operation for Hemorrhoids.
9. J. C. Thresh: Saline Waters in the London Basin.

2. Heart Block in the Acute Infections.—Cowan, Fleming, and Kennedy have obtained autopsies upon several cases of heart block and of nodal rhythm appearing in the course of acute infections, and were able, by means of serial sections, to find some inflammatory focus or cellular infiltration in or near the primitive cardiac tissue. These foci of cellular infiltration are especially frequent in cases of rheumatic endocarditis, and are to be found scattered through the myocardium. They are specially prone to be present in those cases which show the development of cutaneous rheumatic nodes. As regards these nodes, it would seem that in the heart many of the smaller ones underwent complete resolution in many cases, while the larger became the starting points for the development of a subsequent fibrosis. On the subject of nodal rhythm, which, in the light of recent work, is generally considered to be more properly designated as auricular fibrillation, they are of opinion that there are cases in which the impulse does really arise in the auriculoventricular node. In support of this view, they cite the facts and observations that in the majority of these cases the auricular rhythm is unchanged and that the coincident contraction of auricle and ventricle is due to a ventricular extrasystole occurring just before the regular sinus contraction of the auricle. That the prematurity of the contraction entails defective conduction, extrasystole cannot originate in the auricle, and both auricle and ventricle must respond to a common stimulus arising between them. That this conception is confirmed by electrocardiographic tracings recorded by Lewis, in which the P wave was inverted, suggesting the reverse direction of passage of the contraction wave in the auricle.

3. Salvarsan.—Foerster calls a spade a spade when he discusses the ill effects seen in the use of salvarsan in the treatment of syphilis. He details a few of the untoward symptoms thus: Intense thirst, vomiting, and diarrhea; dyspnea, irregular, small pulse, cyanosis, collapse; anuria, albuminuria, acute nephritis; intense jaundice, a case of which resulted fatally. These are all merely the typical manifestations of arsenical poisoning as seen with other preparations, and "it requires a good deal of blind infatuation not to see this." The neurotropism and meningotropism are but the expressions of the action of arsenic, and the predilection of salvarsan for certain nerves is as obscure as that of atoxyl for the optic. In spite of his frank and reasonable arraignment of salvarsan, he believes it to be of great value if used with a proper degree of care, and he lays down the following maxims for the guidance of those who have had insufficient experience in its use: 1. It is specially valuable where rapidity of action or concentration of treatment is desired. 2. It is widely applicable, for its toxicity is small; cardiac disease, syphilis of the nervous system, and concomitant grave maladies are the chief contraindications to its use. 3. The intravenous method is the only one to be recommended. 4. Repeated medium doses are to be preferred to a few large ones. 5. It is indicated where mercury has failed. 6. It is advisable in very early cases to try to abort the disease by excising the chancre and giving salvarsan. 7. Combined salvarsan and mercury treatment should be persisted in in cases of florid secondary syphilis. 8. This is also applicable to severe cases of tertiary syphilis. 9. In mild tertiary cases salvarsan is of value on account of its rapidity of action and the long duration of latency. 10. Truly malignant cases are as hopeless under salvarsan as under any other form of treatment. 11. It is of no use in late latent cases and in parasyphilis.

6. Membranous Rhinitis.—Forbes and Newsholme record an outbreak of diphtheria in which this condition figured as a concomitant affection and as a means of continuing the epidemic through the spread of the bacilli by the nasal secretions in the cases. The cause of the rhinitis is always the Klebs Loeffler bacillus, and the course of the disease is so mild and so prolonged that little attention is paid to its presence, while it continually affords a source from which to begin an epidemic of true clinical diphtheria. The condition seems to

yield fairly well to an autogenous mixed vaccine, and but little local treatment is needed when this is used.

7. **School Closure in Measles.**—Raffle cites statistics of the effect of this procedure upon the course of an epidemic of measles during which 4,470 children were exposed to infection. Of these, 2,180 were presumably susceptible. Of these latter, 853 were attacked, 638 cases occurring during the time that the children were at school and 140 during a period of fourteen days after school closure; that is 778 patients who might have become infected either at school or at home. Thus, at the time of removal of the possibility of school infection, there remained more than 1,400 susceptible children. Of these, however, only seventy-five caught the disease. This, Raffle believes, shows what an important part the school plays in the spread of measles and the value of school closure in an epidemic as a preventive measure.

AUSTRALASIAN MEDICAL GAZETTE.

January 6, 1912.

1. A. Jeffreys Wood: Diseases of Children.
2. E. S. Jackson: Different Standards of Health Maintained by the Sexes.
3. J. A. G. Hamilton: Symptoms and Diagnosis of Ectopic Gestation.
4. J. H. L. Cumpston: Influenza and Cerebrospinal Meningitis.

This is the first number of the *Australasian Medical Gazette* in its new form as a weekly. Two of the four original articles are presidential addresses, the third reports a couple of cases of ectopic gestation, while the fourth calls attention to the fact that in a number of cases in which the nasal and bronchial mucus from persons supposed to be suffering from influenza revealed in no cases the influenza bacillus, but in several *Micrococcus catarrhalis;* that an epidemic of cerebrospinal meningitis was raging at the time, so that it is questioned whether the trouble may not have been the latter disease throughout.

January 13, 1912.

1. J. Lockhart Gibson: Importance of Lumbar Puncture in the Plumbic Ocular Neuritis of Children.
2. Robert Dick: Mosquitoes and Disease.
3. R. Humphrey Marten: Successful Removal of a Cerebral Tumor from the Right Parietal Cortex.
4. H. A. Ellis: Infantile Diarrhea and Its Treatment.

1. **Lumbar Puncture in the Plumbic Ocular Neuritis of Children.**—Gibson urges strongly the adoption of lumbar puncture in cases of children suffering from lead poisoning and having either an optic neuritis or a choked disc. He reports several cases which show the beneficial effect produced by the procedure.

PARIS MÉDICAL.

February 3, 1912.

1. Pierre Lereboulliet: Diseases of the Chest in 1912.
2. A. Schwartz and Mathieu: Surgery of the Lungs in 1912.
3. D'Espine: Lobar Pneumonia in Early Childhood.
4. Henri Dufour: Blocked Pleurisy.
5. Achard: Insufflation of Air in Pleurisy.
6. Paul Courmont: Forlanini's Method in Phthisis.
7. Emile Sergent: Adrenalin in Tuberculosis.
8. Calvé: Seashore in the Treatment of Surgical Tuberculosis.
9. Juillerat: Paris Houses and the Public Health.

6. **Forlanini's Method.**—Courmont describes a way of carrying out this method, which consists in the creation of an artificial pneumothorax by the injection of nitrogen; a cylinder of gas under high pressure, a manometer, and a properly made puncturing needle are required. The main point for success is the very gradual development of the artificial pneumothorax.

8. **Seashore and Surgical Tuberculosis.**—Calvé thinks the advantages of residence at the seashore for subjects of surgical forms of tuberculosis are incontestable from the point of view of increase of appetite, stimulation of respiration, increase of red blood corpuscles, increase in diuresis, nitrogenous excretion, albumin and phosphorus assimilation, and diminution of demineralization.

PRESSE MÉDICALE.

January 31, 1912.

1. F. De Lapersonne: Ocular Sporotrichosis.
2. J. Castaigne: Leucopathic Albuminuria.
3. Jean Camus and P. Pagniez: Hemoglobinuria.

February 3, 1912.

4. E. J. Moure: Gastroscopic Examination.
5. Gallavardin and Delachanal: Acute Angioneurotic Edema in Gonorrheal Rheumatism.

SEMAINE MÉDICALE.

January 31, 1912.

1. R. de Bovis: Therapeutics of Retention after Full Term Labor.
2. J. Lhermitte: Modification of the Blood in Radiologists.

February 7, 1912.

3. René Sand: Anatomical Demonstration of the Independence of the Third Left Frontal Convolution of the Centres for Articulate Speech.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

January 18, 1912.

1. F. Frankenhäuser: Technique and Indications for Carbonated and Oxygenated Baths.
2. Pels-Leusden: Practical Hints for the Technique of Plaster of Paris Bandages.
3. M. Wilms: Tying and Closing the Pylorus with Strips of Fasciæ.
4. A. Plehn: Results from Atophan in Chronic Gout.
5. H. Braun and E. Teichmann: Trypanasome Immunization.
6. F. Strassmann: Report on the Cases of Poisoning Observed in the Municipal Asylum of Berlin.
7. E. Fuld: Habitual Obstipation.
8. Magnus Möller: Salvarsan.
9. Reissert: Salvarsan and the Eye.
10. Robert Hilgermann: Wassermann Reaction and Lead Poisoning.
11. A. Pinkuss: Serological Diagnosis.
12. Adolf Blumenthal: Primary Closing of the Wound after Opening of the Mastoid Process.

4. **Atophan in Chronic Gout.**—Plehn remarks that the diagnosis for gout cannot depend only upon the increase of uric acid in the blood. Atophan, diphenylchinolintetracarbon acid, increases the uric acid excretion in most chronic gouty persons to more than twice its amount, which stimulation continues longer in the gouty person than in the normal. The influence upon the local inflammation is usually excellent. It is necessary to continue the drug and to assist its good results with other well known treatment. The author has not seen any deleterious effects of atophan.

6. **Report on the Cases of Poisoning Observed in the Municipal Asylum of Berlin.**—Strassmann gives a report on the peculiar toxic cases observed in the municipal asylum at Berlin during the last days of 1911. He remarks that the examinations and investigations have not yet been concluded, but he believes that a certain toxic substance was responsible, and thinks that methyl alcohol in the whiskey taken by the persons was the primary cause.

8. **Salvarsan.**—Möller reports 156 cases of syphilis treated during one year with salvarsan. He concludes that the effects of salvarsan differ somewhat from those obtained with mercury and potassium iodide. It is, therefore, of great value in combination with these standard remedies. He further states that the curative effect of salvarsan

is very quick and symptomatic if given in proper doses, with right technique, and under the guidance of the results received from the Wassermann reaction; it also acts prophylactically against recurrence.

10. Wassermann Reaction and Lead Poisoning.—Hilgermann has observed that a positive Wassermann reaction which has been reported to occur, does not take place *per se* in the acute, subacute, or chronic state of lead poisoning.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

January 16, 1912.

1. Neue: Examination of the Cerebrospinal Fluid with Wassermann Reaction
2. Yakimoff and Kohl-Yakimoff: Influence of Microbes upon the Results Obtained from Salvarsan.
3. Janssen: Innervation of the Bladder after Sectio Alta.
4. Henschen: A Substitute for Thiersch's Wiring in Operation for Prolapse of the Rectum through Silk Straps and Pieces Transplanted from Vessels, Fascia, Periosteum, and Tendon.
5. Heile: Spastic Condition and Crises of Tabes Improved through Resection of the Posterior Nerve Roots of the Spinal Column.
6. Herff and Hell: Secacornin or Pituitrin in Labor.
7. Brunner: Warning against the Use of Scopolamine Compounds.
8. Ritter: Röntgenotherapeutics.
9. Dessauer: Technique and Development of Flashlight Röntgen Pictures.
10. Hubner and Walter: Trichorrhexis Nodosa.
11. Forell: Recurrences of Acute Inflammatory Diseases of the Heart in Childhood.
12. Kraemer: Prostatic Hypertrophy Treated by Stretching of the Prostate.
13. Knoke: Treatment of Phlegmasia of the Upper Extremities by Circumcision.
14. Davidsohn: Synchronous Gravity in Both Tubes.
15. Pick: Production of Low Pressure in Spiess's Atomizer.

January 23, 1912.

16. Müller: Bulbous Form of Epidemic Poliomyelitis.
17. Marchand: Therapeutics of Acid Poisoning.
18. Zoeppritz: Technique of Demonstration of Occult Blood with Guaiac Reaction.
19. Schott: Multicoloring of Solid Particles of Urine.
20. Schickele: Thrombosis and Internal Secretion.
21. John: Therapeutical Results in Hemorrhages, Hemorrhagic Diathesis, and Pernicious Anemia with Injection of Serum or Defibrinated Blood of a Normal Subject.
22. Pick: Etiology of Impetigo and Eczematous Conjunctivitis.
23. Traugott: Technique and Importance of Bacteriological Examination of the Uterine Secretion in Practice.
24. Hoffmann: Lethal Hemiplegia after Salvarsan Injection in Gumma of the Spinal Cord.
25. Becker: Treatment of Anthrax.
26. Wiedemann: Traumatic Tetanus Cured with Antitoxine and Blood Serum of a Patient Who Was Cured of Tetanus.
27. Dreyfuss: Death from Serum through Anaphylaxis?
28. Thilo: Treatment of Scars of the Skin.
29. Jodlbauer: Experiments with Digitalis Tablets, "Winckel."
30. Salomon: Skin Disease Characteristic of Pediculosis Capitis.
31. Jolly: A New Needle Carrier. Uterine Dilator.
32. Betz: A Simplified Cheap Stethoscope for Use in Infectious Diseases.
33. Determann: A Simple Method for Diagnosticating Lefthandedness.
34. Lorentzen: Mica Operation.

7. Warning against the Use of Scopolamine Compounds.—Brunner speaks about the scopolamine-pantopon anesthesia. He thinks that this is a powerful combination and says great care should be taken with it. He favors inhalation narcosis and can report 5,500 operations, performed under general anesthesia, with only one death. He uses the Billroth mixture, consisting of 100 grammes chloroform, thirty grammes ether, and twenty grammes alcohol in the beginning of anesthesia, continuing with ether.

12. Prostatic Hypertrophy Treated by Stretching of the Prostate.—Kraemer reports three cases in which he treated successfully hypertrophy of the prostate by stretching the gland. He uses a Kollmann dilator to about 32 Charrière, with which he dilates the prostatic part of the urethra.

28. Treatment of Scars of the Skin.—Thilo treats deep scars of the skin with warm, wet applications and massage. The wet heat he produces, not through compresses with water, but with an application of adhesive plaster and cotton. If the plaster irritates the skin he uses paper or lint. Massage is well adapted for detaching the scalp tissue from the bones, whether this massage is active or passive; he softens the skin with oil, and then covers the scar with a mixture of one part glycerin and two parts water.

PRAGER MEDIZINISCHE WOCHENSCHRIFT.

January 25, 1912.

1. Karl Lindt: Lues, Morbus Banti, Terminal Septic Infection.

February 1, 1912.

2. Hans Gallus Pleschner: Functional Kidney Diagnosis.

WIENER KLINISCHE WOCHENSCHRIFT.

January 18, 1912.

1. Alois Kreidl: Monkeys without Cerebrum.
2. Emanuel Wein: Diagnosis and Treatment of Tuberculous Infection with Antitoxic Remedies.
3. Anton von Sabatowski: Effect of Hormonal upon Intestinal Peristalsis.
4. Fritz Dautwitz: St. Joachimstal Radium Carriers and Some of the Effects Produced by Their Rays.
5. Siegfried Tenzer: A New Method of Radical Operation on the Tonsils.
6. Max Sgalitzer: Hysterical Self Mutilation.

January 25, 1912.

7. J. Mauthner: Ernst Ludwig.
8. Adolf Vystavel: Hemolyses of the Streptococci as Changeable Characteristics.
9. H. Raubitschek: Pathology of Potassium Cyanide Poisoning.
10. Emil Zak: New Field for Hexamethylenetetramine Based upon Its Excretion.
11. Otto Sachs: Uses of Urotropin in Dermatology.
12. Richard Bauer and Ada Hirsch: Wassermann Reaction.
13. Carl Ullmann: Excretion of Salvarsan in Reference to Therapeutics.

10, 11. Urotropin.—Zak examined the sputum for urotropin and was able to demonstrate it.—Sachs speaks favorably of the use of urotropin in many diseases of the skin, such as herpes zoster, multiform exudative erythema, contagious and herpetiform impetigo, variola, etc.

13. Excretion of Salvarsan in Reference to Therapeutics.—Ullmann speaks of the demonstration of salvarsan in the urine and feces; the excretion is different in subcutaneous and in intramuscular injections, and in intravenous injections. He has found arsenic deposits in animal experiments in larger ponderable quantities in the liver, in smaller imponderable amount in the kidney, spleen, testicles, and bony tissue, but he was unable to demonstrate it in the brain, skin, and hair. The viscosities in the brain are noteworthy, as arsenic from sodium cacodylate and salvarsan cannot be demonstrated there as deposits, while arsenic of Fowler's solution was found in the brain. If his experiments are supported it will demonstrate that salvarsan is not neurotropic.

ZENTRALBATT FÜR CHIRURGIE.

February 3, 1912.

1. C. Huebscher: Prevention of Muscular Atrophy after Injuries to the Joints.
2. Eugen Bircher: Experimental Production of Exophthalmic Goitre.

1. Prevention of Muscular Atrophy after Injuries to Joints.—Huebscher asserts that with a little practice it is possible to contract the muscles of the limbs without moving the joints. The biceps of the arm and the quadriceps of the thigh are those in which this is most easily accomplished. By means of this active contraction of the muscles of the bandaged limb several times a day, he has found that the muscular atrophy, which is otherwise positively to be expected, did not appear.

2. Experimental Production of Exophthalmic Goitre.—Bircher states that he has succeeded in inducing exophthalmic goitre in five dogs by the implantation into their abdominal cavities of fresh-

ly removed, living thymus taken from human beings.

CORRESPONDENZ-BLATT FÜR SCHWEIZER AERZTE.

January 10, 1912.

1. W. Dössekker: Appearance of Nervous Disorders after Salvarsan.
2. M. Landolt: Examination of the Sputum with Antiformin.

January 20, 1912.

3. Emil Wieland: Dietary Disturbances in Nurslings.
4. W. Dössekker: Appearance of Nervous Disorders after Salvarsan.

1. The Appearance of Nervous Disorders after Salvarsan.—Dössekker reports ten cases of appearance of nervous affections after intravenous injections of salvarsan. His scientific deduction will follow in the next number.

2. Examination of the Sputum with Antiformin.—Landolt describes his method of examination of the sputum with antiformin. Ten cubic centimetres of sputum are to be well shaken with 2 c.c. of pure antiformin in a well closed test tube for one or two minutes; then 10 c.c. of water is added, and the solution is again well shaken for one or two minutes. Heat is applied for about twenty-four hours to render the solution homogeneous. If the sputum is then fully dissolved (the solution should be like water), sedimentation is produced through centrifugalization, and the sediment is then ready for microscopical examination, but the object should be colored with Spengler's picric acid method. (The author uses the abbreviation *cm.* for a description of a test tube "about 4 cm. diameter by 2 cm. deep which would contain 10 cm. of material," and also for description of the quantities of sputum, antiformin, and water to be used, thus, "10 cm. water." We take it that in the first case he meant "centimetres," in the other "cubic centimetres.")

4. The Appearance of Nervous Disorders after Salvarsan.—Dössekker concludes his paper with the statement that it is proved that these disturbances are luetic, and that it does not seem doubtful that salvarsan plays a rôle in the development of these disturbances. Although they are serious and important complications, the prognosis, if they are recognized early, is good. It is to be hoped that through change of doses and alteration of the number of injections, through combination treatment (salvarsan, mercury, potassium iodide) these disturbances will be avoided.

AMERICAN JOURNAL OF UROLOGY.

January, 1912.

1. Hugh Cabot: Sources of Error in the Diagnosis of Renal and Ureteral Calculi.
2. Leo Buerger: Further Studies of the Posterior Urethra with the Cystourethroscope.
3. Charles M. Harpster: Tumors of the Bladder.
4. Frederic E. Sondern: Phosphaturia and Oxaluria.
5. Frederick R. Charlton: Cause of Hypertrophied Prostate.
6. D. A. Sinclair: Foreign Body (Cork) in Bladder.

1. Calculi.—Cabot says that a stone may remain in the kidney and prostate many years without producing any pain. In ten per cent. of his cases pain had been entirely absent at all times. Renal colic was present in only half the cases. Pain, when present, had been attributed to the urethra and its appendages, movable kidney, sacroiliac disease, appendicitis, and biliary colic. Abnormal urine is a most constant sign of renal and ureteral calculi. Albumin was present in eighty-two per cent.; pus in forty-two per cent.; blood in eighty per cent. In but one case was the urine entirely normal. Four patients whose urine was normal gave a history of recent hematuria. Of errors in diagnosis, resulting in unnecessary operations, there were thirteen cases or more than twenty-five per cent. upon whom some other operation had been done under mistaken diagnosis. A diagnosis of appendicitis was most common. Confusion with diseases of the bladder occurred in four cases. In two cases the kidney was explored, but no stones were found, and later at another operation stones were removed. Pelvic exploration of women frequently precedes the discovery of renal stone. These errors would have been avoidable had the following precautions been observed: 1. When investigating the cause of frequent and painful micturition, or dealing with a stone in the bladder not obviously due to obstruction at the neck of the bladder, the absence of stone in the kidney should be demonstrated; 2, before operating for attacks of recurrent pain in the right lower quadrant of the abdomen, especially when the patient has not been seen during an attack, the condition of the urine should always be known; in the female a catheter specimen must be studied; 3, persistent backache in the female may be due to stone in the kidney. A careful investigation of the urine and kidney conditions should be made before operating on the uterus or its appendages, when not grossly abnormal. The following routine examination should always be employed: Examination of the urine, x ray, ureteral catheterization, and test of the kidney function.

2. The Cystourethroscope.—Buerger describes and depicts the results of twenty examinations with this instrument. Some lesions in the neighborhood of the sphincter are pathological processes and some purely anomalies, and these are sometimes difficult to recognize and classify. One interesting lesion, with a predilection for the roof and lateral aspects of the internal sphincter, is urethritis proliferans. This often causes slight difficulty in urination, pain at the end of the penis, and increased frequency. In the fossula prostatica and the sulci laterales large crypts or dilated duct orifices are often seen. A prostate from which numerous pus cells, with or without gonococci, can be expressed may be associated with a normal urethra, save for the presence of large ducts; these are practically never seen in cases which have been free from gonorrhea. One patient who had been operated upon for a fibrous hypertrophic prostate, had frequency of micturition and recurring attacks of cystitis. The topography of the internal sphincter and of the prostatic urethra was accurately determined. The sphincter was altered and presented on the left side a deep troughlike excavation where the notch undoubtedly permitted the escape of urine into the prostatic urethra. The floor of the supramontane urethra was the site of numerous excavations in which there were collections of pus lying over areas not yet healed. The rest of the mucous membrane was swollen and uneven like œdema bullosum. The cystitis was cured by treatment of the posterior urethra. Although the bladder capacity was normal, there still remained increased frequency of micturition; which could be explained upon the basis that

an imperfect sphincteric control permitted a premature influx of urine into the prostatic urethra, calling forth thereby a premature desire to urinate.

JOURNAL OF NERVOUS AND MENTAL DISEASE.

January, 1912.

1. Smith Ely Jelliffe and John H. Larkin: Malignant Chordoma Involving the Brain and Spinal Cord.
2. F. X. Dercum: Tumor Involving the Base and Substance of the Left Temporal Lobe.
3. Alfred Gordon: Differential Diagnosis between Manic Depressive Psychosis and Dementia Præcox.

1. Malignant Chordoma Involving the Brain and Spinal Cord.—Jelliffe and Larkin review the few recorded cases of this rare condition, and present the clinical and pathological records of a carefully studied case, remarkable for the severity of the symptoms, for the spinal metastasis, and for the great size of the growth, being the largest one on record (11 by 7 by 6 cm.). The cranial tumor occupied the base, involving most of the cranial nerves; it was extradural, causing extensive osseus necrosis; and it extended into the nasal fossæ, filling both antrums of Highmore. In the latter part of its course of about two years a swelling appeared in the spine, and paraplegia developed, most probably caused by a metastatic growth, although this was not examined post mortem.

2. Tumor Involving the Base and Substance of the Temporal Lobe.—Dercum reports an interesting case of aphasia caused by tumor in the left temporal lobe. The usual symptoms of paraphasia, word deafness, and word blindness were present but incomplete, and in addition, agraphia was marked although the frontal lobe was not involved. This was explained by the destruction by the tumor of the inferior longitudinal fasciculus, this producing the alexia, and by diaschisis the agraphia.

JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS.

January, 1912.

1. H. H. Dale and P. P. Laidlaw: Physiological Action of Cytisine, the Active Alkaloid of Laburnum (*Cytisus laburnum*).
2. Samuel Amberg and J. H. Mason Knox, Jr.: Influence of Sodium Iodoxybenzoate and Sodium Cyanide upon an Allergic Reaction of Inflammatory Character.
3. J. D. Pilcher: Alcohol and Caffeine: Study of Antagonism and Synergism.
4. W. H. Schultz: Physiological Studies in Anaphylaxis. IV, Reaction of the Cat toward Horse Serum.
5. John J. Abel and David I. Macht: Two Crystalline Pharmacological Agents Obtained from the Tropical Toad, *Bufo agua*.

2. An Allergic Reaction.—Amberg and Knox sought to ascertain whether it is possible to influence allergic reactions by means of chemical substances foreign to the organism. The method employed was to administer to rabbits, sensitized to horse serum, successive intracutaneous injections of the serum and to compare the intensity of the local reactions produced before and after intravenous injection of the several drugs investigated, viz., iodoxybenzoic, iodbenzoic, and benzoic acids, and sodium cyanide. As a result of numerous tests the authors conclude that the intensity of the intracutaneous reaction of a rabbit sensitized to horse serum is dependent on the amount of serum used for the intracutaneous injection. An intravenous injection of a large dose of serum in a sensitized rabbit diminishes the intensity of the intracutaneous reaction. Iodoxybenzoic acid administered intravenously in rabbits diminishes the intensity of the intracutaneous reaction, while iodbenzoic and benzoic acids do not. Iodoxybenzoic acid administered locally in rabbit and dog inhibits the intracutaneous reaction for several hours, while sodium cyanide, tested in the rabbit, has the opposite effect. Iodoxybenzoic acid administered intravenously in the sensitized dog does not interfere with the fall of blood pressure on reinjection of serum. There is a strong possibility that the iodoxybenzoic acid and the cyanide do not influence the mechanism of the allergic reaction as such, but that their influence is directed against the inflammatory process due to a product of the allergic reaction.

3. Alcohol and Caffeine.—Pilcher reports a study of the effects of these two drugs, given singly and combined in various doses to cats. He found that when small doses of caffeine and alcohol are combined, the result is generally a qualitative algebraic summation of both actions, i. e., that each drug produces, qualitatively, its ordinary effects. When large doses of the two drugs are combined, the effects of the stimulant drug tend to be reversed, the result being greater depression. From the data obtained the author deduces that in poisoning with fatal doses of alcohol, caffeine acts only deleteriously. With half fatal doses, moderate doses of caffeine may decrease the narcosis and hasten recovery; large doses, however, are dangerous. In poisoning from "small" doses of caffeine, alcohol lessens the psychic effects; with large doses, alcohol adds to the danger. The danger of cardiac death is increased by agents which alone have relatively little depressant effect on the heart. This would engender caution in the use of caffeine in heart disease.

4. Anaphylaxis.—Schultz studied the effects of intravenous or subcutaneous injections of horse serum both in unsensitized and sensitized cats. The serum was found to cause constriction of the pulmonary, coronary, and systemic arteries, and also to act directly upon the heart muscle. The author disproved, by appropriate experimental procedures, the statement hitherto accepted to the effect that horse serum kills cats by dilating the systemic bloodvessels alone, and showed that death is caused by the action of the serum on the cardiopulmonary system, the distention of the large abdominal and thoracic veins being for the most part passive. In both normal and sensitized cats there is a fall of blood pressure, following an intravenous injection of 0.0010 to 0.0025 c.c. of horse serum to each gramme body weight. The right auricle and ventricle become gorged with blood, and the pulmonary arteries are likewise greatly distended, whereas the left heart is practically empty. Nonsensitized cats very often recover from an intrajugular injection of 0.0025 c.c. of horse serum to each gramme body weight. Highly sensitized cats usually die suddenly after intrajugular injections of 0.0020 and even 0.0010 c.c. The rate of injecting the serum into the vein, as well as the total amount injected at once, greatly influence the blood pressure and cardiac phenomena, large doses rapidly injected being more certainly fatal. The action of the serum is peripheral, since destruction of the brain and spinal cord does not materially alter the end results. Furthermore, studies with excised organs showed

smooth muscle and cardiac muscle to be the most important tissues involved in causing the gross symptoms of anaphylactic shock in the cat and dog. Atropine sulphate may or may not influence the circulatory phenomena. It is only very large doses of atropine that seem to have any influence upon the action of the serum when the latter is injected in the doses mentioned.

LONG ISLAND MEDICAL JOURNAL.

January, 1912.

1. C. A. Palmer: Dishonest Claims and Medical Testimony in Suits for Damages.
2. G. K. Dickinson: Uterine Deviations, Their Influence on the Uterus, and Their Correction.
3. Albert M. Judd: Postoperative Mechanical Obstruction of the Bowel Occurring Shortly after Operative Procedure.
4. R. E. Coughlin: A Personal Tribute to Sewell Matthewson.

2. Uterine Deviations, Their Influence on the Uterus, and Their Correction.—Dickinson asserts that mere deviation or malposition cannot affect the circulation of the uterus, as the circle of Robertson assures a perfect blood supply. The sympathetic system regulates uteroovarian function through ganglia in the uterine substance. The chromatin substance of the corpus luteum has an important bearing on the function of the uterus. The uterus is maintained in a normal position in the pelvis by the parametrium, but its direction varies with movements of the body, distention, and emptying of the bladder, etc. Descensus and retrodeviations are predisposed to by one of three factors: 1. Antenatal defects of muscle or aponeurosis of the pelvic floor; 2, uterine disease and relaxation of the ligaments above and trauma of the pelvic floor; 3, trauma from within the abdomen, as pressure from a dilated cecum, prolapsed colon, or too mobile and loaded sigmoid. Pain is usually due to traction on the broad ligaments and thus on the peritoneum, or to traction on the uterosacral muscle. The continued irritation of the plexus of nerves at the pelvic brim causes its exhaustion, giving rise to congestion or other vasomotor phenomena, and later by extension to the sympathetics, affects other organs, giving rise to various neurotic phenomena, constipation, nausea, epigastric pulsations, etc. The mere correction of a displacement is not enough. The cause must be searched for and remedied. Twenty-five per cent. of ventral suspensions have recurrences. Twelve per cent. of external shortening of the round ligaments fails to relieve because of unremedied internal conditions. Tender scar tissue often causes persistent postoperative pain, especially when subjected to traction. Uterine rest is the main factor to be obtained and may be secured by tampons or pessaries which act as temporary splints, or by operations which give support. The general health must be built up.

3. Postoperative Mechanical Obstruction of the Bowel, Occurring Shortly after Operative Procedure.—Judd believes that from cases observed in his own work many deaths following soon after operation are due to intestinal obstruction, although very often diagnosticated as acute dilatation of the stomach. The obstruction may be due to adhesions and kinking of the gut, either between adjacent loops of bowel, or between omentum and colon, or to paralysis of the bowel. Abdominal distention in the upper zone, irritability, and projectile vomiting are the symptoms of acute dilatation, while general distention, colicky pain above the obstruction due to increased peristalsis, and vomiting, first of stomach contents and later of the intestinal contents, marks obstruction. Pulse and respiration are also increased. Differentiation may be most difficult; but if stomach lavage, posture, enemata, and medication fail to relieve promptly, reopening of the wound is indicated to ascertain and remedy the causative condition. Cases are cited.

MONTHLY CYCLOPEDIA AND MEDICAL BULLETIN.

January, 1912.

1. W. Wayne Babcock: Uses and Limitations of General Anesthesia by Subcutaneous and Intravascular Injections.
2. A. Gordon: Parental Alcoholism in the Mental Deficiency of Children; a Statistical Study.
3. H. Nepper: Physiological Treatment of Constipation and Mucomembranous Enterocolitis.
4. E. D. Fisher: General Paresis, Tabes, and Cerebrospinal Syphilis.
5. E. M. Alger: General Practitioner or Optician.

1. Subcutaneous and Intravascular Anesthesia.—Babcock reviews the various methods which have been advocated for the production of intravenous anesthesia and states that, as thus far developed, it cannot be commended for general use. It was employed by the author in over 2,000 cases, sometimes as adjunct to ether or spinal anesthesia, at other times alone for the production of general anesthesia, while the young and robust were resistant and showed a tendency to become delirious. It was found possible, however, to produce anesthesia in most persons above the age of eighteen years without ether or chloroform. For operations upon the brain, skull, face, jaws, neck, respiratory system, and spine the method is very satisfactory. In celiotomy cases, rectal operations, and, in less degree, operations upon the hands or feet, muscular rigidity forms an objection. By using several drugs at one time a crossed action upon the central nervous system is secured, accentuating the narcosis and reducing the danger. In young subjects the author's method is to give sufficient diluted alcohol or strong spirit by the mouth to produce alcoholism, adding morphine, if considered necessary, and then to inject from one fifteenth to one seventh grain of apomorphine. In three to fifteen minutes, after a brief effort at emesis, the patient becomes relaxed and apparently insensible, and may remain thus for two or more hours, during which time the operation is carried out. In using the scopolamine-morphine method the author uses, in addition to these drugs, a mixture of Hoffman's anodyne, one ounce, alcohol, one half an ounce, and salt solution enough to make five ounces, which is slowly run into the bowel after the second injection of one sixth grain of morphine and one one hundredth grain of scopolamine. Twenty minutes later, if the patient is not yet insensible, though somnolent, and the pulse is good, one twentieth to one tenth grain of apomorphine is given. If, however, the patient is wakeful, the third injection consists of morphine and scopolamine along with the apomorphine. Either of the drugs may be omitted from the third injection, the condition of the skin, pupils, respiration, and heart action and the presence or absence of delirium being taken as guides. The effect of

the apomorphine, the most powerful of the three agents in the author's experience, comes on very rapidly. In patients above forty years of age, profound narcosis appears soon after, if not before the third injection. In some cases another injection may be necessary. In persons under thirty years a combination of the scopolamine-morphine and alcohol-morphine-apomorphine methods is often desirable. The precautions to be adopted during narcotic anesthesia include watching of the respiration and pulse, care to maintain the patency of the respiratory passages, and saline rectal irrigation after the operation to aid in elimination of the drugs. The patient should be under competent watch until the anesthetic has passed off. In two cases the author has seen the respiration temporarily depressed under narcotic anesthesia, but no harm resulted. The anesthesia is nearly ideal from the patient's viewpoint. It is useful for operations on the upper part of the body, where general, spinal, or local anesthesia are inapplicable or objectionable. In the hands of the careless or incompetent, however, it is too dangerous.

2. Parental Alcoholism and Mental Deficiency.—Gordon's paper deals with a series of 298 cases of mental deficiency observed in 117 families, in which the influence of alcohol on the mental state was studied. The condition of the first generation of offspring was investigated in ninety families, that of the second generation in twenty, and that of the third in seven. The ninety families showed 200 individuals in the first generation of offspring more or less affected mentally. In addition to idiocy, imbecility, and feeble mindedness, epilepsy was frequently noted. Other manifestations, such as obsessions, phobias, irresistible impulses, criminal tendencies, etc., were also noted. Many of the offspring had shown a marked desire for alcohol at an early age. A stuporous state was often observed in them for some time after the use of small quantities of alcohol. The mentally deficient individuals of the second generation of offspring presented the same multiplicity of manifestations as those of the first, but with greater intensity. The third generation offspring, though few in number, also illustrated the progressive mental debility attending hereditary transmission of the alcoholic tendency.

3. Constipation and Enterocolitis.—Nepper adduces evidence to show that deficiency of biliary secretion is responsible for both constipation and the mucomembranous form of enterocolitis. Experiments were performed demonstrating the excitomotor and anticoagulant properties of bile. A stable, colloidal bile extract was prepared and administered in a large series of cases with good results. The dietetic treatment is described in detail. The food must be such as will lead to a minimum of putrefaction and furnish a soft, easily eliminated residue. The first condition is satisfied by exclusion of readily putrescible albumins, such as egg albumin, and by limitation of fats. The second indication is met by the use of foods rich in cellulose.

5. General Practitioner or Optician.—Alger laments the fact that the medical profession as a whole is not prepared to afford good ophthalmic service except to the well to do, who can afford to consult the high priced specialist, thus opening the way for the licensing of the refracting optician. There are two great classes of eye patients. The first needs glasses simply to improve vision, and the family physician could easily qualify himself to do as well, and much better, by these patients than the present day optometrist. The second class includes those with organic diseases affecting vision and those suffering from serious eyestrain. These cannot be left safely either to the general practitioner or optometrist, and often tax to the utmost even the resources of the expert.

PENNSYLVANIA MEDICAL JOURNAL.

January, 1912.

1. J. C. Bloodgood: Estimate of the Vital Resistance.
2. G. M. Laws: Influence of Anesthetics on Mortality.
3. R. T. Miller: How Long Shall Patients Be Kept in Bed?
4. D. Guthrie: Prevention of Complications in Gastrointestinal Surgery.
5. G. F. Muller: Minor Postoperative Sequelæ.
6. J. M. Baldy: Preservation of Strength of Surgical Patients.
7. G. M. Dorrance and N. Ginsburg: Vein to Vein Transfusion.
8. J. I. Roe: Heart Stimulation in Pneumonia.
9. William E. Robertson and G. M. Illman: Bacterins in Pneumonia.
10. M. D. Ritchie: Eustachian Tube in Purulent Otitis.

7. Vein to Vein Transfusion.—Dorrance and Ginsburg describe their method of performing vein to vein transfusion, which is very simply carried out by means of a cannula, through which one vessel is drawn and over which the other is then pulled, both by means of sutures. The proceeding turns the inner vessel inside out as it reverses to pass back over the cannula through which it had been drawn. This brings its intima directly into contact with that of the outer and enclosing vessel. They have used the method of transfusion for severe hemorrhage and for high grades of secondary anemia.

9. Bacterins in Pneumonia.—Robertson and Illman used a stock vaccine made from a number of different strains of pneumococci, and report the results obtained in a series of fifty consecutive patients of whom thirty did not receive the vaccine while twenty did. Those receiving the vaccine were not selected, but were taken just as they came. The mortality in the thirty unvaccinated was forty per cent., which is a high normal for hospital treatment. Of those who were vaccinated 10.5 per cent. died. They conclude that while the series is small the results are so striking that one must recognize the beneficial effects of the vaccine. There were no ill effects from the injection of the vaccine save a slight local reaction in one or two cases.

REVIEW OF NEUROLOGY AND PSYCHIATRY.

January, 1912.

1. J. D. Rolleston and N. S. MacNaughtan: [illegible] linghausen's Disease.
2. Bertram C. A. Lepper: [illegible]

1. Familial von Recklinghausen's Disease.—Rolleston and MacNaughtan describe the occurrence of neurofibromatosis in a man and two of his daughters, in one of whom it first appeared after an attack of diphtheria in childhood. The familial incidence of this condition—von Recklinghausen's disease—has been reported in only thirty-two instances. The development of the tumors is preceded, first by punctiform pigmented spots, then café au lait patches, and finally bluish areas on

which the swellings develop. Excised specimens contained no neural structure.

2. Mongols.—Leeper summarizes the characteristics of 176 cases in Mongolian idiots. He states that about one half of the subjects were the last born of large families, and that hereditary neurotic taint was common. Most of the Mongols die young and of tuberculosis. The usual physical conditions are described, and in addition a peculiar form of lenticular opacities was found in nineteen patients of twenty-eight that were over nine years of age. These opacities increase with age, and simulate late lamellar cataract.

PROCEEDINGS OF THE ROYAL SOCIETY OF MED CINE

December, 1911.

1. H. D. Rolleston and J. B. Molony: Purpura in Infective Diarrhea.
2. Leonard Rogers: Further Experience in the Treatment of Cholera by Injections of Hypertonic Salines and Permanganates Internally among Europeans in Palermo.
3. F. Craven Moore and H. E. Allanson: Influence of Some Foodstuffs on Gastric Secretion.
4. H. R. Dean: Relation between the Fixation of Complement and the Formation of a Precipitate.
5. F. Ransom: Action of Potato Tyrosinase on Adrenalin.
6. A. R. Jordan: Urinary Antiseptics: An Experimental Investigation.

(Titles of the seventy-one other contributions in this periodical cannot be given because of space limitations.)

1. Purpura in Infective Diarrhea.—Rolleston and Molony call attention to the importance of purpura as a symptom of infective diarrhea in children. Of 100 cases of diarrhea, eleven showed purpura, and all these resulted fatally. All but two patients were under eleven months of age. In eight the eruption occupied the skin of the abdomen, especially the lower part, and in four of these the thorax was also affected. The extremities, where ordinary purpura is more commonly seen, were almost always spared. The purpura was usually a late phenomenon, appearing, on an average, on the thirty-fourth day, one week before the average time of death. It is therefore connected, the author points out, with cachexia rather than acute infection or toxemia. In one patient, however, the rash disappeared and the child improved, but the diarrhea later returned and proved fatal two weeks after the disappearance of the eruption. Transfusion or the administration of horse or other serum could not have been the cause of the purpura, as the latter usually preceded these measures. Nor did the cases suggest any close relation between purpura and the edema which sometimes occurs in children after gastroenteritis.

2. Treatment of Cholera. — Rogers describes his method of dealing with this disease and reports recent experiences in Palermo. He administers by rectum and intravenously the following hypertonic saline solution: Sodium chloride, 120 grains; potassium chloride, 6 grains; calcium chloride, 4 grains; water, 1 pint. The object is not only to replace the water and salts lost from the body owing to the diarrhea, but to raise the salts in the blood somewhat above the normal, so that the osmotic currents will tend to cause fluid to run into the blood rather than out, and the diarrhea will be checked instead of increased, as it is by the use of normal salines. The injections are regulated according to the patient's blood pressure or, better, the specific gravity of the blood. A blood pressure lower than 80 mm. Hg. indicates the use of intravenous injections; likewise, if the specific gravity is raised to 1,063 or over, four pints of the solution are infused in the adult male and 3.5 pints in the female subject. The specific gravity estimations are facilitated by the use of a series of twelve small bottles of glycerin and water, so mixed as to represent gravities of 1,048, 1,050, etc., up to 1,070; a small drop of blood is blown gently from a capillary tube into the middle of a bottle, and if it sinks a higher bottle is tried until the drop just floats for a few seconds, which is the point required. In cases with specific gravity exceeding 1,066 or 1,070, as much as five or six pints of the saline solution may be infused, the last one or two being given slowly. It is advisable to dilute the blood to several points below the normal specific gravity (1,053). In addition to the intravenous injections, whenever the blood pressure falls to 80 mm. or less, from half to one pint of normal saline is also injected high up into the rectum every two or four hours, this being continued until at least two pints of urine are passed in the twenty-four hours. A marked febrile reaction occurs after the intravenous injections, and if the temperature rises to 104° F. or over, it should be at once reduced by cold sponging and iced water rectal injections. Beside the saline injections the author administers permanganates to cholera patients. A solution of calcium permanganates (six grains or more to the pint, at first further diluted) is given to the patient to drink *ad libitum*, and potassium permanganate in two grain salol or keratin coated pills is given. Two pills are to be given every quarter hour for the first three hours, then two every half hour until the stools become green and less copious. The pills are then stopped, but a course of eight pills is given at the beginning of the second and third days under treatment, to prevent relapses. By the use of the hypertonic saline solution intravenously the death rate in 294 cases treated in India was reduced to 32.6 per cent. from the previous rate in the same hospital during eleven years of 59.6 per cent. In 103 further cases, with the addition of the permanganates internally, the death rate was reduced to twenty-three per cent. Recently in Palermo the author was able to lower the mortality below twenty per cent in sixty-seven patients, and in fifty-four additional cases, all severe, treated by Romano according to Rogers's method, the mortality was only fifteen per cent.

3. Influence of Foodstuffs on Gastric Secretion.—Moore and Allanson undertook experiments upon the living subject to determine the effects on gastric secretion of certain foods, which by their use or interdiction in gastric disorders have been credited empirically with having some particular relation, ameliorative or causal, with such disorders. The experiments were made upon fifteen individuals, most of them normal, the others with definite gastric disturbances. The results obtained with a test breakfast consisting of four biscuits and ten ounces of water were made the basis for comparison. An infusion of tea was found to induce a greater secretion of gastric juice than water. With coffee, individual susceptibility seemed to play a greater part than with tea, the average, however, showing a

somewhat more powerful stimulating effect than tea. Cocoa proved more stimulating than water, but less so than tea. Milk, in five out of six cases, showed a stimulating effect less than that of water, a peculiarity which the authors ascribe to an inhibitory action of the fat contained in it. A watery infusion of a meat extract caused greater stimulation than either tea or coffee. Albumin water also appeared to stimulate considerably. Observations of the action of alcohol and tobacco smoking were made only in two individuals, who gave divergent results, probably in accordance with individual susceptibility.

4. Fixation of Complement.—Dean, in a lengthy contribution, describes a series of experiments performed with the object of ascertaining whether, in a mixture of antiserum and antigen, any relationship exists between the amount of precipitate formed and the amount of complement fixed. He finds that if a constant quantity of antibody is added to a series of quantities of antigen, two quantities of antigen can be selected—one which produces the largest precipitate and another which produces the greatest fixation of complement. The mixture producing the greatest fixation always contains considerably less antigen than the mixture in which the largest precipitate is produced. In mixtures in which precipitation is sufficiently delayed by relative antibody excess, the amount of complement fixed bears a direct relationship to the amount of precipitate formed. Dean thinks it probable that complement is fixed during the earliest stages of the aggregation process by which the precipitate is formed. After a visible precipitate has formed very little complement is absorbed. The fact that precipitation has been observed without complement fixation, and complement fixation without precipitation, is not sufficient evidence that two separate antibodies exist, for, by adding different quantities of antigen to a constant amount of the same antiserum, it is possible to demonstrate precipitation without complement fixation, or complement fixation without precipitation. When the complement fixation method is used for the purpose of detecting the presence of antigen it is necessary to use various dilutions of the antiserum; unless an approximately equivalent amount of antiserum is employed it is always possible that complement fixation may be inhibited by a relative excess either of antigen or of antibody.

5. Tyrosinase and Adrenalin.—Ransom, experimenting with a tyrosinase obtained from potatoes, found that a drop or two of a five per cent. solution of it, added to 2 c.c. of adrenalin solution, gives rise in two or three minutes to a pink color which deepens rapidly to a port wine red. The reaction is very delicate; fifteen minutes after mixing the pink color is evident in a solution containing less than 0.0004 per cent. of adrenalin. The adrenalin is so altered that both the power of causing rise of blood pressure and that of producing glycosuria are lost. Ransom believes it probable that the hydroxyl groups of the ring form one of the points which tyrosinase attacks. The pressor and glycosuria powers of adrenalin are so situated in the adrenalin molecule that one may be lost and the other retained. This takes place when adrenalin is injected intravenously; there is a rise of blood pressure but no glycosuria. On the other hand, although there is no rise of blood pressure after subcutaneous injection, the pressor property is not at once lost, for there occurs local vasoconstriction; the loss of the power to produce a rise of blood pressure occurs on the way from the subcutaneous tissues to the blood stream. These facts and also the great difference in the dilution of adrenalin at which the glycosuric and pressor powers are active suggest that these two powers are connected with different points of the adrenalin molecule. The blood pressure raising power of tyramine was also found by the author to be destroyed by tyrosinase, but more slowly than is the case with adrenalin.

6. Urinary Antiseptics.—Jordan made a study of the efficiency of hexamethylenamine, sandalwood oil, salicylic acid, ammonium benzoate, and benzoic acid as urinary antiseptics, ingesting the drugs himself and subsequently using his urine as a culture medium for putrefactive organisms, *Staphylococcus pyogenes aureus* and *Bacillus coli*. Before inoculation with the last two organisms, the urine was rendered sterile by filtration. The effect of variations in the reaction of the urine was tested by ingestion of acid sodium phosphate to increase the acidity, or of potassium citrate to lower it, as required. The hexamethylenamine was taken in doses of ten grains three times daily. The results were as follows: In alkaline urine its presence had very little influence on the growth of organisms. The rate of putrefaction and the growth of staphylococcus were possibly slightly delayed, that of *B. coli* apparently unaffected. As the acidity of the urine was increased the action of the drug became increasingly obvious. As the average acidity of normal urine putrefaction took a week or more and the staphylococcus was similarly delayed. *B. coli* grew with difficulty. With still higher, but readily produced acidity the antiseptic power of hexamethylenamine became absolute, the urine remaining indefinitely sterile. The author estimates that the antiseptic substance in acid hexamethylenamine urine must be at least ten times as powerful as phenol. This corresponds closely with the antiseptic power of formaldehyde. Further, by means of the phloroglucin test, Jordan was able to detect formaldehyde in every specimen of the acid urine. By experiments *in vitro* with a one in 10,000 solution of hexamethylenamine in distilled water, incubated at body temperature for twenty-four hours, the author found that the slightest trace of formaldehyde was liberated, probably about one in 200,000. In solution with a small amount of acid sodium phosphate, or a trace of a mineral acid, a strong reaction was given, the color indicating a strength of about one in 10,000. In solution with a little sodium bicarbonate or other alkali no reaction whatever was given, even after prolonged incubation. In the experiments with sandalwood oil, this agent was taken in capsules in doses of twenty minims three times a day. Against putrefaction the action was feeble. *B. coli* was practically unaffected. Curiously, with the staphylococcus a marked antiseptic effect was observed, and shown to hold good by repeated tests, with con-

trols. In alkaline urine the growth of this organism was delayed to six or seven times the normal period; in moderately acid urine it took nine days to render the urine ammoniacal, while in highly acid urine the coccus was barely growing at the end of a fortnight. The author thinks sandalwood oil probably has a selective action against cocci generally, including the gonococcus. Salicylic acid was taken in doses of twenty grains three times daily. The urinary acidity seemed to be slightly lowered by it. Against putrefactive organisms and the staphylococcus it had a decided effect, prolonging the time required for bacterial growth to about three times the normal. *B. coli* was relatively little influenced. Ammonium benzoate, fifteen grains three times a day, and benzoic acid both raised the urinary acidity considerably and are ranked by the author as second only to acid sodium phosphate in this respect. Alkaline benzoic urine showed practically no antiseptic power. As the acidity increased a retarding effect upon putrefaction and *B. coli* became evident; but even with a high acidity the staphylococcus seemed quite unaffected. By these results it is shown that the degree of acidity of the urine in which urinary antiseptics are to act is an all important factor in their efficiency. It would appear that there is no object in giving large doses of hexamethylenamine, since if the urine is sufficiently acid ten grain doses will keep it sterile. All the drugs proved almost inert in alkaline urine, except oil of sandalwood in cases where the staphylococcus caused the alkalinity. It has been recommended to give potassium citrate with hexamethylenamine, in colonic bacilluria, to render the urine alkaline, upon the belief that *B. coli* grows less well in an alkaline medium. The author found no evidence that this belief is well founded, and even if the alkaline urine does have the supposed inhibitory effect on the bacillus, it is quite certain, he says, that it will completely inhibit any action of the hexamethylenamine. Sandalwood oil is probably the best drug to *begin* giving in cystitis with foul, ammoniacal urine. In such cases all attempts to make the urine acid with acid sodium phosphate, etc., are useless until the alkalinity approaches the neutral point, and it is only then that hexamethylenamine, benzoates, etc., begin to act.

BRITISH JOURNAL OF CHILDREN'S DISEASES.

January 1912.

1. H. D. Rolleston and J. P. Molony: Purpura in Infective Diarrhea.
2. C. F. Marshall: Mortality and Morbidity in Hereditary Syphilis.
3. J. R. Charles: A Case of Myotonia Congenita.
4. H. D. Rolleston: Diphtheria of the Esophagus.
5. J. Burfield and A. J. Cleveland: Case of Acute Purulent Arthritis in a Child of Ten Months, with Radiograph.
6. Macleod Yearsley: Retrospect of Otology, 1911.

1. Purpura in Infective Diarrhea.—Rolleston and Molony believe that symptomatic purpura in infective diarrhea of infants has not attracted much attention. They analyzed 100 cases of severe infective diarrhea and found purpura occurred in eleven, all of which were fatal. Usually the hemorrhages are small, but they may be so closely set as to make the skin of the abdomen almost uniformly purple when seen from a distance. The purpura was usually a late phenomenon and appeared on an average on the thirty-fourth day, that is, a week before death. It is therefore connected with cachexia rather than acute infection or toxemia. The cases did not suggest any close relations between purpura and the edema which sometimes occurs in children after gastroenteritis. The conclusions drawn are: 1. Symptomatic purpura in infective diarrhea mainly occurs on the abdomen and chest of infants under the age of one year; 2, it is usually a terminal phenomenon in prolonged cases; 3, the prognosis in these cases is extremely grave.

2. Mortality and Morbidity in Hereditary Syphilis.—Marshall says that syphilitic heredity manifests itself in four ways: 1. In the form of multimortality (fetal, early or late); 2, as virulent or active hereditary syphilis; 3, as dystrophic hereditary syphilis, or hereditary parasyphilis; 4, as syphilitic heredity without symptoms. He shows that there are differences according to the origin of the disease. 1. Paternal transmission more often gives rise to late hereditary syphilis and hereditary parasyphilis; 2, maternal transmission causes more cases of virulent hereditary syphilis, and the virulence diminishes more slowly than in the case of paternal syphilis. In both paternal and maternal syphilis, virulent and dystrophic symptoms may be present at the same time; 3, in mixed transmission virulent symptoms are generally more severe, and hereditary parasyphilis more common than in pure maternal transmission. There are differences according to the age of the disease; the more recent the disease in the parent or parents, the more frequent are virulent manifestations likely in the offspring. As regards the effect of treatment on the offspring, most cases, both early and late, can be cured by mercurial treatment, but this treatment should be prolonged for two years at least. It is bad practice to treat congenital syphilis during the presence of symptoms only. On the other hand, the dystrophies of hereditary syphilis, or parasyphilitic phenomena, are not influenced by mercurial treatment. Hocksinger states that only about twenty-five per cent. of syphilitic infants grow up into comparatively normal adults. In order to effect the cure of syphilitic heredity it is necessary to treat the parents. A man who has had syphilis should not marry till he has undergone at least two years' treatment, and even then only when two years have elapsed without symptoms. If the wife becomes infected she must be treated during the whole of pregnancy, and during subsequent pregnancies if the first child shows any signs of syphilis. Any child showing signs of congenital syphilis at, or soon after birth, should be treated for two years. By such means, syphilitic heredity can be modified, attenuated, or even extinguished. In regard to salvarsan, he says: "It is now well known that this drug has not fulfilled its expectations, and there is no proof that it cures syphilis. It is to mercury that we must look for the cure of syphilis and syphilitic heredity."

DUBLIN JOURNAL OF MEDICAL SCIENCE.

January, 1912.

1. Andrus J. Horne: Recent Legislation in Its Bearing on Infant Life.
2. Joseph O'Carroll: A Case of Relapsing Fever Due to Rat Bite.
3. J. B. Story: Medical Inspection of Schools and School Children.

2. Relapsing Fever Due to Rat Bite.—O'Car-

roll reports a case in which a man was bitten on the lip by a rat and showed, nine days later, a greatly swollen lower lip, edema and erythema of the chin, and enlarged and swollen submaxillary and sublingual glands. During his stay in the hospital his temperature presented a peculiar curve. It remained practically normal for nearly two weeks, then it rose within three days to 103.4° F.; on the next day it was 97.5° F. Three days later it began to rise again, first to 100°, then to 101.6° F., then to 102° F., and the following day dropped to 98° F. Three days later this curve was practically repeated and from that time on it ran a very irregular course, mounting at times as high as 104° F., and then dropping abruptly. He remained in the hospital over two months and on his discharge nothing abnormal could be detected except that his temperature was high, he was anemic and complained of headache. A few days later his legs began to swell and the edema spread to the upper part of his body. A month after his discharge from the first hospital he was admitted to a second, with apparently a parenchymatous nephritis which gradually improved. In a little over four months he was discharged and was able to return to work two months afterward. A year later he was in good health. The report of three similar cases of rat bite is referred to. In all the course was long with fever characterized by the peculiar relapses, and all ended in recovery. The pyrexial duration of O'Carroll's case seems to have exceeded that of any of the others, and his was the only one in which signs of a serious nephritis developed.

INDIAN MEDICAL GAZETTE.

January, 1912.

1. D. G. Crawford: Appointment to the Service Examination.
2. F. N. Windsor: Abor Arrow Poison.
3. Hodginson Lock: Notes on the Teaching of Anatomy.
4. C. C. Barry: Air in the Bladder among Women.
5. A. Martin Leake: Fractures Treated by Operations.
6. A. H. Proctor: Improved Method of Using the Tonsil Guillotine.
7. N. S. Simpson: Antistreptococcus Serum in Erysipelas.

2. Abor Arrow Poison.—Windsor gives an account of the examination of material scraped off an arrow head that had been removed from a wounded man. No aconite was present, but it would seem from the results of the examination that the arrow poison of the Abors is a paste made by pounding the soft parts of *Croton tiglium,* and is not obtained from the seeds.

7. Antistreptococcus Serum in Erysipelas.—Simpson reports a case which shows that though the value of antistreptococcus serum (multivalent) in erysipelas is disputed, an excellent result may sometimes be secured.

ANNALES DE DERMATOLOGIE ET DE SYPHILIGRAPHIE

December, 1911.

1. S. Nicolau: Histological Researches with Regard to the Cutaneous Fat.
2. A. Civatte: Chemistry of the Skin in the Light of the Recent Researches of Unna and His Collaborators.
3. Pied: Syphilitic Gummatous Mastitis Simulating Cancer of the Breast.

3. Syphilitic Mastitis.—Pied records three instances of this affection, which is of especial interest on account of the importance and often the difficulty in the differential diagnosis. The resemblance to malignant disease was marked in all three cases. In all there were axillary adenopathies of a size and hardness similar to that of cancer; there was pain of varying intensity, increased, as was the volume of the tumor, at the menstrual epochs; and there was adhesion to the skin and the deeper tissues. All three of the patients were between the ages of forty and forty-five years; in two of them the tumors were multiple, exactly like adenocarcinoma in its classical form; in the third there was a single large and tender tumor. In the author's opinion differential diagnosis cannot positively be made in cases such as these by physical examination alone; a careful search of the history and of the patient's person for evidences of past infection and a serum test is required. An even if the evidence thus obtained is negative, it is proper to institute a short but thorough antisyphilitic course before proceeding to surgical measures.

BULLETIN DE LA SOCIÉTÉ FRANCAISE DE DERMATOLOGIE ET DE SYPHILIGRAPHIE.

December, 1911.

Leredde and Kuenemann: The Accidents of "606" and Their Causes; Statistics of 468 Intravenous Injections.

Salvarsan.—Leredde and Kuenemann make a critical examination of 468 intravenous salvarsan injections from various records during the years 1910 and 1911, of which only a general résumé can be given. They are the recorded cases of untoward happenings in about 850,000 injections, the number estimated to have been given in these two years. (It must not be forgotten, however, judging by experience in New York, that only a small proportion of these accidents are recorded.) Leaving out of account, for the present, minor happenings from which the patient recovered, there were fifty-five deaths in the series. Twenty-five of these the authors attribute directly to the drug, seven were doubtful, and twenty-three occurred from causes independent of it. In the histories of many of the fatal cases the reporters noted the existence of one or more of the many contraindications to the treatment that have at various times been specified. In the discussion in the *Société de dermatologie et de syphiligraphie* that followed the reading of the paper, several members warned the profession against the indiscriminate employment of "606." Ravaut stated that the accidents after the injections were very much more frequent than was usually supposed; Milian stated that it was a "colossal imprudence" to employ the same dose for intravenous as for intramuscular injection; he gives ten to thirty centigrammes at a time, repeating the injection if necessary, always giving mercury at the same time, and getting excellent results. Brocq, though a partisan of arsenobenzol, said that he was dismayed at the martyrology that it had occasioned; mercury, though much older, had far fewer deaths to its discredit. Leredde proposed to give a full dose to patients who were healthy, and a much smaller one to those in whom there were contraindications; to which Brocq replied that the trouble was to decide to which class the patient belonged in many cases, since the contraindications were so numerous and often so obscure. Finally, Lévy-Bing admitted that he never administered the drug without apprehension.

CANADIAN MEDICAL ASSOCIATION JOURNAL.

January, 1912.

1. Alexander McPhedran: Undergraduate Training and Requirements for License to Practise.
2. F. A. de Vertenil and F. L. de Vertenil: Bacillus Lepræ in the Nasal Mucous Membrane.
3. M. G. Burris: Pseudomuscular Hypertrophy.
4. R. E. McConnell: Observations from Boer Land.
5. MacDermot: Semmelweis and Holmes.
6. Murray MacLaren: Omental Cysts.

2. Bacillus Lepræ in the Nasal Mucous Membrane.—De Vertenil and de Vertenil conclude from six months of systematic observation of about 185 lepers in the Cocorite Leper Asylum, Trinidad, that leprosy is propagated in many, if not most cases by means of blood sucking insects, but that there are other possible paths of infection, the most common being the nasal mucous membrane. The chief points in favor of such a contention are the early implication of the organ and the constant presence of the specific bacillus in the nasal secretions. The presence of the specific bacillus in the nasal secretion affords a ready, easy, and valuable method of diagnosis in doubtful cases. A nasal examination should always be made in all obscure skin and nervous conditions in patients coming from a country where leprosy is prevalent. The bacilli which leave the system, even in the slightest nasal discharge, may be an element of serious danger to those in constant contact with leper patients. Nasal hygiene should form an essential part in the treatment of lepers, not only from the point of view of prophylaxis, but also for the patient's own benefit. In view of the strong possibility of infection through the nasal passages it would be wise for those who come in close and constant contact with lepers to practise nasal douching with some mild antiseptic lotion. The inhalation of a volatile oil, like eucalyptus oil, or plugging the nostrils with cotton dipped in some antiseptic, might serve equally well.

3. Pseudomuscular Hypertrophy.—Burris gives a family history which seems to indicate at least a marked hereditary tendency of this disease which has adhered to the original type through three generations. The people among whom the cases appeared were of Scotch and Irish stock and settled in Nova Scotia about 1760. No cases appeared between 1760 and 1820. A couple married in 1815; of this marriage six sons and six daughters were born. Three sons were affected by this disease, all the daughters remained normal. The remaining sons married and two of them reared families, but none of their children were affected, and thus far none of their grandchildren. Each of the six daughters married and of their children a total of seven sons fell victims. All daughters escaped, but the disease reappeared in a son of one of these daughters. The disease pursued a very definite and constant course in all cases. It began before the age of six years and each boy died before he was twenty years old. In this family the story of "the crippled boys" is almost a household one and the mothers recognized in many cases before the attending physician that another son had been added to the list. Some of the mothers averred that they knew before confinement that a male child would be born and that he would be a "cripple." They based this belief on the observation that they did not experience the usual amount of quickening, and that the child felt heavy and lifeless in the womb. Whether this was fancied or real the children were always slower and more lethargic in their movements than normal. No history of twitching or of unsteadiness, except that of weakness could be obtained. Certain muscles became hard, fibrous, and falsely hypertrophied, some of them atrophied later, not only of the limbs, but also of the body, head, and face. Contractures of the flexor type took place at the joints, producing marked deformity; kyphosis and winging of the scapulæ were prominent.

Proceedings of Societies.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Twenty-fourth Annual Meeting, Held in Washington, D. C., December 12, 13, and 14, 1911.

The President, Dr. Rudolph Matas, of New Orleans, Louisiana, in the Chair.

The Effect of Ligation of the Ureters.—Dr. Louis Frank, of Louisville, detailed a series of experiments concerning ligation of the ureters in animals. In many instances the ligation was followed by primary hydronephrosis. He exhibited specimens showing definite changes that took place in the kidneys after ligation of the ureters. Atrophy, without much change in the kidney, occurred in from eighty to ninety per cent. of the cases in which the ureters were ligated. Ligation of the ureter in operating was not an accident that was to be absolutely disregarded, as it left behind unpleasant conditions.

Dr. Albert Vander Veer, of Albany, recalled the case of a patient who suffered decided pain for six years after an operation. The right ureter was accidentally ligated with silk. The patient came to him at the end of this time for relief. He made an exploration, and found a sacculated condition of the left kidney, in which there were a number of abscesses. This kidney was removed, and the patient recovered. The ligation of the ureter at the previous operation resulted in a train of symptoms which went on for six years until relief was afforded by the removal of the left kidney.

Dr. Robert T. Morris, of New York, stated that the ureter had often been accidentally ligated by the surgeon in doing pelvic work when he did not know that he had done so, and the patient had never found it out because it gave rise to no symptoms. One should strive to guard against this accident in surgical work.

Dr. J. Wesley Bovee, of Washington, D. C., was quite in accord with Doctor Frank that it was safe to ligate the ureter that was passing normal urine up to the limit of six weeks, and if one removed the ligature any time within that six weeks, the function of the kidney was resumed and it would continue. But beyond that time, so far as experimentation was concerned, the function of the kidney was totally ended.

Dr. H. A. Royster, of Raleigh, North Carolina, agreed with Doctor Frank that ligation of the ureter during operation was a more serious matter than

we had been heretofore willing to admit, and sometimes a patient died following this accident.

Dr. GUY LEROY HUNNER, of Baltimore, firmly believed that ureters were tied without our knowing it. He had tied, to his knowledge, three ureters during operations. Both ureters were tied in one patient, and in the other the ureter was tied in a patient suffering from a condition similar to that of the first one, namely, cancer of the cervix.

Dr. RICHARD A. BARR, of Nashville, said that if a surgeon should tie both ureters, he should undo his work and try to save the patient's life. In many cases we were confronted with the necessity of removing a kidney or implanting the ureter into the bowel, and where we were sure the patient had another kidney the simplest method was to tie the ureter off and remove the kidney at a subsequent operation.

Dr. FELIX E. BALBRIDGE, of Huntsville, Alabama, did not think the impression should go out from the association that there was no danger attending the ligation of these ureters. His experience had been unsatisfactory in that regard. He recalled one case in which he accidentally tied the ureter while operating and the patient died five days afterward.

Cancer of the Rectum and Lower Sigmoid with the Report of an Unique Case.—This paper, by Dr. MILES F. PORTER, of Fort Wayne, Indiana, appeared in the JOURNAL for February 10, 1912, pp. 264, et seq.

Umbilical Tumors Containing Uterine Mucosa or Remnants of Müller's Duct.—Dr. THOMAS S. CULLEN, of Baltimore, referred to a case of intestinal polyp at the umbilicus and showed a photograph of the umbilicus with a small irregular tumor projecting from the umbilical depression. In the low power picture it was possible to see the outer surface of this polyp covered by typical intestinal mucosa, and with the high power the junction of the squamous epithelium and intestinal mucosa. This polyp was very clearly seen. It was one of those cases where the outer end of the omphalomesenteric duct had remained open. This patent extremity had turned inside out giving a polyp with intestinal mucosa on its surface. He then considered several cases from the literature where umbilical tumors contained glands of an unusual type. After discussing the subject at length he gave the following epitome of the composite picture of these tumors: At some time between thirty and fifty-five years a small tumor developed at the umbilicus, reaching its full size in the course of a few months. It was usually described as being the size of a small nut. Sometimes it was painful, especially at the menstrual period, and in at least one instance there was a brownish yellowish discharge from the umbilicus at such times. The overlying skin was usually pigmented and there might be one or two bluish and brownish cysts just beneath the surface. These might rupture and discharge a little brownish fluid, old clots. On section, the nodule was found to be intimately attached to the skin, was very dense, and was traversed by glistening dense fibrous tissue. Scattered throughout the nodule one sometimes found small spaces presenting a sievelike appearance. These spaces were filled with brownish fluid. Occasionally there might be a small cyst several millimetres in diameter, filled with brownish contents. Grayish, somewhat homogeneous areas were occasionally distinguishable in the tumor. On histological examination the superficial squamous epithelium was usually found intact. It might be normal or thickened. The stroma of the growth was composed of dense fibrous tissue; sometimes a few bundles of nonstriped muscle were noted here and there in the fibrous tissue. In other specimens the nonstriped muscle was more abundant than was the fibrous tissue. Scattered throughout the field were glands round, oval, or irregular. They occurred singly or in groups, and were lined with cylindrical epithelium. When occurring singly they frequently lay in direct contact with the fibrous tissue, but when found in groups were usually surrounded by a characteristic stroma that stained deeply and was much more cellular than the surrounding fibrous tissue. The cells of this stroma between the glands usually had oval or round vesicular nuclei. Frequently some of the glands were dilated and their epithelium was somewhat flattened. The cyst spaces noted macroscopically and filled with brownish fluid were likewise dilated glands, and the fluid was old blood. The stroma around the glands frequently showed fresh hemorrhage or remains of old blood to be recognized by the deposits of blood pigment. From the foregoing description it was clearly seen that the gland picture was that of the characteristic uterine mucosa with its typical glands and its characteristic stroma, and further that the typical menstrual reaction was often present, as evidenced by the pains in the nodule at the periods, the accumulation of old menstrual blood with the formation of the small cysts, and in at least one instance by the occasional discharge of blood from the umbilicus.

Where Shall the Line Be Drawn between Medicine and Surgery in Borderline Cases?—Dr. JAMES E. MOORE, of Minneapolis, spoke on this subject. See NEW YORK MEDICAL JOURNAL for January 27, page 166.

Dr. HERMAN J. BOLDT, of New York, stated that there were a number of women who had a chronic catarrhal inflammation of the appendix, whose cases might be classed as on the borderline. He referred to women especially who had fat abdomens, who were to a greater or less degree neurasthenic or psychasthenic, and who could be cured by intelligent medical care, general hygiene, massage, etc. There were a number of women who were constipated who would get well by intelligent medical treatment. There was another large percentage of patients who had pelvic conditions which were on the borderline between medical and surgical treatment; consequently, it behooved the practitioners to carefully study these cases and to give them the benefit of the doubt before resorting to operations which would cause the destruction of a function which was of vital importance to womanhood.

Dr. SAMUEL LLOYD, of New York, could not agree with Doctor Moore with reference to decapsulation of the kidney. A young man, twenty-six years of age, was brought into his office some years ago, waterlogged, having one or two convul-

sions a day, with approaching death. The physician who brought him asked him (Doctor Lloyd) to do a decapsulation of the kidney, and he said the patient would die on the table, and he would not do it without the consent of the family. The family united with the physician in the request. Doctor Lloyd decapsulated the patient's kidneys; they began to function normally in a short time thereafter, and the patient went through four years of active life. He felt confident that without decapsulation of the kidneys this patient would have died.

Dr. Robert S. Hill, of Montgomery, Alabama, took exception to Doctor Boldt's remark about chronic appendicitis. A man with chronic appendicitis was like a man with a stick of dynamite in his side, and we were not justified, when we considered the small mortality of the operation, of allowing this man to go around doing his work, depending upon the general practitioner to handle him with care. This condition was frequently responsible for the neurotic conditions, and no case, such as Doctor Boldt described, should be turned over to the general practitioner.

Doctor Moore, in closing, said that he was firmly convinced that acute appendicitis was the result of chronic appendicitis; therefore, to avoid acute appendicitis and all its dangers, which was carrying away its thousands, we should remove all chronically inflamed appendices.

The Colon Bacillus, a Regulator of Population.—Dr. Robert T. Morris, of New York, said that disturbance of the balance of nature by overpopulation of a locality with some animals, like rabbits and lemmings, was met by nature with epidemics which rapidly reduced the numbers of these animals. In the early days of history the human species was subjected to similar epidemics. Preventive medicine had taken charge of most of these, and overpopulation was controlled by Nature through endemics, toward which the decadent individuals were most vulnerable. Nature set a limit to the stage of development which might be attained by various animals, including man, and by species of plants. After an allowable stage of development had been reached, Nature poisoned off what she seemed to consider the excessive number of individuals or undesirable individuals. This poisoning was accomplished in the plants and animal world by the toxines of various bacteria chiefly. Preventive medicine had taken up one after another various bacteria engaged in endemic destruction of individuals. Until recently the tubercle bacillus was believed to be the most important among these. Now that the tubercle bacillus was under good control, perhaps we should find that the colon bacillus had stood next in order as Nature's agent against overpopulation. Bacteriologists told us for many years that the colon bacillus group was nonpathogenic and even useful when at home in the bowel. They did not put detectives upon its track when away from home restraints. Flagrant infractions were first noticed when the colon bacillus was found to be destroying the appendix or causing a cholecystitis or an abscess of the kidney, but the acute demonstrations of the harmful influence of the colon bacillus comprised only a very small part of its work. The insidious influence of the colon bacillus and its toxines promised soon to be revealed as one of the most important in the history of disease. This bacterium was not only the direct cause for a large number of diseases, enumerated by him, but it seemed to pave the way for a number of terminal infections, and it was the dominant but overlooked factor in such a range of ailments that we might fairly place it in the classification as one of Nature's trusted agents for limiting population.

Benign Tumors of the Stomach.—Dr. Edward A. Balloch, of Washington, D. C., said that benign tumors of the stomach, while comparatively rare, had been reported in sufficient numbers in the aggregate to make it necessary to consider them in the diagnosis of intraabdominal disease. All forms of benign growths had been reported. According to their nature, they might originate from one or another coat of the organ. They seldom gave rise to symptoms unless they projected into the stomach or were so situated as to give rise to obstructive symptoms. Pyloric growths came in the latter category. A small growth here would cause more trouble than a larger one elsewhere. For this reason none of the reported pyloric growths had been very large. The main question of interest in connection with these growths was that of diagnosis. No one reporting a case seemed to have made a correct diagnosis. With the pyloric growths the suspicion had been that the obstructive symptoms were due to malignant degeneration. In the case of growths elsewhere they had been referred to the kidney, the intestine, the omentum, or to the pelvic organs.

The author reported two cases, one a personal one, and the other occurring in the practice of another surgeon. His own case occurred in the person of a woman, fifty-six years of age, unmarried. There was a history of a severe fall twenty years before, when the left side was severely injured. Vague dyspeptic symptoms for several years, principally pain and nausea, were related. The pain was worse after the menstrual periods. Enlargement of the abdomen was first noticed December, 1910. This had steadily increased, and, at the same time, the pain and nausea had grown worse. Examination showed a mass in the lower left quadrant, having the general size and shape of a kidney. It could be pushed into the left kidney region without difficulty, but resumed its original position when pressure was removed. A diagnosis of wandering kidney was made and the patient sent to the hospital for operation. After she was anesthetized a further examination was made, when it was found that the mass could be pushed all over the abdomen. The diagnosis was then made of omental cyst or a pelvic tumor with a long pedicle. After opening the abdomen the growth was found to spring from the greater curvature of the stomach. It was removed without difficulty and the patient made a rapid recovery. Pathological examination showed the growth to be a soft fibroma.

The author expressed the opinion that the greater mobility of these growths was the principal criterion in their diagnosis. However, as this mobility was likewise an accompaniment of intestinal and omental growths, one must consider the symptoms in the case in differentiating these classes of growths. The

operative features of these tumors presented no special difficulty.

Pyloric Stenosis Due to Overgrowth of Scar Tissue: "Gastric Keloids."—Dr. W. M. JORDAN, of Birmingham, Alabama, said that judging from his personal experience, nonmalignant new growths in the pyloric end of the stomach were much more common in the negro race than in whites. He had not observed a single case of this character in a white person, but had met with five cases in negroes. If he ventured to suggest the term "gastric keloids" as descriptive of these growths, he would not wish to be understood as attempting to draw an exact pathological parallel between the keloids of the skin and stomach tumors herein described, but rather as undertaking to point out the analogy between the two conditions, and to borrow a familiar clinical term to apply to an otherwise nameless condition.

There were two men and three women, whose ages were respectively twenty-eight, twenty-nine, thirty-eight, forty-five, and fifty-five years. All gave stomach histories more or less suggestive of ulcer preceding the onset of obstruction. The smallest growth was the one which was resected. It was about one inch in diameter, while the largest was as broad as the hand. In every case the tumor was situated to the stomach side of the pylorus. In all but one the growth merged with the pyloric ring at one end and presented a sharply defined border at the other. The peritoneum overlying the growths was apparently normal. When the stomach was put on the stretch, as in lifting it out of the incision, the gastric wall overlying the tumor assumed a whitish, bloodless appearance, which made it easy to demonstrate the outline of the growth. In one case the operation was partial gastrectomy, while the other four were treated by posterior gastrojejunostomy. Complete relief was noted in every case.

Dr. D. EDWARD GAVIN, of Mobile, reported a case of congenital hypertrophic pyloric stenosis which was successfully treated surgically.

Dr. JAMES E. THOMPSON, of Galveston, said it had occurred to him, in listening to the paper of Doctor Balloch, we might probably classify these cases more correctly as cases of myoma. Three years ago he read a paper on myoma of the stomach and collected a number of such cases. He found at that time that myosarcomata were moderately common. They were extremely common in horses. In regard to the paper of Doctor Jordan, who made a comparison between fibroma of the uterus in the colored race and inflammatory tumors in connection with the pylorus, the speaker did not think they were fibromata, but myomata.

Dr. JAMES E. MOORE, of Minneapolis, said, in speaking of tumors of the stomach, or tumors of the character under consideration, occurring in unusual places in the abdomen, it was well to bear in mind the possibility of their being parasitic growths, that is, having been original growths from the uterus, they had become attached to the other viscera, and later Nature made a separation. Many such cases were on record.

Doctor BALLOCH said at first he was very much of Doctor Thompson's opinion that this tumor looked very much like a sarcoma. It was pronounced by the pathologist to be a fibroma, and as there were no muscular elements in it the speaker had difficulty in conceiving how a soft fibroma could occur in that locality.

Doctor JORDAN, in closing, said it was not his idea to draw a pathological parallel between these growths and anything else. He had got into the habit of calling them stomach keloids, not knowing what else to call them. It was not his purpose to assert that they were similar to fibroids of the uterus.

(To be continued.)

Letters to the Editor.

ACUTE INDIGESTION AS A CAUSE OF DEATH.

DETROIT, *February 12, 1912.*

To the Editor:

The answer to my query by Doctor Bassler, I have read with interest and profit. I have asked a good many internal medicine men and stomach specialists, who have had large experience, and they all told me that they had never seen such a case, except complicated with other diseases, hence I thought they were very rare, if such conditions existed at all, and from Doctor Bassler's statements I must assume it is a rare condition.

The point I wanted to make was, that when you read in the secular press that people die of acute gastritis, such patients have probably been sick a long time with stomach and intestinal or gallbladder disease which has never been properly diagnosticated, and when they die it is called acute gastritis.

I am very grateful to Doctor Bassler for informing me and others that there really is such a thing as acute gastritis, even if it is rare.

All I wanted was to know, and with the best of feeling I thank him for it.

J. H. CARSTENS, M. D.

Book Reviews.

[*We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.*]

Minor Surgery. By LEONARD A. BIDWELL, F. R. C. S., Surgeon to the West London Hospital, Dean of the Postgraduate College, etc. With Eighty-eight Illustrations. London: Henry Frowde and Hodder & Stoughton, 1911. (For the University of London Press.) Pp. xiv-265.

This small volume is one of a series of London practitioner's manuals and consists of the amplification of a course of lectures on minor surgery delivered at the West London Postgraduate College. The author's purpose is to present a practical treatise with clear directions for the management of every day surgical work. As the work is based on the personal experience of the writer he omits other methods than those he himself employs and hence accepts full responsibility for the advice and directions given.

The author has succeeded in giving the profession an

unusually valuable work in this important department of surgery. Recognizing the importance of thorough asepsis in even the slightest surgical procedure, he gives detailed rules for the sterilization of everything connected with the operation. The methods recommended are modern and thoroughly in accord with the most approved practice in this country. Little "points" in this as well as in the technique of minor procedures are given in abundance. The book commends itself not only to the surgeon, but particularly to the general practitioner who is often called upon to do minor work. Consultation of this small volume will bring his knowledge of the subject up to date and enable him safely to perform the less important measures in surgery. To such a man the little details of preparation, technique, and after treatment which are so often neglected in textbooks, will be found very valuable.

The book is concisely and attractively written and the illustrations, while simple, are clear and help in elucidating the subject. The use of large type for impressing important statements upon the reader's eye is not the least valuable method used for the instruction of the student and practitioner.

The book will surely fill a want felt by those who are familiar only with the large textbooks of surgery which do not deal with the smaller details of minor surgery and hence are of little practical use for the busy practitioner. Many attempts have been made to supply this want, but the author of this volume has succeeded in his purpose where others have failed.

Diseases of the Ear, Nose, and Throat. Medical and Surgical. By Wendell Christopher Phillips, M. D., Professor of Otology, New York Postgraduate Medical School and Hospital, Surgeon to the Manhattan Eye, Ear, and Throat Hospital, etc. Illustrated with 545 Half-tone and Other Text Engravings, Many of Them Original. Including 31 Full Page Plates, Some in Colors. Philadelphia: F. A. Davis Company, 1911. Pp. xvi-847. (Price, $6.)

Professor Phillips's work is a distinct addition to oto-rhinolaryngological literature and deserves a permanent place, in succeeding editions, among American textbooks in these fields. It is exceedingly comprehensive in its scope. Almost every subject of interest to the otologist, rhinologist, and laryngologist is touched on—many of them, unfortunately, rather too briefly. The author's wide clinical experience has enabled him to give us hints of great value, and the reader will be likely to regret that on some subjects he has not more fully told us all that he knows.

Particularly instructive are his diagramatic illustrations of the phenomena of nystagmus in labyrinthine disease, mere word descriptions of which are extremely puzzling to those unfamiliar with their practical interpretation.

Throughout, the volume is rich in original illustrations, of which many are evidently from life and therefore correspondingly illuminating to the text. We note with satisfaction that in each instance these illustrations are accredited to their original source. Altogether, this work is well worthy a place on the shelves of the specialist for reference. For the beginner in these fields, it will furnish a rich mine of knowledge and practical help.

Orthopedic Surgery. By Edward H. Bradford, M. D., Surgeon to the Boston Children's Hospital; Consulting Surgeon to the Boston City Hospital; Professor of Orthopedic Surgery, Harvard Medical School; and Robert W. Lovett, M. D., Associate Surgeon to the Boston Children's Hospital; Surgeon to the Infant's Hospital, the Peabody House for Crippled Children, and the Massachusetts Hospital School for Cripples; Assistant Professor of Orthopedic Surgery, Harvard Medical School. New York: William Wood & Company, 1911. Pp. viii-410. (Price, $3.50.)

The authors of this book have realized the demand for a condensed handbook of orthopedic surgery "embodying a brief statement of the generally accepted opinions as to the nature and treatment of the affections under consideration." The book is based largely on the personal experience of the writers, covering a very long and active period of orthopedic work at the Boston Children's Hospital. During this period they have had ample occasion to demonstrate the value of certain measures of treatment and it is the result of these clinical tests which the authors give to us in this volume.

In order to economize space they have very properly omitted references to other authors and their methods. The book has a special value in being an exponent of the most up to date methods of treatment used so successfully by these two distinguished orthopedic surgeons. It would be a great boon if busy practitioners of note in other branches of surgery could find the time to write corresponding volumes devoted to the description of measures which have been demonstrated to be of special value in their own clinical work. Each chapter of the book begins with a concise statement of the pathology and symptoms of the affection under consideration, but the chief emphasis is laid upon the treatment. The latter includes a clear description of any apparatus used and practical points in its employment.

The operative technique is concisely given and follows the most approved rules of present day asepsis. The chapters dealing with tuberculous disease of the larger joints are particularly full and demonstrate the wide knowledge of the authors in this important field.

The illustrations are usually well selected and distinct. They have been reproduced largely from photographs of the author's hospital cases and include a number of excellent x ray plates.

The book will fill a distinct want, not only of those interested in this particular branch, but also of the general practitioner who wishes to be made conversant with the most modern knowledge of orthopedic science and the most approved methods of treatment.

Operative Obstetrics. Including the Surgery of the Newborn. By Edward P. Davis, A. M., M. D., Professor of Obstetrics, Jefferson Medical College; Obstetrician to the Jefferson Hospital; Obstetrician and Gynecologist to the Philadelphia Hospital; Consultant to the Preston Retreat; Member of the American Gynecological Society, International Congress of Obstetrics and Gynecology, College of Physicians of Philadelphia; Honorary Member of the Chicago Gynecological Society, Medical Society of the State of Virginia, Academy of Surgery of Bucharest, Ophthalmological Society of Egypt, etc. With Two Hundred and Sixty-four Illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Pp. 483. (Price, $5.50.)

The demand for improvement in obstetric technique and recent developments in obstetric surgery undoubtedly prompted Dr. Davis to submit to the profession, in book form, a concise statement of the up to date methods of operating in obstetrics. This work is admirably compiled with the subject matter in condensed form; is splendidly illustrated, and fulfills very well the object indicated by the title. In addition to the condensed statement of facts, numerous bibliographies for special literature reference have been appended to each chapter.

In a short chapter devoted to the anatomy of the pelvis and soft parts, Davis emphasizes the importance of thorough knowledge of the same, and continues with a clear description of the condition of the birth canal regarding asepsis. The succeeding chapters are devoted to the prevention and control of hemorrhage in normal labor, the pregnant woman as a surgical subject, obstetric anesthesia, with emphasis on the importance of the proper methods of administration, together with the relative value of anesthetics, and the technique of obstetric surgery.

The surgery of pregnancy is the title of part one. Under this heading all the operations incident to pregnancy are briefly discussed, including the correction of malpositions, operations on the uterus, tubes, and ovaries, the pelvic floor, and perineum, rectum, appendix, gallbladder, and kidneys. Brief chapters are also devoted to the indications and methods of emptying the uterus, including rapid and forcible dilatation, the removal of uterine tumors, abdominal section during pregnancy, and ectopic gestation.

Part two embodies the surgery of labor and the third part the surgery of the puerperal period. In this connection the wisdom of immediate repair of the cervix as a matter of routine, as against the intermediate, except the positive indications, as stated, will be questioned by not a few operators. Davis's opinion is based on a large experience, however, and carries with it his honest convictions. Part three is devoted to the surgery of the newborn, covering the treatment of fractures, palsy, injuries to the scalp, congenital lack of development, and infection. Circumcision is discussed as the closing chap-

ter of the book. The work promises to achieve success on its own merit.

Physikalische Heilkunde. Von Prof. Dr. med. FRITZ FRANKENHÄUSER. Leipzig: Verlag von Dr. Werner Klinkhardt, 1911. Pp. viii-323. (Price, M. 7.50.)

Doctor Frankenhäuser has prepared a valuable manual, for the use of the family physician to which he may often refer. The book speaks of four kinds of physical treatment, those produced by kinematics, thermic, actinic, and electric forces. In the chapter on kinematics we find sport and gymnastics, massage and rest; under the head of thermic forces the author treats of climate, air baths, and water baths, including fango, etc. The chapter on actinic forces is given up to natural and artificial rays; while under the heading, electric forces, we find the different uses made of electricity. Two more chapters follow; in one the author speaks of prophylaxis and in the other of the treatment of disease by physical forces.

NEW PUBLICATIONS.

Hemmeter, John C.—Manual of Practical Physiology. Designed for the Physiological Laboratory Course in the Curriculum of the American Association of Medical Colleges. With Forty-five Illustrations. Philadelphia: P. Blakiston's Son & Co., 1912. Pp. xxii.-223. (Price, $2.50.)

Schneider, Albert.—Pharmaceutical Bacteriology. With Special Reference to Disinfection and Sterilization. With Eighty-six Illustrations. Philadelphia: P. Blakiston's Son & Co., 1912. Pp. viii-238. (Price, $2.)

Cornell, Walter S.—Health ond Medical Inspection of School Children. Illustrated with Two Hundred Half Tone and Line Engravings, Many of Them Original. Philadelphia: F. A. Davis Company, 1912. Pp. xiv-614. (Price, $3.)

Atkinson, William.—The Orientation of Buildings or Planning for Sunlight. First Edition. First Thousand. New York: John Wiley & Sons: London: Chapman & Hall, Limited, 1912. Pp. xiii-139. (Price, $2.)

Barrett, E. Boyd.—Motive Force and Motivation Tracts, A Research in Will Psychology. London, New York, Bombay, and Calcutta: Longmans, Green & Co., 1911. Pp. xiv-225. (Price, $2.50.)

Blair, Thomas S.—Pocket Therapeutics. A Practitioner's Handbook of Medical Treatment. Based upon the Most Authoritative and Practical Methods and a Rational Treatment of Symptoms. Containing Many Means Not Commonly Mentioned in the Textbooks and a Plan for the Solution of the Vexed Question of Drug Dosing. Philadelphia; The Medical Council Company, 1911. Pp. xv-373.

Holmes, Bayard—The Friends of the Insane. The Soul of Medical Education and Other Essays. Chicago, Cincinnati: The Lancet-Clinic Publishing Company, 1911. Pp. xvi-270. (Price, $1.)

Taylor, J. J.—The Taylor Pocket Case Record. Philadelphia: The Medical Council Company, 1912.

Studies in Psychiatry. Volume I. By Members of the New York Psychiatrical Society. Nervous and Mental Disease Monograph Series No. 9. New York: The Journal of Nervous and Mental Disease Publishing Company, 1912. Pp. v-222. (Price, $2.)

Bellevue and Allied Hospitals of the City of New York. General Description and Annual Report of the Tuberculosis Clinic. 1910. Pp. 41.

Transactions of the American Hospital Association. Thirteenth Annual Conference, Held in New York City, September 19, 20, 21, and 22, 1911. Volume XIII. Toronto: Published by the Association, 1911. Pp. 512.

Miscellany.

Bulletin of the Lying-In Hospital of the City of New York.—The January number of this periodical has been published, and it contains, as usual, a number of interesting articles. Asa B. Davis has contributed a study on Cæsarian section, based upon 104 operations performed by the authors. James W. Markoe reports a case of interstitial pregnancy. W. Landram McFarland is the author of a preliminary article on the Study of the Bacteriology of Puerperal Infection. He does not mention in the historical review Oliver Wendell Holmes's work, but states: "To Semmelweiss are due the first correct impressions of the etiology of the condition." To the streptococcus is given the first place among the bacteria. The author then mentions *Diplostreptococcus puerperalis*, the staphylococcus, and as very important, the gonococcus; *Bacillus coli communis, Bacillus diphtheriæ, Bacillus aerogenes capsulatus* and *Bacillus typhosus* are also found. Sapremia is also considered as puerperal infection, and to this class belong the saprophytic infections of the uterine mucous membranes or localized infection of the uterine walls, with symptoms due to toxines produced by the invading microorganisms. This condition is very little understood. To continue with our report of the contents, we find a report on the work of the babies' class during the year ending October 1, 1911, by Emelyn L. Coolidge; medical statistics of the Lying-in Hospital for the fiscal year ending September 30, 1911, by Ross McPherson; and the report of the pathological laboratory from May to November, 1911, by W. Landram McFarland. Minor items follow, and the *Bulletin* closes with a full bibliography of obstetrical literature for the five months, June to October, 1911.

A Deserved Tribute to an Every Day Doctor.—The death on Sunday night of Dr. John P. Hecht (for a quarter of a century active and respected in Somerville, N. J.) by an affection of the heart following prolonged exposure while in the performance of his professional duty, should not fail of recognition by the public, observes the *Evening Sun* for February 14, 1912, editorially. The engineer of a freight train was found, in the middle of a freezing night, unconscious in his cab, with a battered head. Doctor Hecht was summoned and saw that an immediate operation was necessary. During the delay of more than an hour before a hospital ambulance arrived, Doctor Hecht stayed by the unconscious man in the bitter cold, alternately working over him and telephoning to hasten the ambulance. When at last the ambulance arrived back at the hospital door, Doctor Hecht staggered and fell and died in the arms of one of the physicians.

Such instances of the simple devotion of physicians to duty without thought of self are common incidents in war time. They have been matched by the devotion shown in the study of yellow fever and kindred diseases in scientific investigation. Here is another case of the same sort. A country doctor, summoned in the bitter cold to attend an injured railroad man, stays by him until he can be properly treated at the expense of his own life, ministering to the patient and working frantically to get necessary assistance. He never thought of sheltering himself; he stayed at the post of duty until he dropped dead.

Salute!

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending February 16, 1912:

CHOLERA—FOREIGN: *Arabia*, Dec. 27-Jan. 1, 22 cases, 12 deaths; *India*, Dec. 10-Jan. 13, 53 cases, 126 deaths; *Indo China*, Dec. 18-24, 311 cases, 212 deaths; *Tunis Regency*, Dec. 22-Jan. 24, 33 cases, 25 deaths; *Mexico* (Merida), Jan. 21-27, 1 case, 1 death; *Portuguese Guinea*, Dec. 19-25, 1 case, 1 death; *Venezuela* (Caracas), Dec. 25-31, 6 cases.

PLAGUE—FOREIGN: *Brazil* (Para), Jan. 7-20, 7 cases, 3 deaths; *China* (*Hongkong*), Dec. 24-30, 1 case, 1 death; *Egypt*, total, 1911, 1,656 cases, 1041 deaths; Jan. 1-25, 19 cases, 12 deaths; *Hawaii* (Honakaa), Feb. 9, 1 case, 1 death; *India*, Dec. 14-Jan. 13, 41 cases, 46 deaths; *Indo China*, Dec. 18-24, 3 cases; *Straits Settlements*, Dec. 24-30, 3 cases, 3 deaths.

SMALLPOX—UNITED STATES: *Iowa*, Jan. 1-31, 38 cases; *Kentucky* (Newport), Jan. 28-Feb. 3, 1 case; *Michigan*, Jan. 1-31, 266 cases; *Missouri* (St. Louis), Jan. 28-Feb. 3, 5 cases; *Pennsylvania*, Dec. 1-31, 20 cases; *Tennessee*, Jan. 1-Feb. 3, 19 cases; *Wisconsin*, Jan. 1-31, 64 cases, 1 death.

SMALLPOX—FOREIGN: *Arabia* (Aden), Jan. 2-15, 1 case, 1 death; *Brazil* (Rio de Janeiro), Dec. 24-Jan. 6, 2 cases; *Canada*, Jan. 21-Feb. 3, 45 cases; *China* (Canton and Hongkong), Dec. 16-30, 33 cases, 17 deaths; *Germany*, Jan. 14-27, 7 cases; *India* (Bombay and Madras), Dec. 31-Jan. 13, 45 cases, 25 deaths; *Indo-China*, Dec. 18-24, 2 cases; *Italy*, Jan. 14-27, 187 cases, 49 deaths; *Java*, Dec. 24-30, 2 cases; *Mexico*, Jan. 15-Feb. 3, 103 cases, 19 deaths; *Russia*, Dec. 24-Jan. 13, 16 cases, 6 deaths; *Spain* (Valencia), Jan. 14-27, 35 cases, 1 death; *Straits Settlements*, Dec. 18-30, 3 cases, 2 deaths; *Turkey in Europe*, Jan. 15-22, 29 cases, 24 deaths; *Uruguay*, Nov. 1-30, 4 cases, 1 death; *Venezuela* (Caracas), Dec. 15-31, 6 cases.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending February 14, 1912:

Cobb, J. O., Surgeon. Detailed to represent the service on the Lake Michigan Water Commission. **Franklin**, Professor E. C., and **Hunt**, Professor Reid, of the Hygienic Laboratory, have been designated to represent the Department on the Organizing Committee of the Eighth International Congress of Applied Chemistry, to be held in New York and Washington this year. **White**, J. H., Surgeon. Granted one month's leave of absence, without pay, from February 15, 1912. **White**, R. C., Acting Assistant Surgeon. Granted thirty days' extension of annual leave, on account of sickness, from January 1, 1912; granted thirty days' leave of absence from January 31, 1912.

Boards Convened.

Board of medical officers convened at Manila, P. I., for the physical examination of Assistant Surgeon Robert Olesen, to determine his fitness for promotion to the grade of Passed Assistant Surgeon in this Service. Detail for the board: Passed Assistant Surgeon Victor G. Heiser, chairman; Passed Assistant Surgeon Carroll Fox, recorder.

Board of medical officers established to meet at such times as may be necessary at the Marine Hospital office, 410 Chestnut Street, Philadelphia, Pa., for the medical reexamination of aliens. Detail for the board: Surgeon J. H. Oakley, chairman; Acting Assistant Surgeon H. Horning; Acting Assistant Surgeon W. H. Walsh, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army, for the week ending February 17, 1912:

Brooks, W. H., Major, Medical Corps. Relieved from duty at Fort McDowell, Calif., and ordered to duty at the Presidio of San Francisco, Cal. **Clayton**, J. B., Major, Medical Corps. Granted thirty days' leave of absence, to take effect about May 15, 1912. **Davis**, William R., Captain, Medical Corps. Ordered to Cleveland, Ohio, on official business. **Drake**, P. G., First Lieutenant, Medical Reserve Corps. Granted two days' leave of absence. **Freeland**, H. L., First Lieutenant, Medical Reserve Corps. Granted ten days' leave of absence. **Henry**, Z. L., First Lieutenant, Medical Reserve Corps. Granted thirty days' leave of absence. **Hill**, Eben, Lieutenant, Medical Corps. Relieved from further duty at Madison Barracks, N. Y.; from further temporary duty at Fort Monroe, Va., and from further treatment at the Walter Reed General Hospital, D. C., and ordered to Fort Porter, N. Y., for duty. **Rich**, E. W., Captain, Medical Corps. In addition to other duties, designated as medical superintendent of the transport at San Francisco, Cal., Vice-Colonel Rudolph G. Ebert, relieved. **Skinner**, G. A., Major, Medical Corps. Granted thirty days' leave of absence, to take effect upon relief from duty at Fort D. A. Russell, Wyo.; upon expiration of leave will proceed to the Philippine Islands for duty. **Slater**, E. F., First Lieutenant, Medical Reserve Corps. Ordered to go to Washington, D. C., for temporary duty in the office of the Adjutant General of the Army. **Straub**, P. F., Major, Medical Corps. Orders relieving from duty in Washington, D. C., on March 15, 1912, amended to read "July 1, 1912." **Truby**, A. E., Major, Medical Corps. Granted seven days' leave of absence. **Woodruff**, C. E., Lieutenant Colonel, Medical Corps. In addition to other duties, is assigned to duty as assistant to the chief surgeon of the Western Division, San Francisco, Cal.

Births, Marriages, and Deaths.

Married.

Pullman—Ross.—In Brooklyn, on Saturday, February 10th, Dr. James Pullman and Miss Mabel Ross, of Toronto. **Scannell—MacDonald.**—In Boston, on Wednesday, February 14th, Dr. David D. Scannell and Miss Elizabeth A. McDonald. **Sterling—Walkowitz.**—In Brooklyn, on Sunday, February 18th, Dr. A. Sterling, of Philadelphia, and Miss Elsie Walkowitz.

Died.

Allchin.—In London, England, on Thursday, February 8th, Sir William Henry Allchin, M. D., Physician Extraordinary to King George, aged sixty-five years. **Archer.**—In Houston, Texas, on Thursday, February 8th, Dr. Minnie C. Archer. **Baldwin.**—In New York, on Monday, February 12th, Dr. Mary Baldwin, aged seventy-six years. **Brakeley.**—In Dunellen, N. J., on Monday, February 12th, Dr. Peter Windt Brakeley, aged sixty-eight years. **Cooley.**—In Montgomery, N. Y., on Saturday, February 10th, Dr. Clinton G. Cooley, aged fifty-six years. **Corbett.**—In Port Hope, Ontario, Canada, on Saturday, January 27th, Dr. Robert A. Corbett, aged seventy-four years. **Durocher.**—In Ecorse, Mich., on Thursday, February 8th, Dr. Francis J. Durocher, aged thirty-eight years. **Evans.**—In Philadelphia, on Wednesday, February 7th, Dr. J. Howard Evans. **Fuller.**—In Plymouth, Mass., on Tuesday, February 6th, Dr. Elmer E. Fuller, aged forty-nine years. **Gallery.**—In Eaton Rapids, Mich., on Monday, February 5th, Dr. John M. Gallery, aged fifty-four years. **Hansen.**—In Bergen, Norway, on Tuesday, February 13th, Dr. G. H. Armauer Hansen, aged seventy-one years. **Hecht.**—In Somerville, N. J., on Monday, February 12th, Dr. John P. Hecht, aged fifty-four years. **Hetzel.**—In Southport, Conn., on Saturday, February 3d, Dr. Joseph L. Hetzel. **Knox.**—In Pittsburgh, Pa., on Wednesday, February 7th, Dr. George A. Knox, aged thirty-eight years. **Latimer.**—In Washington, D. C., on Sunday, February 11th, Dr. George Latimer, aged eighty-eight years. **Levin.**—In Johnstown, Pa., on Monday, February 12th, Dr. Julius Levin, aged thirty-three years. **Marshall.**—In Moriah, N. Y., on Wednesday, February 7th, Dr. Velona A. Marshall, aged forty-eight years. **Mead.**—In Brooklyn, on Friday, February 16th, Dr. Ralph M. Mead, aged fifty-four years. **Mueller.**—In Pittsburgh, Pa., on Friday, February 9th, Dr. Gustave Adolph Mueller, aged forty-nine years. **Newsome.**—In Beaver Falls, Pa., on Tuesday, February 6th, Dr. Edgar T. Newsome, aged thirty-eight years. **Nickerson.**—In Lowell, Mass., on Wednesday, February 14th, Dr. Franklin Nickerson, aged seventy-three years. **Whedon.**—In Syracuse, N. Y., on Tuesday, February 13th, Dr. George Denison Whedon, aged seventy-nine years. **White.**—In Pensacola, Fla., on Friday, February 16th, Dr. Robert C. White, aged seventy years. **Whitford.**—In Elgin, Ill., on Thursday, February 15th, Dr. Henry K. Whitford, aged eighty-three years.

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Original Communications.

FUNCTIONAL DISORDERS AND NEUROSES OF THE STOMACH.*

BY J. KAUFMANN, M. D.,

New York,

Professor of Clinical Medicine, College of Physicians and Surgeons, Columbia University; Attending Physician, German Hospital.

In allotting this part of the symposium to me, the president very correctly gave it the title, Functional Disorders *and* Neuroses of the Stomach.

Functional disorder and neurosis are by no means synonymous. In most textbooks, however, functional disorders of the stomach are discussed under the heading of neuroses. There you find enumerated all the different abnormities of the gastric function; the irritative disorders of the secretory function, hyperacidity and hypersecretion and its depressive disorders, subacidity and achylia; the irritative disorders of the motor function, cardiospasm, pylorospasm, gastrospasm, eructation, vomiting, and its depressive disorders, atony and cardiac and pyloric insufficiency; finally the sensory disturbances, such as hyperesthesia, gastralgia, bulimia, anorexia, etc. All these various disturbances of gastric activity are there mentioned separately as so many individual types of gastric neuroses.

In the first place, let me say that when we meet functional disorders which are actually due to a derangement of the nervous system, we rarely find only one or the other feature of the gastric function disturbed, as one would expect from the descriptions given in textbooks. As a rule, in so called nervous dyspepsia the complex mechanism of the gastric function is upset in more than one direction. This is easily understood when we realize that one component of the gastric function cannot be disturbed without soon affecting another, for example, that a motor disorder may upset secretion, and vice versa. Aside from this, however, the whole conception of considering functional disorder and neurosis as identical is faulty and causes innumerable errors in diagnosis.

I am far from disputing the occurrence of gastric neuroses. Undoubtedly such functional disorders as those mentioned above do appear as independent diseases, representing merely disturbances of the gastric nervous apparatus. In fact, such neuroses are not at all infrequent. On the other hand, however, it should be clearly understood that not every functional disorder means a neurosis. When the examination of a patient reveals as the predominant feature a distinct disturbance of the gastric function, for example, hyperacidity, you must not take it for granted that this functional disorder is a neurosis—a mistake which is made altogether too frequently. One must realize that functional disorders of the stomach are found in many different conditions and that they are provoked by numerous causes. While in a certain number of instances gastric disturbances are mainly due to a derangement of innervation, yet in the majority of cases they are connected with organic changes and are merely symptoms of other diseases. It is, therefore, insufficient to state that a functional disorder is present. In order to enable a diagnosis it is absolutely necessary to find out by what the functional disorder is caused.

In looking for the causes of functional disorders we usually distinguish between those associated with organic diseases of the stomach, such as gastritis, ulcer, cancer, etc., and those provoked by diseases in other parts of the system.

In most textbooks all the disorders of the second class are erroneously described as neuroses. Hemmeter, for instance, says: "All diseases of the stomach in which no pathological anatomical change can be demonstrated in the organ are classed as neuroses." He differentiates a primary neurosis, when the gastric nervous apparatus is the primary seat of the disturbance, and a secondary neurosis, when the derangement of the gastric nerves is excited reflexly from other organs. The primary neurosis, in which no organic disease is present either in the stomach or other organs, is called by some writers a "genuine gastric neurosis," while the reflexly provoked disturbances are designated as "symptomatic gastric neuroses." When closely examined, these and similar classifications appear theoretical and artificial, and I think it would greatly add to the understanding of the conditions under discussion, and would, furthermore, prevent frequent errors in diagnosis, if we abolished once and for all the term *neurosis* as applied to the so called secondary or symptomatic neurosis.

In the first place, merely to determine that the functional disorder is due to a disturbance of the gastric nerves is not sufficient ground for calling it a neurosis, because derangement of the gastric nervous apparatus may also be the cause of functional disorders in organic diseases of the stomach, for instance, in the development of pylorospasm in gastric ulcer. On the other hand, in not a few of the conditions erroneously described as secondary,

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or symptomatic gastric neuroses, the disturbance of the gastric function must be attributed much more to disorders in the chemistry of the body than to a derangement of the nervous apparatus of the stomach. I mention disorders of the gastric function caused by the different forms of anemia; by acute as well as by chronic infections, particularly tuberculosis; by chronic intoxications and autointoxications, as illustrated in chronic nephritis, diabetes, etc.; by metabolic disorders, gout, etc.; by changes in internal secretions (Graves's, Addison's disease, etc.). I am so emphatic in pleading against the use of the term neurosis for all conditions in which no organic disease of the stomach is found because the designation neurosis is too liable to mislead. The term neurosis involves the idea of a general neurosis as the basis of the gastric trouble. When you are accustomed to consider periodical vomiting a neurosis, you are involuntarily inclined to attribute it to neurasthenia or hysteria, and you are then in danger of forgetting that such vomiting may be a symptom of an organic disease, a brain tumor, locomotor ataxia, chronic nephritis, etc. So it is with other types of so called symptomatic gastric neuroses. It is, therefore, better to eliminate the term symptomatic, or secondary, neurosis, and, instead, designate as *secondary* functional disorders all those which are manifestations of diseases of organs other than the stomach.

Secondary disorders of the stomach make up a certain percentage, although I wish to state that primary gastric diseases are not by any means as rare as modern literature would lead us to believe.

Of the secondary gastric disorders, those provoked by diseases of the appendix and the gallbladder occupy the centre of the stage at present, and it seems to me that they are allowed too much space there. While diseases of the gallbladder and the appendix undoubtedly play a rôle in many cases of gastric ailment, yet we should never forget that the same type of secondary gastric disturbance may be provoked by diseases of the lungs, the heart, the arteries, the kidneys, the liver, the pancreas, the intestines, the pelvic organs, the central nervous system, systemic diseases, etc. You will readily see from this short survey that, in a given case, you will have to give your patient a very thorough examination before you can give the functional disorder of the stomach its proper place in the clinical picture. After having ruled out all functional disorders due to organic diseases, either of the stomach or of other organs, there remains as deserving the denomination neurosis only that group usually called primary or genuine gastric neuroses. We may give it a definition by describing it as "functional disorders of the stomach caused by or associated with functional disorders of the nervous system."

I shall briefly discuss some of the pitfalls which we are likely to encounter in trying to establish the diagnosis of genuine gastric neurosis.

First, let me warn you against diagnosticating a gastric neurosis because the patient happens to be a neurasthenic. A patent may present the appearance and the characteristic symptoms of neurasthenia or hysteria and at the same time harbor a gastric ulcer or carcinoma. In fact, the chronic suffering usually connected with these and other organic diseases is often the very cause of the general neurosis, and this is true of people previously normal as well as of those with congenital asthenia. A further factor, which frequently proves misleading in these cases, is the negative result of examination. According to von Leube's original definition it is generally considered the most characteristic feature of a gastric neurosis, that no organic changes of the stomach are present. This is a negative feature which cannot be supported by actual facts. Since we have so far no means of examining the viscus directly, the absence of anatomical alterations is merely an assumption which is usually based on the findings of gastric analysis. Now, the trouble is that our present methods of examining gastric contents do not always permit us to draw a sharp line between functional disorders which are provoked only by derangement of the nervous mechanism of the stomach and those which are associated with anatomical lesions. It is true that the finding of great quantities of mucus denotes gastritis, and the presence of blood in the contents of the stomach indicates ulceration. When, however, such and other positive signs of organic disease are absent, the findings of gastric analysis in organic disease may not differ at all from those obtained in cases of pure neurosis. Hypersecretion, when associated with gastric ulcer, may present identically the same gastric analysis as that found when this secretory disorder is of purely neurotic origin. In achylia gastrica, caused by atrophy of the glandular apparatus, the findings may not vary from those obtained in cases in which the inactivity of secretion is merely due to a constitutional shortcoming of the nervous system.

You should, therefore, be very reluctant in diagnosticating a neurosis, because gastric analysis does not reveal any signs of an organic disease. At all events, do not be satisfied that you are dealing with a neurosis until you have exhausted all other methods of examination which might possibly furnish evidence of an organic disease. Even when the results of all such examinations are negative, accept the diagnosis of gastric neurosis only with a good deal of mental reservation. The further development of a given case may demonstrate, after all, that what you considered a well defined case of gastric neurosis was, in fact, a serious organic disease. Without exaggerating, I can state that the vast majority of ulcer and cancer cases which have come to my knowledge were previously diagnosticated as gastric neurosis, not to mention the cases in which organic diseases of other organs were found as the cause of the so called nervous dyspepsia.

It is a good plan never to consider gastric neurosis as a final diagnosis. Even while treating your patient for gastric neurosis, you should keep on the alert and search repeatedly for further evidence. Continued careful observation may enable you to correct your diagnosis in time, and thus spare yourself an embarassing surprise when, for instance, the sudden advent of hemorrhage, or perforation, reveals the presence of an ulcer, while you thought you were dealing with a neurosis.

In preaching great reserve before diagnosticating

gastric neurosis, I do not wish to create the impression that I consider gastric neuroses as of rare occurrence. On the contrary, cases of pure gastric neurosis are not at all infrequent. Knowing, however, by experience how very readily gastric neurosis is made the scapegoat for all sorts of disorders, I thought it worth while to point out the necessity of first excluding all other possible sources of gastric ailments before accepting the verdict, gastric neurosis. I hope that I have convinced you.

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THE DIAGNOSIS OF INTRAABDOMINAL CONDITIONS PRESENTING ACUTE MANIFESTATIONS.*

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The subject which I have chosen is so broad that, in the brief hour before us, I can only hope to consider the leading features which characterize the more important abdominal catastrophes. Our English confrères have recently suggested a name for these conditions, which is significant, even though it may not convey any exact information, namely, "the acute abdomen."

I think that it will be readily admitted that no part of the body is subject to such a variety of acute emergencies. The reason for this is the great diversity of organs which are housed in the abdominal cavity, the variation in their structures, some being solid and others hollow, and the multiplicity of functions which they perform.

A few words as to the traumatisms will be in place. The urinary bladder, as well as the gall-bladder, are occasionally ruptured by force, while blows upon the abdomen, or even severe jars, are capable of causing a rent in the stomach or intestines, even though the surface may remain intact. Moreover, it should be stated that an apparently innocent penetrating wound which may not at once present serious manifestations is frequently fraught with great danger. It has been my experience and without doubt your own that stab wounds of the stomach, perhaps received soon after the ingestion of a meal, may for twelve hours not present a single severe manifestation. Not long ago, within an hour after eating his breakfast, an employee in a shop in a nearby city, while quarrelling with a fellow workman, received a stab wound in his abdomen. Throughout that entire day the young man was free from evidence of serious injury, and indeed felt so well that he insisted upon getting up and having his meals, which fortunately were not given him. His father thought that he was being unnecessarily detained in the hospital. During the night, however, there was a sudden change. A perforating peritonitis developed which ended fatally. In his defense of the assailant the attorney not only insisted that the penetrating wound of the stomach should have been promptly recognized by the attending physicians, but that the death of the victim was directly chargeable to their failure, and that the doctors and not his client were responsible for the death of the victim.

Evidence of injury to the diaphragm may be so obscure as to leave the medical attendant in doubt as to its nature. I might mention an illustrative case.

Case I. The boom of a derrick broke and a steel girder weighing between two and three tons which was being raised, fell upon and crushed a laborer, thirty-eight years of age. He complained of severe pain in the chest and abdomen, great thirst, labored breathing, and inability to move his lower extremities. His physician found the respirations to be forty, the pulse 112 and in the evening the rectal temperature 101° F. He had to be catheterized. The urine was found to be normal. The pain in the chest and thirst continued during the following day. Bowel movements were secured with saline cathartics. Two days later he vomited some curdled milk, but his pain lessened so that he did not require an opiate. For a number of days he seemed to improve. The respirations were reduced to twenty, the pulse to ninety-six, and the rectal temperature to 99° F. On the third day he began to urinate normally. He had recurring periods of pain which were controlled by codeine. On the sixth day after his injury he had diarrhea. The pulse, respirations, and temperature continued low. It was not until the eleventh day after the injury that he presented alarming symptoms. He vomited large quantities of curdled milk and subsequently bilious matter. I saw him first on the twelfth day after injury, at which time the vomited material was very profuse and green. He still complained of intense thirst. The pulse was 128, of poor quality and the temperature was 101° F., respirations 24. His lips were cyanosed, as was also the skin. He had an anxious expression. The abdomen was retracted, but generally soft. There was dullness in the right iliac fossa which shifted with change of posture. Ecchymosis was present over Poupart's ligament on the right side and there was evident fullness in this region. The upper part of the abdomen on the right side was dull down to the level of the umbilicus. The dullness extended upward to the level of the nipple. On percussion, the left side of the chest gave a tympanic note and there was absence of breath sounds. On inspiration this side of the chest remained immobile while the right made rather a wide excursion. Hemoglobin percentage was 70; red blood count 3,360,000, and leucocytes 18,200. The urinary analysis was negative. He suffered from severe pain in the back. He received the Murphy drip, but no operation was advised. I saw him again on the following day. The vomiting was unrelieved. The temperature was 103°, respirations 40, and the pulse 124. The same evening the temperature rose to 105.2° F. His pulse became very small, compressible, and irregular. The respirations varied from forty to sixty. The restlessness was extreme. He died that night. An autopsy held on the following morning disclosed a rupture of the diaphragm on the left side through which the stomach and transverse colon had been carried into the left side of the chest. The intestines were covered with a plastic exudate. In the right iliac fossa a collection of blood was found and a fracture of the ilium.

Another unusual form of intraabdominal injury is rupture of the intestines without injury to the abdominal wall. If the patient has been crushed under a falling weight it may sometimes be difficult to determine whether the resulting surgical emphysema has been of pulmonary or of intestinal origin. In one such case I was able to determine that the intestine was ruptured, as the collection of gas in the scrotum, thighs, and lower part of the abdomen was much greater than was found in the region of the chest. This point is not emphasized in our textbooks, but it seems to me worth mentioning. In interpreting acute manifestations within the abdomen we must bear in mind the possibility of a thoracic condition being responsible

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for them. In every case it is essential that a careful physical examination of the chest be made. It has happened frequently that a patient has been sent to the hospital with a diagnosis of acute appendicitis, and the subsequent course of the sickness has developed pneumonia, pleurisy, or empyema. It is a known fact that acute pneumonia is sometimes associated with a pneumoccal infection of the appendix. Wray, in a recent paper, referred to three cases occurring in his own practice. In one a diagnosis of appendicitis had been made, but subsequent events proved that the condition was one of pneumonia.

Case II. In the second case pain developed soon after breakfast in the right side of the chest of a man who had had indigestion for a week or two and likewise had been annoyed by a troublesome cough. On admission into the hospital he was found to be exceedingly ill. His face was pinched. Respirations were thoracic. The upper part of the abdomen was resistant and very tender to pressure. The entire abdomen was tympanitic. There was slight dullness over the stomach and some reduction in the area of liver dullness. In the right side of the chest there was a marked area of bronchial breathing with crepitation and dullness. He was subsequently operated on and a perforation was found at the junction of the stomach and esophagus. His lung symptoms were due to an old standing tuberculous trouble which had become suddenly active.

Case III. In a third case in which an appendicular abscess had been diagnosticated and found at operation there occurred some days later pain in the chest. No definite signs of thoracic disease were found on physical examination, but the temperature, pulse, and respirations increased. Diagnosis of a beginning pneumonia was made, but at autopsy a subphrenic abscess on the right side was found. No pus was found in the pleural cavity but three recent infarcts were discovered in the lower lobe of the right lung.

It is very evident that disturbance in this borderland is not characterized by definite manifestations, and that many times it may be difficult to determine whether the pathological condition lies above or below the diaphragm. An experience of my own illustrates some of the difficulties.

Case IV. At 4 p. m. on June 1, 1908, a man, thirty-five years of age, a laborer, married, whose mother had died of pulmonary tuberculosis, was seized suddenly with intense epigastric pain. He stated that for the two previous weeks he had moderate epigastric pain which came on usually about 11 o'clock in the morning and continued for the rest of the day. He was unable to associate it with the ingestion of food. There had been no vomiting and no blood had been noticed in the stools. With his present illness he suffered severe pain for the first time. This was so intense that one quarter grain of morphine administered hypodermically gave him but little relief. He was admitted to the hospital within an hour when I saw him. His face was anxious and drawn. The tongue was moderately coated. Nothing abnormal was discovered on physical examination of the heart or lungs. The abdomen presented boardlike rigidity. Across the upper zone, especially in the region of the epigastrium, there was a great deal of tenderness. The temperature was 98.4° F., the pulse 84. Examination of the blood showed the hemoglobin to be eighty per cent to ninety per cent., erythrocytes 4,640,000, leucocytes 14,100. It required two additional injections each of one quarter grain morphine to relieve the pain. A tentative diagnosis of perforated duodenal ulcer was made. The following morning the temperature had risen to 101°, the respirations to 40, but the pulse remained 80. The leucocyte count was 16,000, with ninety per cent. polymorphonuclears. The abdominal rigidity and tenderness persisted. An area of dullness could now be made out which extended across the abdomen above the umbilicus. On the third day after admission the pulse had risen to 100 and temperature remained 101° F. Abdominal rigidity and tenderness were present, but less marked. There was an area of dullness above and to the right of the umbilicus. Liver dullness seemed to be absent in front, but present in the axillary line and posteriorly. The heart was pushed far to the left and the apex beat seemed about an inch outside of the nipple line. There was an evident collection of fluid in the right pleural cavity. This was withdrawn by aspiration. Bacteriological examination showed the presence of *Staphylococcus pyogenes aureus*. The medical consultant was inclined to look upon the condition as one of diaphragmatic pleurisy and accounted for the presence of the abdominal manifestations in this way. The patient was transferred to the medical service. There upon the strength of a Widal examination a diagnosis of typhoid fever was made, despite the persistent leucocyte count of 16,000 to 18,000. Subsequently, the white blood count dropped to 9,000; the abdominal rigidity disappeared. The temperature however remained constantly elevated, averaging from 100° to 102° F. No definite manifestations of typhoid fever appeared and the patient was finally returned to the surgical service. At this time a distinct area of dullness three inches in diameter could be made out between the umbilicus and the ninth costal cartilage. This area was somewhat tender and resistant. As one stood at the foot of the bed and watched the excursion of the chest with inspiration, it was apparent that the expansion of the right upper quadrant of the abdomen was distinctly limited. A diagnosis of subphrenic abscess, presumably due to duodenal perforation, was now made and I operated upon him. His recovery was delayed by the development of a duodenal fistula from which bile as well as some particles of food were for a time discharged.

In this case the symptoms which preceded the acute attack, while not absolute, surely warranted the assumption that some preexisting lesion existed in the upper abdomen. The sudden and intense pain and abdominal rigidity should have made the diagnosis certain. However, the fact that there had been sufficient diaphragmatic irritation to cause a pleural effusion was sufficient to cast a doubt on the diagnosis of duodenal perforation, while the absence of shock seemed to weigh against it also. That a duodenal ulcer can exist and give no evidence of its presence until perforation occurs is an experience which most surgeons have had. Robson furnishes the history of such a patient. A young man who had sustained a severe burn of the chest a few weeks before, without preceding symptoms, was suddenly seized with severe abdominal pain beneath the right costal cartilages immediately after exertion. This was accompanied by profound shock, rigidity of the upper part of the right rectus muscle, and tenderness localized at a point just above the umbilicus. Again, there are cases in which perhaps for years there have been symptoms characteristic of duodenal ulcer, and then, without definite warning, perforation occurs.

In considering the diagnostic features of perforating ulcer we must remember the two most significant signs of acute intraabdominal mischief, namely, intense, agonizing pain and muscular rigidity. Their sudden appearance signifies the occurrence of an acute intraabdominal lesion of serious moment. The pain, due to perforation, is said to be unequaled in intensity. At first the pulse may not be affected. The temperature may remain subnormal. However, the steady increase in the pulse rate from hour to hour is one of the most important changes encountered. The anxious countenance, the limitation of movement of the diaphragm with a normal or subnormal temperature, and a cold surface are most suggestive manifestations. It has been my experience that perforating gastric or duodenal ulcer is more frequently overlooked than

is any other acute abdominal catastrophe. The vital importance of an early recognition of the trouble is self evident. To await the appearance of a generally rigid abdomen, the collection of fluid within the abdominal cavity, and a rise of temperature means that the diagnosis is deferred until the condition is no longer one of simple perforation, but that of general septic peritonitis. Moynihan makes the statement that in fifty cases of perforation which had come under his observation in forty-nine there had existed for months or years symptoms which should have established the diagnosis of ulcer. The following case will illustrate some of the points I wish to make.

Case V. A physician, forty-three years of age, for a number of years had suffered from attacks of pain in the upper part of the abdomen and consequently had to exercise great care with his diet. Nevertheless, he was quite convinced that all of his pain was due to the use of a certain brand of tobacco. At 9:30 in the morning of February 28, 1907, while working in his laboratory, he was seized with excruciating abdominal pain. A physician who happened to be present gave him a hypodermic injection of codeine and repeated it in half an hour. At noon he was seen by other physicians and was found to be in a state of collapse with a very rigid abdomen. High enemata and castor oil were prescribed. He vomited some black fluid and had a similar discharge from the rectum. However, no blood was found upon microscopic examination of these discharges, despite the fact that the bowel movement was apparently a characteristic melena. The rigidity of the abdomen persisted. There was tenderness just above the level of the umbilicus on the right side. The surface was cold. The face was pale and the features were pinched. His pulse was thready and rapid. I saw him first at 10 p. m. when the pulse was 140 and the temperature 102° F. His mind was clear. On physical examination, the abdomen was found to be generally rigid. There was absence of liver dullness; but dullness was present in the right half of the abdomen and this disappeared with change of posture. The urine contained albumin and casts. He was operated upon at one o'clock in the morning. Upon opening the abdomen there was a free discharge of gas and blood followed by a black dirty liquid. At the junction of the stomach and duodenum there was an opening large enough to receive the tip of the index finger, surrounded by a hard infiltrated area.

The picture portrayed is clear enough and the manifestations characteristic, and yet a timely diagnosis was not made. As surgeons it is our duty to emphasize the diagnostic features and impress them upon the general practitioner so that the condition may be promptly and correctly interpreted. To defer the recognition of the trouble until general peritonitis is established means to deprive the patient of a fair chance of recovery.

It will be conceded, however, that the picture is not always clear, and that while we may be satisfied that we are dealing with some form of perforation the site of perforation may be obscured by the developing signs of peritonitis. This is particularly true in the class of cases in which we may hesitate as to whether the perforation has occurred in the appendix or the duodenum. Recently I was asked by Doctor Heffron to see:

Case VI. Young man thirty-one years of age, unmarried, a dancing master by occupation. He never had had any serious sickness. His habits were good. For a number of years he had had occasional but slight attacks of pain and distress, which would come on possibly half an hour or an hour after eating but would not last long. They did not recur at definite intervals. He would be free from any disturbance for months at a time. There was no history of pain during the night, no hunger pain, and no hyperacidity of the stomach. He said that for the past year his indigestion had increased. Recently, however, he had been feeling quite well. His duties kept him at his dancing hall until midnight. On this occasion he had retired at this hour and had taken a cup of tea before going to bed. He slept through the night and at 7 o'clock in the morning awakened with agonizing pain in the abdomen. He received paregoric by mouth which he retained but it afforded him no relief. When Doctor Heffron saw him an hour and a half later, the patient referred the most severe pain to the region of the appendix. The entire abdomen at this time was rigid. The upper part no more so than the lower. The pain seemed to shift and was referred in turn to the region of the bladder, the left side of the abdomen, as well as the epigastrium. A white blood count was made and a leucocytosis of 30,000 discovered, with a polymorphonuclear percentage of ninety. I did not see him until he was admitted into St. Joseph's Hospital, shortly before 2 o'clock in the afternoon. At that time his white count had dropped to 16,000 with the same polymorphonuclear percentage. The pulse rate was 112. The temperature per rectum was 98.4° and the abdomen was greatly distended and rigid. There was an area of dullness on the right side of the abdomen which shifted with change of posture. Liver dullness was largely effaced. He was prepared for operation. Incision was made through the right semilunar line. Immediately upon entering the peritoneal cavity there was an escape of gas and a quantity of foul turbid fluid began to pour out. The small intestines were seen in many places covered with a plastic exudate. The transverse colon was low, about the level of the umbilicus, and quite full of fecal matter. The appendix was found swollen and reddened but without perforation. On finding no perforation in the appendix the investigation was carried to the duodenum where an extensive infiltrate was found in the first two inches with a small perforation.

Infeld calls attention to the difficulty of differentiating between a perforation occurring in the course of appendicitis and in a duodenal ulcer, particularly in early life. His paper is based upon the case of a boy, fifteen and a half years old, in whom he had made a diagnosis of appendicitis, but at the operation, performed seventeen hours after perforation, the seat of the trouble was found to be duodenal. He has carefully reviewed the literature of duodenal ulcer in early life and states that these ulcers have been discovered in nurslings. Two cases are reported in the *Berliner klinische Wochenschrift,* in 1908, which were found at autopsy, one affecting a child four years old and the other but one month of age. Commenting upon his own failure to recognize the trouble, he says that in his experience in over fifty per cent. of the cases of duodenal perforation a diagnosis of appendicitis had been made, and makes the significant statement: "To recognize a perforating duodenal ulcer promptly and subject it to a timely operation still remains, relatively speaking, a surgical rarity." Morton, in a paper based upon eleven cases of his own, concludes that the signs described in the textbooks as those characteristic of duodenal perforation, such as abdominal distention, absence of liver dullness, general tenderness, rigidity, and rise of temperature, are really late symptoms and indicative of the spreading mischief rather than of the initial perforation.

Few surgeons attempt to differentiate between perforating gastric and duodenal ulcer. Robson, however, in a paper read two years ago, made the statement that with the lesion in the duodenum there would be found a previous history of sudden pain to the right of the umbilicus, radiating to the loin, with rigidity restricted in the beginning to the

upper portion of the right rectus muscle and fluid present in the free peritoneal cavity. With gastric ulcer, on the other hand, there would be a preceding history of indigestion, while pain would occur shortly after the ingestion of food, which would be referred to a point above and to the left of the umbilicus, and that both recti muscles would be rigid and that the fluid would be found in the upper abdomen.

There are times when one is certain that a perforation has occurred within the abdomen, and yet it is impossible to determine its location. Particularly is this true if general peritonitis has set in. Of late our attention has been directed to a pathological condition which had not been frequently recognized. I refer to diverticulitis of the large intestine. A recent case will illustrate this.

Case VII. On the evening of May 21st last I was asked to see in consultation a man, fifty-eight years of age, who was married and who had been in fair health until the week before. Prior to that time he had had slight attacks of abdominal pain, for the relief of which he had taken brandy. About a week prior to his serious abdominal calamity he had indulged in a "Dutch lunch." It had been followed by diarrhea, bloating, and distress. The physician who had treated him for this attack had gone out of town for a few days and the patient had fallen into other hands. About 5 o'clock on the morning of May 21st, he was seized suddenly with intense abdominal pain which he referred to the left side of the abdomen. It was associated with a great desire to urinate, the pain extending to the head of the penis. Morphine hypodermically administered, afforded him but little relief. At noon the pulse was 96 and temperature 100°. During the afternoon the condition grew steadily worse and when he was seen by me at 8 o'clock in the evening the pulse was 144 and the temperature 102.6°. He was semiconscious. The second heart sound could not be heard. There was great abdominal distention, and rigidity and free fluid in the peritoneal cavity. A diagnosis of general peritonitis dependent upon intestinal perforation was made. An hour later an operation was performed. The abdomen was found full of thin pus. The intestines were agglutinated and covered with an exudate. There was a greater quantity of pus in the pelvis than the upper part of the abdomen. His condition was so extreme that he had to have an intravenous saline injection while on the operating table, and it was not deemed wise to search long for the site of perforation. He died the following day at 2 o'clock. At the autopsy a small perforation was found in the centre of a hard infiltrated mass in the pelvic colon. Macroscopically a diagnosis of carcinoma was made, but on microscopic examination the pathologist reported it to be diverticulitis.

Zickler has a very interesting and quite exhaustive paper on perforations of the colon, based upon a case in which the perforation was in the ascending colon and which had been operated in by him under the impression that the trouble was appendicitis. He quotes Quenu and Duval, who report upon twenty-seven cases of ulcer of the large bowel including one of their own. They call attention to the similarity of this form of ulcer to the round ulcers of the stomach and duodenum. The twenty-seven cases were distributed as follows: Six were in the cecum, four in the ascending colon, two in the hepatic flexure, one in the transverse colon, four in the splenic flexure, two in the descending colon, six in the pelvic colon, and two in the rectum. Some of them presented no symptoms until perforation occurred. Of these twenty-seven patients, nineteen suffered perforation. Only two recovered of the nineteen. This great fatality is attributed to the particularly infectious character of the discharges from the large intestine. In the case reported by Zickler, the patient had been sick but a day and a half and had enjoyed absolute health previously. She had been confined a month before, but was up ten days afterward. Her labor was followed by a profuse foul vaginal discharge. Upon opening the abdomen, foul gas as well as both liquid and solid feces escaped. He suggests that the presence of liquid and solid feces in the abdomen indicates that a perforation has occurred close to the ileocecal valve.

The importance of promptly recognizing perforative appendicitis requires no argument. In the event of failure to do so the opportune moment for operation and life saving is frequently lost. How rapidly the infection spreads within the abdomen in this class of cases is too well known to require discussion.

Case VIII. On July 29, 1910, I was called to Oswego to see one of our surgical brethren whose residence is in Brooklyn and who was on a visit to his former home. He was thirty-eight years of age, had never had any sickness nor had he ever experienced any abdominal pain. His digestion had always been excellent. On awakening in the morning on the date mentioned he found himself nauseated. He had no pain until mid-day when it came on with great suddenness and severity. It was soon centred in the right iliac fossa, with tenderness at this point. He was seen by a physician who found the pulse to be 72 and the temperature 99°. There was a slightly increased leucocyte count. When I saw him at 4 o'clock in the afternoon the pulse had risen to 100. His expression was anxious. While the greatest tenderness was at the site of the appendix no part of the abdomen was free. The rigidity was likewise general. He took his anesthetic poorly and vomited a quantity of coffee grounds. Within the abdominal cavity there was a great accumulation of seropus. The omentum in the neighborhood of the appendix was deeply congested. The appendix was extensively gangrenous and perforated and its mesentery infiltrated. In the right iliac fossa was a quantity of foul pus. I am certain that a delay of a very few hours would have rendered a condition which was still favorable for operation practically hopeless.

There is a period which continues a few hours after perforation or localized gangrene, during which there is sufficient peritoneal irritation to provoke the accumulation of a quantity of seropus and leads to the deposition of plastic exudate upon the small intestines, and despite which we are still able to state that a true peritonitis has not been established. If we can reach these cases at this fortunate interval, and by careful technique in our operative procedure can limit the spread of the infectious material and confine the virulent area to the part primarily affected, we can anticipate and prevent the development of a general peritonitis.

In considering the acute inflammatory conditions which are apt to create a surgical emergency, probably no condition can produce a more sudden train of serious manifestations than acute hemorrhagic pancreatitis. The patient who has been in the apparent enjoyment of good health, within a few hours presents most serious manifestations. A few of the patients have suffered from flatulent dyspepsia. Those usually affected are women who are apt to be rather stout. Pregnancy seems to favor it. The pain which extends to the back is so severe as to cause fainting, or even collapse. The lips are blanched. The face is drawn and seems to be cyanotic. This cyanosis sometimes is evident in the abdomen. The overwhelming seri-

ous manifestations suggest impending death. The extremities become cold. The pulse is rapid, the temperature rises, and vomiting is persistent. At first food and then bile is ejected, suggesting duodenal obstruction. There is early rigidity and distention of the upper part of the abdomen, while the lower part is flaccid. Tenderness is acute. Unfortunately this condition has only been occasionally diagnosticated and still more rarely relieved by surgical operation.

Of the inflammatory conditions in the upper abdomen, that most frequently encountered is unquestionably acute cholecystitis. As a rule, we are able to obtain a history of previous gallstone colic, with evidence of obstruction and consequent distention and swelling of the gallbladder with local tenderness. It should not be forgotten that many years of quietude may have elapsed since the last attack of gallstone colic occurred. However, we have all probably encountered cases where it has been impossible to obtain a history of preceding gallstone disease. The furious types of acute phlegmonous cholecystitis and gangrene of the gallbladder are fortunately not often encountered. My experience has been that these conditions usually occur in neglected cases of cholelithiasis. That, however, gangrene may be the primary manifestation is evident from the following case:

Case IX. The wife of a clergyman, forty-three years of age, was seen in consultation at Elbridge, November 3, 1907. She had a negative family history and never before had any symptoms of abdominal disturbance. Four days previously she was seized with acute abdominal pain which was referred to the right side. It was associated with a temperature of 101°, but was not attended with vomiting or jaundice. When I saw her the temperature was still elevated and the pulse was 100. A leucocyte count of 33,000 was present. There was no pain or tenderness in the right iliac fossa, but in the right upper quadrant of the abdomen she had severe pain and there was marked rigidity and increased dullness. On exposing the gallbladder it was found tense and swollen and its entire mucous membrane was in a state of advanced gangrene. A single pear shaped gallstone, three inches in its long diameter, projected into the cystic duct.

Occasionally these cases of severe infection of the gallbladder become the source of hemorrhagic septichemia and present extensive purpuric manifestations. One should be cautions in concluding that a suppurating mass at the normal site of the gallbladder necessarily involves this structure.

At one of my surgical clinics, in 1897, I operated upon a woman who had been sick for several days with acute abdominal pain and a rapidly developing tumor in the right hypochondrium. The mass was continuous, with the liver dullness, and extended down to the level of the umbilicus. She had a temperature of 104.5°; a pulse rate of 120. She was delirious and profoundly sick. An aspirating needle was introduced and pus withdrawn. A diagnosis of suppurative cholecystitis was made before operating. After the pus had been discharged, my finger discovered that the septic cavity was composed of several compartments. I was, therefore, obliged to conclude that it was not the gallbladder, but a septic kidney with which we were dealing. A floating kidney had become fixed in this location.

Within the past month I saw a patient in consultation who had been operated upon by another surgeon five days before, a diagnosis of appendicitis having been made, but which proved to be hydropyonephrosis.

It is sometimes difficult to differentiate between acute cholecystitis and appendicitis, if the appendix is misplaced and occupies a point near the liver.

Case X. In November, 1899, I was requested by Doctor Ruland to see a boy, twelve years of age, who at first had indefinite pains in the abdomen which later were referred to the epigastrium and umbilical region and were associated with marked tenderness in the upper abdomen on the right side. The right iliac fossa was free from rigidity and tenderness. The temperature was at first but slightly elevated, being 100°; the pulse did not run above 90. The left half of the abdomen was entirely free from tenderness and pain. He had eaten a quantity of figs and the administration of saline cathartics had brought away a great deal of fig débris and seeds. On the second day the temperature rose to 103°. His pain and tenderness in the right hypochondrium were very pronounced and an area of dullness could be made out below the ribs on the right side, having a diameter of about one and a half inch. The upper half of the right rectus muscles was quite tense. On opening the abdomen through the right semilunar line on the afternoon of this day a gangrenous appendix surrounded by omentum was discovered under the free border of the liver.

Case XI. A case seen in consultation in July of the present year was likewise obscure. It concerned a man, thirty-five years of age, married, who stated that as a child he had been very sickly. As a young man he had recurring attacks of pain in the abdomen, associated with indigestion. Two years before, with one of these attacks he had a number of black movements. The color of these evacuations was attributed to huckleberries he had eaten. Three days before I saw him, he was seized with vague abdominal pain and then also had a black bowel movement. The patient referred his pain particularly to the centre of the abdomen. There was practically no rise of temperature, the highest being 99° by mouth. The pulse ranged from 80 to 84. He complained of distress in the bowels and a feeling as if they wanted constantly to move. The abdomen was generally distended. The breathing seemed to be largely thoracic. The distention was along the outer side of the abdomen and not so much in the centre. The cecum seemed to be particularly distended. The only point of tenderness was over the sigmoid flexure and a little to the left of the median line in the hypogastrium. Here there was an area of dullness and marked rigidity. The fullness in the hypogastrium suggested a distended urinary bladder. A catheter was passed and only four ounces of urine were withdrawn. On the following day he felt somewhat improved. I was able to make out, on bimanual examination with one finger in the rectum, a pelvic mass lying back of the bladder. A leucocytosis of 10,800 was found with eighty-eight per cent. polymorphonuclears. For a time he seemed to improve and the mass grew smaller. Subsequently he returned to his former home in Minnesota where he informs me that he had a discharge of pus per rectum. However, the abdominal manifestations persisted and a number of weeks later he was operated upon by Dr. W. J. Mayo, who found the appendix adherent to the posterior wall of the bladder.

Appendicitis is without doubt the most frequent form of acute inflammation within the abdomen. There is no need to discuss the characteristic picture the ordinary case presents before an audience such as this. But it seems to me not only proper, but necessary, to emphasize the fact that there is no single symptom nor indeed any group of symptoms by which we can determine that the course of a given case of appendicitis will be mild or severe. We have all had cases of perforative appendicitis admitted into our hospital services in which the manifestations have been so mild that the medical attendant has not been in the least concerned about them.

Moynihan makes the statement that an acute in-

traabdominal disturbance which does not begin with severe pain cannot be appendicitis. He regards localized abdominal rigidity as the most characteristic sign. I quite agree with him as to the importance of abdominal pain. However, we must not forget that with the occurrence of perforation the pain may subside for a time. Should the first visit of the physician be made during such an interval of freedom from pain he may be misled. Abdominal rigidity is without doubt one of the most constant signs; and yet it is not as pronounced and frequently not recognized to any great degree when the abdominal wall is thick and the adipose tissue well developed. It is not only in the thick walled abdomen that we may fail to find marked rigidity, but occasionally where it is exceedingly thin.

Case XII. On the 7th of November last I saw with Doctor McKenna a man forty years of age, married, an Englishman by birth, who had lived in this country sixteen years. From the time he was ten years old until he came here, he had recurring attacks of vomiting and abdominal pain which had centred themselves in the right side. The diagnosis of recurring appendicitis had been made. After his arrival in this country until six years ago, he remained well. Since then the attacks had been frequent and severe. His last attack began with mild symptoms, the temperature being normal and the pulse eighty for twenty-four hours. On the next day when I was called, the temperature had suddenly gone up to 102.5° and the pulse to 120. The pain was not quite as severe as it had been. The abdomen was almost flat. The tenderness had likewise moderated. The abdominal wall was exceedingly thin and the rigidity was so slight that I was able to palpate a swollen mass through it. It was located close to Poupart's ligament. He was removed to the hospital. There a blood count was made and a leucocytosis of 12,200 with eighty-nine per cent. of polymorphonuclears found. The rectal temperature in the meantime had gone to 104.5° and the pulse to 126. Upon exposing the appendix it was found about four inches in length, greatly swollen and gangrenous, and surrounded with a foul exudate.

Case XIII. The rapidity with which the infectious process may develop requires mention. I had occasion during last May to operate upon a boy, nineteen years of age, who had been sick but three hours. He was awakened at 6 o'clock in the morning with acute abdominal pain most intense in the right iliac fossa. There was exquisite finger tip tenderness. The rectal temperature was 100.5°, the pulse 76 and very moderate abdominal rigidity. Upon opening the abdomen, a quantity of thin, turbid serum was at once evacuated, while the appendix was found swollen and tense with a gangrenous patch one half inch in diameter in its centre ready to rupture.

On the other hand, the appendix may be distended with pus and yet the symptoms be exceedingly mild:

Case XIV. A boy of fourteen years was taken sick on March 26, 1911, complaining of slight abdominal pain which he referred to the right iliac fossa. He kept about, came to Syracuse by train, and rode to the hospital in a cab. Upon admission he had a rectal temperature of 100.4° and the pulse was 72. There was no abdominal distention and very slight rigidity. The white blood count was 17,900 of which eighty per cent. were polymorphonuclears. The appendix was found wrapped in a mass of omentum and after being separated from it, it measured five inches in length and one and one quarter inch in diameter.

Empyema of the appendix frequently exists in patients for months or perhaps longer, and only good fortune has prevented a rupture. In one instance a nurse, while suffering from more or less pain and discomfort in the right iliac fossa, continued to do her work for months with an appendix so distended that it seemed that the slightest blow would have caused its rupture and the discharge of pus into the free peritoneal cavity.

The sudden conversion of a mild into a severe case is no uncommon experience. As illustrative of this condition I might refer to:

Case XV. Young man, twenty-three years of age, who on the evening of March 29th last, at a social gathering, ate some indigestible food. As a precautionary measure he took a cathartic on retiring which acted thoroughly. He never had had any intestinal trouble, but on the following day there was abdominal uneasiness and a little pain. In the evening he sent for a physician who found a normal temperature and a pulse rate of seventy-two. The tenderness in the right iliac fossa was very slight and no abdominal rigidity was evident. The next morning the temperature however was 101.4° and the pulse 100. The tenderness in the right iliac fossa was acute and rigidity of the right rectus muscle in its lower half was pronounced. I operated upon him at 11 o'clock in the morning and found about a pint of thin turbid serum in the abdomen. In the appendicular region there was foul pus, while the omentum in the immediate neighborhood was thickened and red. The appendix was gangrenous and had a large central perforation at the site of which there was a fecal stone.

Evidently the only safe course is to operate as soon as one can make a positive diagnosis of acute appendicitis. I am not ready to assent to the dictum of Moynihan that aperients administered to patients suffering from appendicitis cause in every instance gangrene and perforation. To use his words: "In appendicitis perforation spells purgation." It has been my custom to clear out the intestinal tract, not by active cathartics, but by mild salines, and I have never felt that in ridding the intestinal tube of decomposing and fermenting material, rich in bacterial products, that I have done the patient any material harm or that I have been responsible for either gangrene or perforation.

The cases in which the appendix lies posterior to the cecum are perhaps overlooked by the general practitioner more frequently than any other form of appendicitis. Characteristic symptoms are apt to be masked for a time. The patient may not experience pain at the classic point. He may locate it in the lumbar region. Frequently it is referred along the ureter, and irritability of the bladder is not uncommonly associated with it.

That general septic peritonitis caused by perforation of the appendix can occur without symptoms or signs of appendicitis is, not to my knowledge, stated in any of our surgical works. However, I have had such an experience quite recently:

Case XVI. On the 11th of September last I was asked by Doctor Shepard to see a woman, twenty-two years of age, who had been married a little more than three months and who had last menstruated two months previously. She had been having faint spells, but no bloody vaginal discharge. At about 2 o'clock in the morning she was awakened by severe abdominal pain which she referred to the hypogastrium. No physician was called until 2 o'clock in the afternoon, namely twelve hours later. The doctor found her with a very feeble pulse. Its rate was between eighty and ninety. The rectal temperature was 99°. She was exceedingly pale and still suffered from severe pain in the hypogastrium. She had vomited and her bowels had moved freely. She was lying on her left side. There was some dullness on this side which shifted on change of posture. Abdominal rigidity was marked, but it seemed to be more left than right sided. The pain was so intense and aggravated by motion that she objected to an extended examination. She was transferred to the hospital and I operated upon her an hour later. I made a median incision below the umbilicus. Upon entering the

abdomen there was at once discharged a quantity of thin pus. The uterus was enlarged to the size of a normal pregnancy of two or three months. The tubes and ovaries were normal. Upon investigating the ileocecal region, we found the parts so matted together that the appendix was identified with difficulty. It was not more than one inch in length and was imbedded in a mass of adhesions. It had a perforation in its centre about one quarter of an inch in diameter. Evidently in this case the very first symptoms were due to the perforation. It had not been preceded by any signs of appendicitis and from the beginning the manifestations were those of a general peritonitis. The urine in this case contained albumin and casts.

I wish at this point to refer to a paper which I presented to our State society on the subject of toxic nephritis, in which I called attention to the occurrence of this renal disturbance as evidence of infection, and made the assertion that the appearance of albumin and casts in the urine in the course of an acute abdominal infectious process should be regarded as the expression of an active toxemia, and to be considered as indicating immediate operation rather than as a contraindication thereto.

It does not seem that one should mistake an attack of renal colic for appendicitis. Yet every surgeon has been called to operate for appendicitis when he found the trouble to be of renal origin. While usually the differentiation is simple, it has occurred that an eminent surgeon and a capable physician have both been mistaken. Dr. J. William White and Dr. Edward P. Davis report such an instance.

CASE XVII.—Their patient suffered from severe pain in the lower portion of the abdomen on the right side. The thigh was flexed. He had vomited on the evening of the attack and continued to do so for two succeeding days. During the second day there was distention of the abdomen and constipation. In the evening the patient had a chill and considerable increase in the abdominal distress. Severe cutting pain in the right side of the abdomen followed an enema. There was fever throughout. During the chill it reached 104.2°. Decided fullness could be made out well down on the right side of the abdomen. The operation disclosed a normal appendix and a stone impacted in the ureter.

Another condition which has been mistaken for appendicitis is an ovarian cyst with a twisted pedicle. This experience I had in January of 1906:

CASE XVIII.—A woman, forty years of age, had been suffering for ten days with severe pain in the right iliac fossa. The area was exquisitely tender. The left side of the abdomen was unaffected. The temperature, at first normal, gradually increased until it reached 103°. The pulse during the first few days ranged from eighty-four to ninety, but during the preceding twenty-four hours had gone up to 110. Nausea and vomiting had been so persistent that she had been fed per rectum. On physical examination a well defined but quite fixed tumor could be made out in the right lower quadrant of the abdomen, which apparently was attached to the right broad ligament. The point of greatest tenderness was to the right of the median line and two inches below the umbilicus.

Ruptured tubal gestation has occasionally been mistaken for appendicitis:

CASE XIX. On July 9, 1902, I was called to see the wife of a physician. She was thirty years of age, had been married two years, had always enjoyed good health, and had passed over one menstrual period. The evening before, she had been out for a ride with her husband and had eaten a quantity of peanuts. About 3 o'clock in the morning she awakened with pain in the left shoulder blade, soon followed by general abdominal pain, which became fixed in the right iliac fossa. Her husband attributed the trouble to the peanuts she had eaten and gave her an emetic. The pain was unrelieved by vomiting. At 7 o'clock he realized that she was growing weaker as he could scarcely feel her pulse. I did not see her until 11 o'clock in the morning, at which time she was completely exsanguinated. Her lips were white. There was no pulse at either wrist. The surface was cold and the rectal temperature 95°. The abdomen was tender, but there was no rigidity. There was dullness on either side as well as in the lower part of the abdomen, which changed with posture. She was conscious, but too weak to answer any questions. Upon vaginal examination the uterus was found to be enlarged and tender. She was operated upon within an hour. The abdomen was found full of blood. The right tube was torn completely off from its attachment to the uterus.

That the history of a given case is not always helpful in establishing a diagnosis is evident, as ruptured ectopic gestation has occurred where no menstrual period has been missed. On the other hand, the history may even tend to obscure the diagnosis:

CASE XX. On the fourth of January last I was asked by Doctor Elsner to go to the village of Fayetteville, eight miles east of Syracuse, to see a woman, twenty-five years of age, who eight months previously had given birth to a child, which she had constantly nursed. She had an occasional menstrual flow, and for three weeks or thereabouts she had been having a bloody vaginal discharge. At 6 o'clock in the morning she was awakened with agonizing abdominal pain, which she referred to the uterus. Her physician, Doctor Bradgley, was summoned. He administered morphine hypodermically. It afforded her no relief. At 10 o'clock she was still in agony. At that time she was blanched, the surface was cold, the pulse scarcely perceptible, and she was exceedingly restless. The abdomen was distended, and at the time of our visit, about 3 o'clock in the afternoon, the left half of the abdomen was dull and the dullness varied as her position was changed. On digital examination Douglas's culde-sac was found full and boggy. After a hasty preparation the abdomen was opened and the left tube was found torn from the uterus at its cornu and the entire abdomen full of blood. In this case the fact that the mother had been nursing a child born so recently might have been misleading had the picture not been so perfectly clear.

When we recall that the rupture of an ectopic gestation occurs in a woman apparently in perfect health and that the severe pain is speedily followed by increasing pallor, rise in the pulse rate, and approaching collapse, the picture of an internal hemorrhage is so evident that a diagnosis can almost be made without a physical examination. As to the signs we must remember that there is usually considerable tenderness of the abdomen, and this must not mislead us into thinking that we are dealing with peritonitis. The presence of free fluid in the peritoneal cavity should be readily recognized and the boggy condition in Douglas's cul-de-sac should establish the diagnosis beyond doubt.

There are a few conditions in which acute disturbance within the abdomen occurs in infancy. Reference can only be made to congenital obstruction of the pylorus. Richter would include all cases, whether the trouble be due to spasm or hypertrophy. Most of the pyloric obstructions appear usually from the second to the fourth week, but are rarely noticed until they become quite severe. Vomiting may be excessive or mild. In the beginning it does not usually follow every feeding, but later it does, and then the vomiting assumes the expulsive character. Constipation and loss of weight attend this condition. On physical examination the upper part of the abdomen is apt to be found distended, while the hypogastrium is retracted. The

stomach may be recognized as a large cyst, while the rest of the abdomen, because of the empty condition of the intestines, will be found collapsed. Cases in which the condition depends upon spasm are less apt to be acute and are usually attended with periods of improvement. In the hypertrophic variety one is usually able to palpate a thickened and enlarged pyloric mass.

The acute condition of infancy which most concerns us is intussusception. Whether we encounter invagination less frequently in this country than it is met with abroad, or whether we are less able to recognize it, is a question. At any rate, in both England and Australia it is apparently of much more frequent occurrence than in this country. Carmichael says that it is responsible for ninety per cent. of the operations done for the relief of acute abdominal disturbances in children under one year of age. Out of 200 emergency operations performed by him for abdominal disease in early life, thirty-one were for intussusception and 102 for appendicitis. Clubbe, of Sydney, Australia, has perhaps had as large an experience with it as has any living surgeon. His description is well worth reading. It is as follows: "The very sudden onset in a previously healthy baby is a peculiarity of intussusception. The child is seized quite suddenly, screams, turns pale, vomits, and in a short time seems to recover itself only to cry again at intervals as if in pain. Soon after the first scream it may pass a normal motion. In from two to ten hours, in the majority of cases (ninety-seven per cent.), blood will be passed by rectum. The mass, which varies much in size and position, can nearly always be made out by careful palpation when the child is under an anesthetic. The child may not always look ill. Its pulse rate may be hardly raised and its temperature may be normal."

The importance of the early recognition of intussusception is apparent. Of the thirty-one cases operated in by Carmichael, fourteen were operated in during the first twenty-four hours, of these thirteen ended in recovery; seven during the second twenty-four hours, of these six ended favorably. The remaining ten were operated in at a later period, and of these five ended fatally. There was, therefore, a mortality of only seven per cent. in those operated in during the first twenty-four hours as against fifty per cent. when the operation was performed after the second day. The clinical picture of intussusception in the adult differs so completely from the characteristic picture of early life which has just been quoted that it should arrest our attention for a moment. The difference is well presented in a paper by Codman, based upon the cases operated in at the Massachusetts General Hospital during the ten years terminating with 1907, twenty-seven in all. Of these, eleven occurred in adults. The cases were of such infrequent occurrence that only one or two were credited to a single surgeon. That all of the cases were recognized rather late is indicated by the fact that while Clubbe had made a diagnosis in 124 cases so early that only six were irreducible, in the twenty-seven cases treated at the Massachusetts General Hospital but one half could be reduced. Many patients were operated upon under the impression that they had appendicitis. Some of them had no bloody movements; in some there was marked spasm of the abdominal muscles, distention of the abdomen, evacuation of gas or fecal matter, while rectal examination proved to be entirely negative.

We can merely touch upon the subject of intestinal obstruction. I shall not discuss the ordinary types, but should like to spend a few moments in considering the occurrence of acute obstructive symptoms as a result of malignant disease. With a malignant tumor developing in the small intestines, it can be readily understood that because of the liquid state of the feces partial obstruction may exist a long time without provoking disturbing symptoms. Evidence of intraabdominal mischief may be slight or perhaps altogether wanting until an acute crisis occurs.

Case XXI. A woman, thirty-two years of age, married, having one child seven months old, was seen in consultation February 11, 1910. For five months she had been moderately constipated; no physician had been consulted until the day before. On that day she began to vomit. She complained of general abdominal distress and paroxysms of pain. There was no marked distention of the abdomen. Despite the administration of salines, castor oil, and croton oil she had not secured a bowel movement. When I saw her she appeared bright and did not give one the impression of being profoundly sick. The temperature was normal, pulse seventy-eight. The right side of the abdomen seemed more distended than the left, and on this side there was some abdominal rigidity. She had not vomited for eight hours at the time of my visit. On the following morning I was informed by her physician that she had had two movements of the bowels during the night. In the evening, however, I received word that she was not as well. The situation had changed completely. Her face was pinched. She seemed greatly exhausted. The vomiting had recurred. The abdomen was greatly distended. At the operation I found a hard, nodular mass in the ileum, at which point the intestines had become twisted and adherent. It was removed, and proved to be a carcinoma.

Malignant disease of the large intestine may advance to complete obstruction before it awakens symptoms of serious moment.

Case XXII. On December 6, 1907, I was called to see a man at Rippleton, N. Y., by Doctor Joy, of Cazenovia. On arriving at the station I was informed by the physician that the man had died an hour before. Briefly stated, the history was as follows: He was seventy-five years of age, unmarried, and lived upon a farm with two maiden sisters. He had usually enjoyed good health. For a year he had been very irritable. He had been constipated, but did not complain of any gastric distress. For two days he had been moderately bloated. He continued to work about the farm, and had even done his chores on the morning of the day on which he died. That morning he vomited for the first time. He had a double inguinal hernia, and his physician assumed that possibly strangulation had occurred We performed an autopsy, and found the large intestines greatly distended and the smaller ones moderately so. At no point was the intestinal tube collapsed. In the sigmoid flexure was a hard, nodular mass, not over one inch in diameter, so tightly constricting the lumen as not to permit the passage of a lead pencil. It was cut out and found to be an adenocarcinoma.

Malignant disease may occur at an earlier period of life and its symptoms be so slight as not to arouse the suspicion that trouble of grave character exists:

Case XXIII. On the 16th of November last I was called to Fulton by Doctor Doane to see a woman thirty-five years of age. Both of her parents had died of cancer. She had a large goitre, which caused some difficulty in respiration. For a year her bowels had been constipated and for a number of months she had been obliged to de-

pend upon cathartics to secure a movement. For two days she had been nauseated, and vomited a great deal of mucus but no food or bile. Her nurse had given her a high enema, which brought away some gas and fecal matter. I saw her at her home. She did not seem to be particularly uncomfortable. While with her she vomited some frothy mucus. The tongue was furred. Her lips were dusky. The pulse was 100 and the temperature normal. She had no pain while I saw her, but had been having recurring attacks of colic, during which coiling of the intestines could be made out. The transverse and ascending colon were distended, while the central portion of the abdomen was not. The splenic flexure was greatly dilated and quite tense. A diagnosis of obstruction of the descending colon was made and the administration of salines and high enemeta advised to relieve any impaction which might exist. The next day she seemed to be more comfortable, but during the succeeding night she grew worse and the following morning I operated upon her and found in the upper portion of the descending colon a hard nodular mass about the size of a silver dollar, which evidently had broken through the lumen of the intestines and was held together by a plastic exudate. Here the lumen of the bowel seemed impermeable. This growth was also an adenocarcinoma.

These experiences are by no means unique. The general practitioner, however, does not realize that an individual may harbor a malignant growth of the intestines and its existence be never surmised until acute obstruction occurs.

I appreciate that the subject which has been selected for your consideration is one of considerable magnitude. But there is no class of cases to which the surgeon is so frequently called as the acute abdominal emergencies. All present many points in common and only a careful consideration of the details will establish their individuality. True, many times we are unable to make a positive diagnosis, and yet it is essential that we should be approximately correct, as upon our diagnosis depends the site of the incision and the preparations for the emergency we are to meet. That all of them demand surgical attention is conceded and that their early recognition will materially improve the prognosis is self evident.

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THE RELATION OF THE SPECIALIST TO THE GENERAL PRACTITIONER.*

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Dealing with sick and therefore abnormal humanity under conditions that are never those of everyday life, and confronted daily with problems of supreme importance in a realm remote from that of ordinary affairs, it is natural that the earnest practitioner of medicine leads a life more or less apart from that of the community at large; that his interests, associations, and even friendships are prone to be narrowly limited to professional circles and that medicine is necessarily the most monastic of the professions. A few conspicuous examples to the contrary notwithstanding, the best physicians are usually not the best men of affairs, or of the world, both of which terms necessarily imply a devotion to extraneous pursuits usually incompatible with the best medical work. The condition has its disadvantages, but also its compensations; and I feel it to be rather a compliment than an offence when we are called bad business men or bad politicians. It is our glory to remain students and learners to the end of our lives; and nothing is more characteristic of medicine, and nothing more clearly differentiates us from all other professions and businesses than our medical journals, our medical societies, and our postgraduate schools with their hosts of gray headed scholars.

Under these circumstances it necessarily follows that the relationship of the physician to the community and to his patients, or of medical men to one another, cannot be entirely governed either by the ordinary rules of proper conduct in the common affairs of life, or by the selfish principles called those of business. Hence codes of ethics, written or understood, have their place in our medical comity, and are observed by all worthy practitioners. There are some problems, however, that cannot be settled by general rules; that must be considered in the light of the principles that underlie them; and it is to one or two of these that I desire to call your especial attention to-night. I refer to the "property right," if I may so term it, of the physician in his patient; a conception that often entails practical difficulties of great moment.

Now, I should be the last one to deny the validity of these property rights. A man's practice is his own; his patients are the assets that he has accumulated by a lifetime of work and devotion. If the practitioner were self sufficient in every case there would be no problem for us to consider here to-night; the matter would be one to be determined by his conscience alone. But few of us, I think, would be willing to take this position to-day; we have far too keen a sense of our own limitations and duties. The conditions are changed at once when another practitioner is brought into the case. Assuming, as I may be allowed to do for sake of the argument, that the consultant or operator called in has a better knowledge of the possibilities, probabilities, and dangers of the case than has the practitioner who calls him in, disquieting considerations may well arise. For the patient has rights also which no conscientious physician can disregard. Apart from higher altruistic considerations, he pays to get relief, and he is entitled to the very best advice or services possible. And, unfortunately, it not infrequently happens that to give such advice or render such service is liable to conflict, or appear to conflict with the rights of the attendant.

I am free to confess, before this audience, that to my mind the rights of the attendant are in ordinary cases paramount, and must be scrupulously conserved. The consultant's interest in the case ends when the consultation is finished; the patient belongs to the attendant, and any further move in the case is to be made by him alone. This is the invariable rule with every reputable consultant; it is the necessary condition of amicable practice, and I believe that in the long run it is the best for the

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patients themselves. But in many cases conduct based upon it is necessarily very unsatisfactory.

To take an example from the field most familiar to me. There are dermatoses that are incurable, in which the most that can be effected is relief, and there are many others in which constant supervision and frequent change in methods offer the best or possibly the only means of cure. One man's meat being another man's poison is as true here as in every other field of human endeavor. The advice given at the moment may be of the best; it may turn out to be entirely inappropriate to-morrow, or next week, or for that special patient. The consultant may feel sure that the best advice would be that of continued observation and treatment in accordance with the indications that arise, or treatment by one more familiar than the general practitioner with cases of the kind. Very properly, and for obvious reasons, he does not give this advice, so liable to occasion serious misconception. Yet he feels that something has been lacking of that fair measure of the best aid that it is his duty to give, and that feeling is intensified when a few days or weeks later the attendant informs him by telephone that improvement to a certain extent only has taken place, or that the treatment suggested has not had the desired effect, or that new symptoms have arisen, and inquires what he should do next. Such advice as he gets then is necessarily of small value, for conditions have changed, there have been no opportunities for observation, and opinions based on hearsay are little better than those taken from textbooks. Is it not a question whether, in our legitimate care for the rights of the attendant, we have lost sight, to some extent, of those of the patient?

I should not have presumed, however, to take up the time of this meeting with a recital of unsatisfactory conditions with which we are all familiar if I did not believe that there was some satisfactory way by which the interests of the family physician, the patient, and the consultant could be conserved. And while what I have said, and have still to say, is naturally looked at from the viewpoint of the dermatologist, it is, I believe, equally true, *mutatis mutandis,* for all the other medical specialties. It seems evident to me that the only way in which conflicting interests of this nature can be reconciled is by a much more extensive and thorough cooperation of attendant and consultant in their work. The rights of a practitioner to his practice can be conserved; the patient can get the best advice and treatment, as he is entitled to; and, though this is a point that I have not touched upon, the consultant will be spared the reproach of inefficient or insufficient advice. I should formulate conclusions as follows:

1. A large proportion of the specialist consultation cases are instances in which a single examination and advice based thereon, or an isolated treatment, is insufficient, unfair to the patient, and necessarily unsatisfactory to both attendant and consultant.

2. The rights of the practitioner to his practice should be conserved, so that he should not be put in the position of a mere directory of what specialist or what operator to apply to.

3. The way to effect this legitimately and openly is by means of joint treatment, the routine measures being carried out by the attendant, while direction and supervision are exercised by the consultant. A joint fee bill is the logical concomitant.

154 West Seventy-seventh Street.

SODIUM CACODYLATE IN SYPHILIS.

A Study of its Results in Forty-three Cases, from the Genitourinary Department of the Jefferson Medical College Hospital.

By Louis J. Spivak, M. D.,
Philadelphia,
Pathologist and Serologist to the Genitourinary Department of the Jefferson Medical College Hospital.

The medical eye has been so dazzled in the past year by the blazing light of salvarsan that it cannot see anything else in the treatment of syphilis. Some other drugs are being used, the majority of which are preparations containing arsenic, which has been used for a long time in the treatment of syphilis, chiefly in the form of Fowler's solution and Donovan's solution, but only for alterative effects.

Murphy, in an article some months ago, reported glowing results from the use of sodium cacodylate in daily injections of one to two grains in primary and secondary syphilis. Through the courtesy and kindness of Professor Horwitz and Professor Loux, permission was obtained to use sodium cacodylate on our outdoor patients.

The drug was used in sixty-four cases. Forty-three of these received from fourteen to sixteen injections, one each day, while the remaining twenty-one cases disappeared after a few injections.

The Wassermann reaction, using the antihuman hemolytic system, was used in every case, both for diagnosis and to test the efficiency of the drug. Each patient, before beginning the treatment had his blood examined; if it proved positive, he received his injections; if the blood proved negative and the clinical symptoms warranted it, he received his injections, and the blood was reexamined every three to four weeks.

A solution of sodium cacodylate was freshly prepared every day. The drug being easily soluble, a solution of four grains to the drachm of distilled water was used, although a stronger solution could have been made. The injections were made daily. At first these injections were made subcutaneously, then intramuscularly. Although there is no pain worth mentioning by either method, it was perceived that the intramuscular method was less annoying.

Injections were made into the gluteal muscles, alternating each side daily and injecting at a point midway between the anterior superior spine and the upper end of the intergluteal furrow, the needle passing downward and forward. At first, two grains were injected, then three and four, and finally five and six grains were used daily for fourteen to fifteen injections.

Each patient's urine was examined every few days, commencing these uranalyses before the injections, also through the course of the injections, and shortly afterward. There was never seen any

sign of arsenical poisoning in the urine. Arsenic was found to be eliminated in the urine. This elimination in the urine shows that sodium cacodylate is absorbed from the area injected. This is also shown by the marked arsenical odor which emanates from the patient's breath, commencing about the third day and continuing through the treatment.

Each patient had his eyegrounds examined on the completion of the injections, and not one was ever troubled with any ocular symptoms or optic nerve changes due to the arsenic.

The forty-three cases were:

Thirteen initial lesions, duration, three weeks to three months, eruption not yet appeared.

Eleven secondaries. Maculoroseolar eruption, 4. Maculopapular eruption, 4. Miliary papular eruption, 1. Rupial eruption, 2.

Four cases with general glandular enlargement, secondaries not present, Wassermann reaction positive in all, two with initial lesions present, two initial lesions absent.

Six cases with mucous patches in mouth.

Two cases with condylomata.

Two cases of specific laryngitis and pharyngitis.

Two cases of specific cephalalgia, one complicated by anemia.

Three gummata, tongue, one; leg, one; penis, one.

Sodium cacodylate had its most marked effect on the initial lesions. Only one of the thirteen cases was not amenable to the drug. The sores became healthier in appearance and then became covered with epithelium, and gradually became smaller in size and lost their induration. Only a few became entirely softened, and most of them retained a slight induration.

In three of these cases that were complicated with edema of the frenum and surrounding mucous membrane, causing partial phimosis, the swelling readily passed away, and the patient could retract the foreskin with ease.

The time of improvement varied with the quantity of drug used. When four or five grains were employed, improvement was first noticed at the fourth injection; when two grains were used it was noticed at the seventh injection.

Whether it was only a coincidence or whether it was the effect of the drug, the writer is not prepared to state, but it was noticed that the cacodylate did not prevent the secondary stage, but, on the contrary, seemed to hasten it, just as a hot bath does measles. This was noticed in eight cases, and all came out between the fourth and twelfth injections.

Sodium cacodylate also had a marked effect upon the eruptions. The four maculoroseolar eruptions promptly disappeared, leaving no trace of their former existence. The four maculopapular cases and the one miliary papular, were affected less readily, but they also disappeared, leaving only spots of pigment where the papules had been.

The two cases with rupia showed absolutely no improvement.

It was noticed that the eruptions reappeared, in two or three weeks after the last injection, unless further treatment was given with mercury.

The four cases of general glandular enlargement showed practically no change.

In the two cases with initial lesion present the sore healed, but save for a slight reduction in size of the inguinal glands there was scarcely any improvement.

The six cases of mucous patches in the mouth all showed remarkable benefit from the drug. In every case the ulcer or ulcers became covered with epithelium and stayed so. This marked effect is due to the elimination of arsenic in the saliva, as is also shown by the garlicky odor of arsenic.

The two cases of condylomata also showed marked improvement. One of the patients showed four protuberances, around the margin of the anus, as big as beans, closely resembling hemorrhoids. He received fourteen injections of four grains. Improvement was first noticed on the fifth day, when they became reduced in size; the reduction continued and by the fourteenth injection they were flattened to level of surrounding skin and covered with epithelium.

The two cases of specific laryngitis and pharyngitis were benefited, but not entirely relieved. The hoarseness of voice and difficulty in swallowing became less, but did not entirely disappear until the iodides were pushed.

In the two cases of headache, the one complicated by anemia was completely relieved, while the other case remained unchanged. Both of these cases had been under specific treatment for over two years. The gumma of the tongue and the gumma of the leg showed no improvement whatever. The gumma of the penis was rather an unusual case.

CASE. It occurred in a negro, forty years of age, with history of sore on penis and sore throat four years before. He came to the outdoor department with a marked ulceration of the tissues surrounding the glans penis, of four weeks' duration, and rapidly becoming worse. Wassermann reaction proved positive and spirochætæ pallidæ were demonstrated with the ultramicroscope. The patient received twelve injections, seven of five grains and five injections of six grains, and the entire area healed. Three weeks later he reappeared with a marked ulceration on the other side of the penis, next to the glans. The entire area was removed, and pathological examination showed it to be chancroidal. The patient, however, admitted to having had intercourse, on numerous occasions, during the interval of his absence from the department, and undoubtedly contracted a chancroidal infection.

TABLE OF RESULTS.

The 13 cases of initial lesion showed alleviation	=	92 per cent
11 cases of secondaries showed alleviation	=	81 per cent.
4 cases of general adenitis showed alleviation	=	0 per cent.
6 cases of mucous patches showed alleviation	=	100 per cent.
2 cases of condylomata showed alleviation	=	100 per cent.
2 cases of laryngitis showed alleviation	=	50 per cent.
2 cases of headache showed alleviation	=	50 per cent.
3 cases of gumma showed alleviation	=	33⅓ per cent.

Of the 43 cases

31 cases showed marked improvement.

2 cases showed some improvement.

10 cases remained unchanged.

The following conclusions are made:

1. Arsenic in the form of sodium cacodylate is useful in syphilis. While its action is not as rapid as that of salvarsan, it accomplishes results not unlike those of salvarsan. It is very reasonable that it should, because the arsenic content of "606" is thirty-four per cent. while the arsenic content of sodium cacodylate is forty-eight per cent.

2. Being sure that the salt is pure, and making a solution of it *fresh every day*, it is nonpoisonous to the human system, even in doses as high as five or six grains injected daily for three weeks, even for a month; in other words, the human system can take in 100 grains of sodium cacodylate in

three weeks with no signs of arsenical poisoning.

There is no albuminuria, no sign of ocular disturbance; the only untoward effects ever noticed were slight shooting pains in the muscles, particularly those of the shoulder, and sometimes this reached to a muscular spasm. There is no reaction at the site of injection.

3. The drug should be used for effect, beginning with three grains daily and increasing as results are noted. The drug is cumulative in action, as improvement continues for a week or so after the injections cease.

4. The best results are seen in early syphilis. It has a marvelous effect on the initial lesion and on the maculoroseolar eruptions. The action on the papular syphiloderm is somewhat slower, but in large doses is effective. The drug has practically no effect on the adenopathies. Enlarged cervical, epitrochlear, and inguinal glands persist in spite of massive doses. Mucous patches and condylomata clear up readily without any other treatment. The drug has a splendid alterative effect and can be used for that alone in the course of syphilitic treatment. All patients, whether their lesions were benefited or not, speak of a sense of well being, of added strength, of a better appetite, and even of an increase in weight. On the rupia and tertiary lesions, sodium cacodylate has practically no effect.

5. Immediately after the patient has had his course of injections, he should be placed on mercury, otherwise the external manifestations recur. It would even be well to alternate a course of mercurial treatment with a course of cacodylate injections. The two drugs seem to be synergistic; one has a stronger effect in the presence of the other.

6. The effect of the drug on the Wassermann reaction is practically nil.

7. The drug should prove to be a useful adjunct in the treatment of syphilis, especially where salvarsan cannot be used, either for financial reasons or through some physical condition of the patient. Sodium cacodylate is cheap, easily prepared, and very easy to administer.

In conclusion, I wish to express my gratitude to Professor Horwitz, Professor Loux, and Dr. W. H. Kinney for their critical interest and assistance and to the staff of the department for their cooperation.

1330 North Franklin Street.

A SEVENTEENTH CENTURY SURGEON AND HIS FEE.

By The Honorable William Renwick Riddell, B.A., B.Sc., LL.B., L.H.D., F.B.S. (Edin.),

Toronto, Ont.,

Justice, King's Bench Division, High Court of Justice for Ontario.

Practically every word of the learned judge's charge, as given below, is to be found in the authorities—his law is exactly followed by Blackstone and Lord Kenyon, C.J., and his medicine may be found in two works in my possession:

1. *A Ternary of Paradoxes of the Magnetic Cure of Wounds, Nativity of Tartar in Wine, Image of God in Man,* Written originally by Job. Bapt. Van Helmont and Translated, Illustrated and Ampliated by Walter Charleton, Doctor in Physick and Physician to the late King: London: 1650.

2. Pauli Barbette, *Opera Omnia Medica et Chirurgica. . . . Cum Appendice Opera et studio* Joh. Jac. Mangeti, Med. Doct., Geneva: 1683: (In Latin).

The Mr. Newton referred to was afterward knighted by Queen Anne and is the well known Sir Isaac Newton. He had in 1672, in a paper presented to the Royal Society, suggested that microscopes as well as telescopes should be made with concave mirrors.

Sir Thomas Street was a baron of the exchequer and a justice of the common bench at the time of Charles II; he was continued in office by James II, and remained a justice of the common bench till after the revolution in 1688. He was not reappointed by King William III, having been described to him as a "very ill man," though others say he was a "very honest man." His "Good Lord, Good Devil," manner of dealing with matters of religion (which was a very live question in those days), praising Henry VIII and his services to the protestant faith, and also speaking respectfully of the change in creed by Digby—are in line with his course upon the bench. He was the only one of the twelve judges who gave an opinion against the power of the king to dispense with the oaths of allegiance and supremacy required by the Test Act upon appointment to office. The king, James II, had granted an office to Sir Edward Hales, a Roman Catholic, and therewith given a patent of dispensation relieving him from taking the oaths which a Roman Catholic could not conscientiously take. Eleven of the judges held that the king had this power, but Street dissented.

Very shortly after, it was taken for granted that he had assumed this position collusively, so as to give an air of impartiality to the opinions of the judges. And the fact that James without hesitation issued a *supersedeas* to any judge who displeased him, and thereby removed him from the bench, indicates that this view of Street's conduct was well founded. Certainly King William's advisers thought so.

It was not till 1851, in England (and 1852 in Upper Canada), that parties were allowed to give evidence in their own case.

CHARGE TO THE JURY IN RANDALL v. SIR THOMAS POWIS, Knt., AT THE GUILDHALL, MAY 4, 1687, (3 JAC. II).

By Sir Thomas Street, Knt., Justice of the Common Bench:

Gentlemen of the Jury:

The plaintiff is a chirurgeon and indeed a member of the company named "The Masters or Governors of the Mystery and Commonalty of the Barbers and Surgeons of London," a company duly founded and formed by Act of Parliament in the thirty-second year of the reign of that pillar of the Protestant faith, the late High and Mighty Prince, Henry the Eighth, King of this realm. The defendant as ye have heard, is a Knight of good estate and family, and the action is concerning certain moneys which the plaintiff demandeth for his professional services rendered unto the defendant.

That ye may the better comprehend what it is ye have to try, I shall recount to you the various facts as they have been made to appear by the witnesses.

The defendant, interceding betwixt two brothers of the sword, received a dangerous wound through the arm: by the violent pain whereof and other grievous accidents concomitant, he was suddenly dejected into extreme debility and danger. In this forlorn plight, he employed a surgeon who treated him in a manner recommended by his art and mystery with topical applications of which I shall speake to you again. The wound did not improve, and the defendant, despairing to find ease or benefit by the fruitless continuance of this chirurgery, and fearing the speedy invasion of a gangraene, consulted the plaintiff. This new surgeon enjoined the immediate remove of all emplasters and other topical applications—and he washed the wound carefully from time to time with fair clean water, covered it with a clean soft, linen cloth, and cleansed it once a day from pus and other impurities.

The wound hath gotten well and the surgeon sues the Knight for his reward.

Now were the plaintiff a physician he could not maintain an action for his fees which are given not as *locatio vel conductio* but as *quiddam honorarium,* not as salary or hire, but as a mere gratuity which a physician cannot demand without doing wrong to his reputation.

But surgeons are of an inferior degree amongst the professors of the healing art and like the *medici* of ancient Rome to whom they correspond, they may demand their fees as of right, while the fees of the physicians are by the laws of England but honorary—which is indeed more for the credit and rank of this honourable body.

But the defendant saith that he should not be forced to pay fees to a man who not only did him no benefit, but who did not even proceed *secundum artem.*

And I must tell you that a surgeon can recover his fees only if he proceed in accordance with the practice of his mystery and art. This man, the defendant saith, did naught and should be paid naught—the plaintiff contendeth that he treated the Knight with judgement and skill and that he hath healed him. That the wound is healed none can gainsay—but did the Chirurgeon treat the defendant properly?

Many learned surgeons have been called and they have given their opinions, backed up by the writings of masters of undoubted gravity and authority.

We are told by the defendant's witnesses that there are but two methods of treating wounds which have received the approval of the Faculty—one whereof is that wherein medicaments are applied to the wound in topical treatment, and the other is the use of a sympathetical powder or of an *unguentum armarium sympatheticum.*

In the first, we are told that medicamenta necessary to the cure of wounds are of three kinds: 1, digestive or pus-exciting; 2, sarcotic or flesh-forming, and, 3, epulotic or scar-inducing. Experience hath taught us that a wound may be cured very well by a sarcotic alone or more frequently by a digestive alone. But in truth, better and more certain results are to be looked for where the two are used together, although in fleshy parts digestives applied with soft plegets may well be employed without other medicaments.

The sages in the art (amongst them the revered Walter Charleton, Doctor in Physic and Physician to the late King, His Majesty, Charles the First, of Pious memory, him who was so cruelly and wickedly martyred by the enemies of God and of all true men) tell us that immediately upon the solution of unity in any part, the ambient Aer, of its own primigenious constitution intensely cold, and by accident also repleted with the various evaporations or aporrhoeas of mixt bodies, especially such as are then suffering the act of putrefaction violently invadeth the part; and thereupon impresseth an exotick miasm or noxious Diathesis; which disposing the blood successively arriving at the wound to putrefaction by the intervention of fermentation caused by some gradual acidity (for proved it may be that the *πρῶτον δεκτικόν* of corruption must be *acidum extraneum* succeeding upon a desertion of vital heat) introduced, maketh the same wholly unfit for the nutrition and destructive to the incarnation or reunion of the sides of the orifice. Against this hostile acidum, Nature instantly ariseth in arms, sendeth a large supply of arterial blood and doubleth both the strength and number of her pulses insomuch that most times the overcharged part suffereth an increase of pain and intumescence from the distention of its vessels, membrane and intermusculary capacities; but finding herself too weak to expel so subtle and potent an enemy, encamped within her borders, though she cannot preserve the blood from submission to the tyranny of this putrefaction acidity in some degree and so not transmute it into a laudable cement to soder up the disunion; yet she so far hindreth (especially in green wounds) the dilatation of corruption that she subdues the revolted blood into the form of a white purulent effluxion, which is therefore to be accounted an infallible signal that Nature is not yet evirate but holds out bravely and if relieved in time, will be an happy conqueress.

This purulent effluxion the Faculty call laudable pus and they use every effort to bring it forth—and many times indeed it is sufficient to cure the wound if the surgeon hath the skill or good fortune to excite a sufficient quantity of this laudable pus which some therefore call healthy and benign pus. So the eminent surgeon who first treated the defendant, tells you that he applied a digestive. But he was not content to rely upon the pus-exciting medicament alone; but applied a most celebrated vulnerary balsam which stands approved by Paulus Barbette, an acknowledged master of the art of surgery—and this balsam was composed of many ingredients, turpentine, gum galbani, gum elemi and hederae, frankincense, gum mastich, myrrh, aloes, galingal, cloves, cinnamon, nutmeg and cubebs. And this ointment was both digestive sarcotic and epulotic—for the turpentine, gum elemi, frankincense and mastich are digestive, the gum galbani, gum elemi, myrrh, aloes, cloves and nutmeg are sarcotic, and aloes, myrrh and mastich are also epulotic.

He gave him moreover to drink of herbs boiled in red wine with sugar of the whitest kind thereto added.

Yet notwithstanding the application of this vulnerary unguent topically and upon the very wound, and notwithstanding the abundant dressing applied bandage over bandage and notwithstanding that the patient drank gallons of red wine each day, the wound did not heal. The pus came in large quantities, but it passed from the laudable stage and became malignant, even threatening that Nature would be overcome. It seemed as though the Knight was doomed to die—and had he in very truth then died, none would be bold enough to say that he had been treated in aught but the most approved manner and strictly *secundum artem.* The defendant himself saith so much, for he hath paid the surgeon all that he demanded, even though in his hands and under his treatment he was like to die.

Then (as I have already said) despairing to find cure or benefit by the fruitless continuance of this chirurgery and fearing the speedy invasion of a gangraene, he sought out the plaintiff and placed himself in his hands, expecting to be treated by the second approved method of which I have already spoken.

This is commonly by the use of a sympathetic vulnerary powder, and it hath much esteem among many. It was indeed introduced into England by the late Sir Kenelm Digby, who though malignants call him the very Pliny of his age for lying, was Knighted by that glorious King, James the First, grandfather of his present Most Gracious Majesty—and he nobly and gallantly fought for his country against the French and Venetians, the Dutch and Spanish. Many, indeed, revile him because he became a Roman Catholic, but let none say that against him in reproach when he remembers the creed of our present most High and Mighty Prince, King James the Second.

Whether Digby can rightly lay claim to the original discovery or no may well be doubted; but in any case he it was who made this marvellous powder so well known.

It is of Roman vitriol powdered and dried in the sun; and is not applied to the wound at all. The surgeon procureth a garter or bandage cruentate wherewith the hurt was first bound up, and sprinkleth with the powder the blood upon the garter or bandage—and the patient thereupon feeleth an intolerable shooting and penetrative torment; but this soon vanisheth—thenceforward all former evil symptoms depart, the part recovers its pristine lively colour and manifest incarnation and consolidation ensue. This is by reason of the sympathy maintained betwixt the blood extravenated and that yet conserved in the veins and of the Sovereign balsamic faculty of the vitriol—and by a fresh dressing of the garter from time to time, the sanation will proceed with such admirable success that within few days, there will remain only a handsome cicatrice to witness there was once a wound.

A kind of modification of this treatment is better known in foreign lands, but yet is recognized in England by many of the wisest of the faculty. That is by use of a sympathetic vulnerary ointment. The unguent is made in various ways but the best approved is of these ingredients. Take two ounces of usnea which is the fungous and mossy growth upon the skull of a criminal who hath been left hanging; half an ounce of mummy, real mummy which hath been brought from Egypt, two ounces of human fat, half an ounce of human blood, two drachms of linseed oil, and an ounce of bole which is a fine compact unctuous reddish clay from far Armenia, a natural astringent and styptic. But sometimes the fat of bulls or wild boars, powdered earthworms and the like are used.

And the healing virtue of this also depends on the sympathy between the extravenated blood and that remaining within the veins, for the ointment is applied to the bloody weapon or a piece of wood or the like dipped in the wound.

We are told that the dead criminal or animal dies full of secret reluctancy and vindictive murmurs and with a high flame of revengeful feeling. This continueth after his death, and the posthumous character of revenge remaineth firmly impressed upon the blood and fat in the unguent. The moment the blood or weapon or splinter cometh in contact with this most malignant substance, it is roused to active excitement, and so obtaineth full power to cure its fellow blood left behind in the wounded man; and this it doth by sucking out the dolorous and exotic impression from the wound. And that is in truth the most consistent with all we know concerning natural and magnetic sympathies; and in very sooth it is exceeding simple like unto many other great truths.

Neither this unguent nor the powder is applied to the wound, but is allowed to have its perfect work apart. The weapon or splinter or garter is laid away in a cool place and the wound is carefully washed with fair clean water, covered with a clean, soft, linen cloth, and cleansed once a day from pus and other impurities.

Now the plaintiff did naught save wash and tend the wound; he used no sympathetic powder or sympathetic unguent—and he giveth his reason. He doth not indeed, give evidence in his own person before you, but ye need not to marvel thereat. For the law of England, the perfection of human wisdom and the glory of all, doth not permit a party to a suit himself to give evidence, lest he should perjure his own soul. Vain babblers there be who gainsay the wisdom of this law, but we may not heed those who would remove the ancient landmarks. The plaintiff, yet, may and doth set forth his suit by witnesses whom he hath called before you. He saith through his witnesses that there is no influential operation of magnetical remedies but that the consolidation of wounds is the sole and entire work of nature performed by the proper balsam of the blood flowing to the part wounded, and that therefore those who employ sympathetic unguent or powder are grossly ascribing the whole arm of the energy to that unconcerned principle which indeed hath not so much as a finger in the business.

He saith that the pus which all others admire and desire as showing that Nature hath armed herself for the fight is not to be desired, but that it is itself an impurity which should be avoided—that it hindreth the cure and contendeth against the *vis medicatrix naturae*. He hath even in his mind some crotchet that pus is engendered by some small animal or plant, some bug or gnat or beettle or fungus belike, though he saith openly that he cannot prove the existence of such creatures. This however he contendeth is because his glasses do not magnify sufficiently to enable him to see them. And he meaneth not the glasses or spectacles for weak or aged eyes; but the microscope which hath a rare and admirable faculty of making small things appear large. But in sooth he were not able to see these imagined bugs were he to use even the compound microscope with concave mirror suggested to the Royal Society by Mr. Newton, the Lucasian Professor of Cambridge. It might be well for the plaintiff to take heed lest he be condemned by Holy Church, for we are told in the Scriptures that God created grass and the herb and the fruit tree, the moving creature and fowl to fly above the earth in the open firmament of heaven, great whales and every living thing that moveth which the waters brought forth abundantly, cattle and beast of the earth and everything that creepeth upon the earth but nowhere are we told of such a bug or gnat or fungus as this man hath dreamed. He saith forsooth that the true treatment is to keep all extraneous matter away from the wound and even the air which he imagineth to be full of his bugs and gnats and beetles.

He doth not understand or seemeth not to understand, that the real and sole impediment to the redintegration of the unity of any part infringed by external violence is the exotic acidity coming from the aer and impressed upon the sides of the wound, and that the only way of assistance to nature in this exigence is the destruction or extinction of that alien impression, the factor of putrefaction, by the specifical counter violence of some superior antagonist.

I conceive that there cannot be doubt that the vitriol hath a very just title to the prerogative of being lifted into the inventory of Astral natures; and that when the powder thereof is applied to the blood effused out of a wound, the balsamical faculty of it is not confined to a mere topical operation, but being conducted by the efflux or aporrhoea of the blood which undoubtedly by a congenerous magnetism holdeth a certain sympathy with that function from whence it was derived in a stream of substitiated atoms, extendeth to the individual wound and there operateth to the deletion or extirpation of the acid impression against which it carrieth a seminal antipathy. We cannot dispute the great aphorism of Hermes Trismegistus, *Naturae sunt medicatrices*. We allow her to be the prime and proxime causatrix of all sanation; and all medicaments no more than auxiliatory or adjuvant by the modification of excessive preternatural qualities and remove of impediments; but Nature is not always able to play the part of Chiron to herself, but owes much of the honour of her safety and conquest to the assistant power and amicable coefficiency of the vitriol. The same should be understood of the magnetical manner of operation proper to the sympathetic unguent—for indeed sympathetical medicaments are allied unto celestial influences and may transmit their spiritual energy unto determinate patients at vast and indeterminate distances. We know that the contagion of the small pox and plague is frequently started from one brother or sister to another at a distance of many hundred leagues by invisible emissions or pestilential atoms without all excuse of intelligence or mutual commerce by intervenient messengers, as also of fear and imagination, so immensely long is the arm of sympathy. We know how a Tagliacotian nose,[1] enfeoffed with a community of vitality and vegetation by right of transplantation upon the face of a gentleman at Bruxels, hath grown cadaverous and dropt off at the instant of that porter's death at Bononia out of whose arm it was first exected. And how carefully good housewives avoid the boiling over of their milk lest the atoms thereof subtiliated by the intense heat of fire should be attracted by the cow's udder (for the source or fountain of every effusion acteth a magnetical part and draweth to itself the subdivisions of that same effusion situate within the orb of its alliciency) and so an inflammation be caused by the opposition of the atoms of fire concomitant. And indeed he shall find out of a book of great authority the true magnetical cure of most diseases as of the Dropsie, Gout, Jaundies, &c. by including the warm blood of the patient in the shell and white of an egg which exposed to a gentle heat and mixt with a bait of flesh ye shall give together with the blood to a hungry dog or swine and the disease shall instantly pass from you into the dog and utterly leave you; no otherwise than the leprosie of Naaman did by the exsecration of the Prophet transmigrate into Gehazi. Nay is there not even now in France an Abbé who cureth fever of all kinds by sympathy? For he taketh but the patient's spittle and mingleth it with an egg and so giveth it unto a dog and the dog dieth and the patient is made whole.

And do we not all know that a woman weaning her child, to the end that her breasts may the sooner dry up, strokes her milk into a fire of glowing coals and thereupon her paps suddenly become flacid and the fountain of her milk is stopped.

Hath anyone with his excrements defiled the threshold of thy door and thou intendest to prohibit that nastiness

[1] Tagliacotian nose: An operation performeed by the Bolognese surgeon, Tagliacozzi (1546-1599), who used a flap taken from the arm, but not entirely severing it until union had taken place, to form a new nose.

for the future, do but lay a red-hot iron upon the excrement and the immodest sloven shall in a very short space grow scabby in his buttocks; the fire torrifying the excrement and by dorsal magnetism driving the acrimony of the burning into his impudent anus.

So it is vain if not wicked of the plaintiff to deny the operation of sympathetic powder or unguent—and he is wrong in being puffed up in his own conceit and setting himself above those who are older and wiser than himself.

Yet he sayeth that his method of cure is one which is well-known in the profession, though that is denied by other surgeons.

That is the question ye are to try—and if ye find that his mode of cure is acknowledged in his profession, ye will give him your verdict; and if otherwise, not.

And it is naught that the Knight hath been cured. It may be that the powerful medicaments applied by his first attendant but succeeded in making their power felt after the plaintiff was consulted.

Ye may indeed think that if the plaintiff is right in his contention that it was but the unassisted *vis medicatrix naturae* which effected the cure, all the credit for the cure should be given to Dame Nature herself and the plaintiff deserveth none—having no credit, neither should he be given cash.

(*Verdict for the defendant.*)

THE VACCINE TREATMENT OF COLDS.

By G. H. Sherman, M. D.,
Detroit.

These so called colds are now generally recognized as infections of the upper respiratory tract, pneumococci, streptococci, the *Micrococcus catarrhalis*, Friedlander bacillus, influenza bacillus, and other organisms being found. Usually there is a mixed infection of two or more of these. Of these the most common and persistently pathogenic are the pneumococcus and the streptococcus. The *Micrococcus catarrhalis* and staphylococcus are frequently met with in subacute and chronic cases, the Friedlander bacillus and influenza bacillus not so often. Some individuals suffer from these colds frequently and severely, while others are more fortunate and have mild attacks at longer intervals. The reason so many people have repeated attacks of colds is because the immunizing mechanism is not sufficiently impressed by the invading organisms during an attack to make the immunity lasting. In this class of cases we have essentially a surface infection, and unless a systematic immunity is well established, the germs will continue to linger on the surface of the mucous membrane, ready to become active when favorable conditions develop. Here it is that vaccine therapy comes to the rescue. By this means the immunizing faculty may be stimulated sufficiently to eradicate the invading organism and establish a cure. On the importance of the vaccine treatment in colds I will quote at length from Allen.

On this subject Dr. R. W. Allen, of London (*Vaccine Therapy*, third edition, page 169), says:

> Pneumococcal infections of the respiratory tract assume so many forms, and are so especially dangerous, that I make no apology for emphasizing the following points. In acute attacks the infection usually begins in the larynx or upper part of the trachea, but may begin in the nasopharynx; the cough is paroxysmal and very distressing, and results in a tiny blob of very tenacious colorless mucus. The infection spreads simultaneously upward and downward, the mucus becomes much more copious, yellow, purulent, and less tenacious, but the distressing cough continues. Pulse and temperature may be little affected. The infection may stop at the bifurcation of the trachea, or it may spread into the bronchi and bronchioles and produce an acute bronchial catarrh. Herein lies the chief danger; after a longer or shorter interval the patient may apparently recover completely without vaccine treatment; but if the bronchial secretion be examined pneumococci will probably be found in abundance. Here they may lurk for weeks or months until climatic conditions or careless exposure to damp or draughts determines the lighting up of the dormant infection. The result of this may be bronchitis of the larger tubes, capillary bronchitis, pneumonia, or pleurisy. I have seen each of these sequelæ in those treated upon conventional lines, and if I can help it never allow a sufferer from pneumococcal cold to dispense with vaccine treatment, this being continued if possible till careful examinations of the sputum no longer show the presence of the pneumococci. Such completely satisfactory results are hereby obtained that neglect of a medical man to urge the necessity of vaccine treatment in a case of pneumococcal cold, especially in an aged subject, is little short of criminal.

He advises to start with a multivalent stock vaccine "at any stage of the attack—the earlier the better"—to be followed up by an autogenous vaccine, and concludes the advantages of treating an acute attack of catarrh upon these lines are as follows:

1. Convalescence is speedier—sometimes almost complete in twenty-four to thirty-six hours.

2. The stage of thick mucous secretion is either practically eliminated or rendered much shorter and less distressing.

3. The use of expectorant drugs, which so often upset the digestion, may frequently be dispensed with.

4. The risk of complications is very considerably lessened. Indeed, I venture to say that, if this treatment were universally adopted, we should almost cease to hear of deaths due to pneumonia following upon so called influenza, which in most cases is a pneumococcal cold, pure and simple. Heart failure, arthritis, neuritis, and the other complications set out in Allen's Table XI. would be equally rare.

During the past three years I have used stock vaccines extensively as a routine in treating acute cold, usually depending on clinical symptoms to make a diagnosis for the first inoculation. Formerly the diagnosis was verified by bacterial examination, both from slides and culture growths, but pneumococci or streptococci and more often both organisms were for all practical purposes such constant factors that during the past year bacterial examinations to verify the diagnosis were not frequently followed up, but mixed stock vaccines were used empirically. My experience led me to believe that in acute colds, if the case is immunized against the pneumococci and streptococci, infections caused by the other organisms often found in these cases are of secondary importance. It is quite probable that the Friedlander bacillus, influenza bacillus, or other organisms start an inflammatory process and thus pave the way for a subsequent, more serious pneumococcus or streptococcus infection. *Micrococcus catarrhalis* is more constantly found in a class of cases where the catarrh takes on a subacute or chronic form during the interval between the acute attacks caused by the pneumococcus. Streptococci are more frequently found in the tonsils, larynx, trachea, and bronchi, but rarely in the nose. Pneumococci and *Micrococcus*

catarrhalis are found in the entire respiratory tract. Staphylococci are more frequently found in the nose and bronchi, probably as secondary invaders, after the other organisms have prepared the way. These so called cases of influenza or la grippe, often coming along in epidemic form, from my experience during the past two years, are simply pneumococcus infections, the influenza bacillus not having been found once. My endeavor has been to meet the conditions presented by these so called "colds" with stock vaccines, to be applied empirically as indicated by clinical symptoms so they may be applied as a routine in general practice, and I feel from the results so far obtained that this method is entirely practical.

In a general way, from clinical symptoms we have two classes of cases suffering from colds, those having acute attacks that clear up during the intervals, and those in which the condition has a tendency to linger on between the attacks. The former are more particularly due to the pneumococcus and streptococcus, while the latter, in addition, are usually complicated within *Micrococcus catarrhalis* or the mucosis group of organisms. In the treatment of these cases I used a mixed stock vaccine composed of various strains for each organism in the vaccine; for the former class of cases pneumococcus 40,000,000, streptococcus 30,000,000, and staphylococcus 150,000,000, and in the latter pneumococcus 40,000,000, streptococcus 30,000,000, and *Micrococcus catarrhalis,* 100,000,000.

Usually there is marked improvement from twelve to twenty-four hours after the first inoculation, and often all the acute symptoms subsiding with the patient going on to recovery. On the second day another dose should be given, or the case is liable to relapse, and after that inoculations should be made at from three to six day intervals until all symptoms of the disease have subsided. Those that are complicated with the *Micrococcus catarrhalis* usually require treatment for a longer time than the other class of cases. In some cases it is necessary to increase the dose to double size. If prompt improvement should not take place with this routine method of treatment, careful bacterial examinations should be made of the sputum by slides and the culture methods to determine what additional organism may be the cause of the troub'e.

This method has been so satisfactory in my hands that I have no hesitation in saying that if this method were generally adopted practically all the severe complications following colds, pneumonia, arthritis, mastoiditis, endocarditis, and many other ailments would be eliminated, because by this method the patient becomes immunized against the pathogenic organisms causing the trouble early in the course of the disease, while the system is still in a condition where it can readily respond to the immunizing influence of the vaccine. Furthermore, these colds are disagreeable afflictions even in cases where no serious complications follow, and should be cured with the best means at our command. Here I can speak from personal experience, having been afflicted with colds at about four month intervals for years.

Before using the vaccine it always required from three to six weeks to effect a cure, and now with the vaccines it requires about that many days, but I find that if the inoculations are not continued for a few weeks, at from four to six day intervals, the cold is liable to return. Other members of my family have had the same experience, and none of us would think of enduring the miseries of a cold without using the vaccine.

Any physician who has used these vaccines in colds will soon become a convert to this method, especially if he uses them on himself during an attack. In this way he will not only appreciate their therapeutic value, but he will also thoroughly realize the harmlessness of these vaccines in acute infections.

Chronic catarrh is one of the ailments that is altogether too frequently met with. It would be senseless to contend that vaccines will correct deformities of the nasal cavity or that operative procedures should be dispensed with; but there is no denying the fact that we frequently meet with patients who are bothered with catarrh in which there is no material physical trouble, but the individual "catches cold" easily and from frequent attacks becomes a chronic sufferer. The same variety of germs are usually found in catarrh that are found associated with chronic bronchitis—streptococci, pneumoccocci, staphylococci, the *Micrococcus catarrhalis,* Friedlander bacillus, *Bacillus ozœnæ,* or various combinations of these organisms. The streptococcus is frequently found in the nasopharynx, but not so often in the nose. Here the staphylococcus is most commonly present.

A combination vaccine consisting of staphylococcus, pneumococcus, and streptococcus is usually employed in these cases, but where bacterial examination shows other organisms present corresponding vaccines should be used instead. Treatment is started with an average dose and gradually increased to twice this size. Inoculations are made at four to seven day intervals and continued for several months.

Catarrhs are so liable to become chronic under conventional treatment that the early use of the vaccines becomes an important factor. When the vaccine method is employed in the acute stage, these cases are cured before they become chronic. One characteristic feature of the vaccine treatment in subacute and chronic infections of the respiratory tract is the marked general improvement that is noticed before the local infection shows much change.

HAY FEVER.

Hay fever is such an annoying complaint that any treatment which will relieve these cases is greatly appreciated. Most authors concur in the opinion that the trouble is caused by an irritating effect of pollen on the nasal mucous membrane. We should not disregard the pathogenic cocci normally found in the nose and throat; staphylococci, pneumococci, and streptococci. While the pollen may irritate the nasal passage, the presence of these cocci unquestionably aggravates the condition, and by immunizing the patient against these pathogenic cocci, much has been done to modify or prevent the development of hay fever.

I have used staphylococcus, pneumococcus, and streptococcus combination vaccine for hay fever as

a routine during the last three summers, giving inoculations at from three to five day intervals with marked beneficial results. Some patients were cured after three or four inoculations, while others ran a mild course, but all were benefited.

419 St. Aubin Avenue.

POSTOPERATIVE GASTRIC DILATATION.*

By T. C. Witherspoon, M. D.,
Butte.

Two years ago I presented to this association a paper entitled Gastric Mesenteric Ileus, Following Gastroenterostomy. The conclusions to which an observation of the case led were: Gastromesenteric ileus in the case was not due to obstruction. The stomach was paralyzed and incapable of contracting. The lack of union in the abdominal wall was caused by trophic changes in the spinal cord. The only explanation of this apparent lesion of the cord which caused paralysis of the stomach and nonunion of the abdominal incision was a toxic agent most probably from the alimentary canal.

Since that time I have had the opportunity as well as the misfortune of making post mortem examinations of two bodies in which death followed gastroenterostomy. In both there was a marked dilatation of stomach unassociated with any discoverable infection of the surgical territory. In both a short posterior loop operation was done and a post mortem examination showed the gastrointestinal anastomoses had healed and were widely open, absolutely negativing the question of mechanical interference with emptying of the stomach.

To the surgeon, this subject of gastric dilatation is brimful of interest, and one is tempted to enter very fully into a consideration of it. Time limitation will, however, hardly permit. I shall therefore briefly relate the two histories, and sum up the conclusions to which experience with the three cases has led me.

Case I. L. R., male, thirty-two years of age, entered the hospital June 25th last. Unmarried, fireman by occupation; father died of some stomach trouble. No history of venereal trouble, injury, or past sickness. Always had been able to attend to his work, though since childhood he had symptoms of stomach disorder. During the last few years, gas, pain, and vomiting had distressed him more and more. Pain bore no definite relation to time of eating or quality of food. Vomiting usually relieved pain; the vomitus was coffee groundlike in appearance at times. The periods of marked discomfort alternated with those of relative comfort. The last attack began on May 27th with the usual syndrome.

Physical examination: Thorax negative; stomach dilated to right of median line and downward; tender to pressure. Patient vomited 300 c. c. of dark brown fluid while being examined, which contained much blood. A tube was then passed and 900 c. c. of the same material were recovered. The analysis was as follows:

Chemical.		Microscopical.
Hydrochloric acid	25	Old Blood
Combined	95	Undigested starch
Lactic	None	No sarcinæ
Bile	Trace	No stomach epithelium
Blood	Quantity	A few bacilli, small

Feces showed blood, otherwise normal. Urinary specific gravity, 1.017; no albumin, pus, or casts. Morgan's thread test not used. Operation: Posterior, short loop gastroenterostomy. Death, July 10th. Autopsy: Stomach largely dilated. Intestine normal. Gastrointestinal anastomosis healed and well open. Liver, passive hyperemia. Lymph glands near pylorus slightly enlarged, simple hypertrophy.

Case II. D. W., resided in a neighboring town. Male, thirty-nine years old, sheriff by occupation. Nothing in family or personal history of any importance. Present trouble began on June 15th, with epigastric pain; no nausea; pain intensified by eating; free from pain with empty stomach. Was sent to a local hospital with temperature of 104.5° F. and thought to have a scarlet fever

July 7th, was sent to Butte for examination. Complained of epigastric dull aching pain and tenderness to pressure. Temperature 99.8° F., pulse 80. Morgan string test, gastric analysis, uranalysis, and blood count gave the following:

The string was stained mildly with blood at a point just short of the pylorus. After a test meal, 120 c. c. recovered which gave 30 c. c. only of filtrate. No free hydrochloric acid. Combined 38. Trace of blood, no lactic acid. Nothing of note microscopically, save blood. Uranalysis: 1,029 specific gravity, trace of albumin, occasional hyaline cast. Total white blood count 13,200.

Differential: 78.9 per cent. neutrophiles; 5.2 per cent. transitional; 1.3 per cent. large lymphocytes; 14.5 per cent small lymphocytes.

Feces contained no blood.

Patient discharged July 8th, instructed as to diet and medical care, and sent home to his family physician. On August 12th he returned, having lost thirty-five pounds in the month. Had suffered most of the time. At this time blood was discoverable in the stool and vomitus. Urine still showed albumin and hyaline casts. We thought it wisest to open the abdomen. Appendix removed, chronically inflamed, and gastroenterostomy, short loop, performed because of the dilated stomach with pyloric ulcer and perigastric adhesions. Death, August 24th. Before death a marked dilatation of the stomach, associated with urinary suppression for nearly three days.

One interesting fact observed during the life of this patient, following operation, was the constant presence of a large number of streptococcic chains in all vomited matter, and in that removed from the stomach by the tube. Hydrochloric acid was at all time absent. Post mortem findings were like those in the former, except for the active renal lesion.

It is interesting to note that in all three cases a marked dilatation of the stomach existed without obstruction. No portion of the intestinal tract was similarly dilated. There was no infection of the surgical field, and visceral union was perfect. Unlike the case recorded in my former paper, there was good union in the parietal wounds of the last two. Unfortunately in the patient, L. R., no effort was made to isolate and identify the organisms of the stomach during the period of dilatation. In the case of D. W., streptococci in long chains were found in abundance. No bacilli of any variety. Neither of these patients suffered pain about the epigastrium as did the first patient. I am impressed with the idea that in the former the segmental trophic disturbance manifested itself in both visceral and somatic nerves, in the latter case in the visceral nerve distribution alone.

In all three cases, the paralysis of the stomach, the freedom from mechanical interference with movements of, and emptying of the organ, the purely local nature of the dilatation, the lack of any demonstrated wound infection, and the distinct segmental character of the trophic disturbance, seen in the first patient, seem to point distinctly to a central paralysis. I regret exceedingly that I did not follow the bacteriological examinations in the two first patients as I did in the last. Both post

*Read before the Southern Surgical and Gynecological Association, December 12-14, 1911.

mortem examinations indicated a toxic change in the liver and the last in the kidney as well. What the nature of the toxic process was I cannot even guess with any satisfaction.

Twice in the last two years I have had an opportunity to demonstrate the distinctly protective value of colon bacilli vaccination before operating. The two patients had had abdominal operations before, and each suffered seriously from vomiting and gastric dilatation, which necessitated lavage, and they both suffered likewise from urinary shutoff for twenty-four to forty-eight hours. Both feared a second operation, especially as the nature of the procedure was to be more serious. I thought it wise to at least immunize against the common source of bowel intoxication, and therefore vaccinated against the colon bacillus until 200,000,000 caused no reaction. The result was a recovery after operation, without nausea or meteorism in any part of the intestinal tract. While the two instances demonstrate nothing of scientific value, they nevertheless point a way and open a field for inquiry.

What the service of the streptococci found in the last case was in developing the gastric dilatation cannot even be conjectured. I am inclined to believe that the common colon bacillus is the usual efficient agent and the other organisms may be accessories.

CHRONIC EXCESSIVE INTESTINAL PUTREFACTION AS A FACTOR IN THE PRODUCTION OF DISTURBANCES OF THE NASAL MUCOUS MEMBRANE.*

By Samuel Floersheim, M. D.,
New York.

Your president has kindly asked me to present a paper before your society, and not being a special worker in the field of the upper air passages, I was quite at a loss as to what I could talk upon that would be of interest to you. At present in the field of internal medicine, and especially the specialty of gastroenterology, the subject of intestinal putrefaction is undergoing considerable investigation, and a happy thought came to my mind that a short paper on the production of changes in the nasal mucous membrane by excessive putrefactive changes in the gut would be opportune and interesting.

The title of this paper may seem strange to you, as it would be believed to convey the idea of the proximity of the nasal cavity to the large intestine. There is quite a distance from one to the other, yet, by taking into consideration the blood stream, the sympathetic and vasomotor systems, and the lymphatic system, one soon observes their close relationship.

I will deal only with the effects of chronic excessive intestinal putrefaction, as it influences the nasal cavity in the probable production of rhinitis of obscure origin. I wish to make it plain that I do not wish to be placed upon record as stating that chronic excessive intestinal putrefaction is the only cause of rhinitis.

The study of the bacteria, their putrefactive and fermentative changes in the gut, their effects and results in the gut and other parts of the system is just beginning, and I may aptly say that the field is one of extraordinarily wide scope and not of easy conquest.

There are many forms of bacteria in the intestines, i.e., bacilli, cocci, diplococci, streptobacilli, fungi, beside the protozoa. These may be further classified into anaerobes, or those which thrive without air, and aerobes, those which thrive in air. The bacteria may be either pathogenic or nonpathogenic.

Grouping and individualizing the different bacteria would be too lengthy and out of place here Suffice it to say that one species of bacteria causes fermentation, another putrefaction. These changes are totally different conditions, and this statement is made with emphasis. Sugars and starches ferment. They cannot putrefy. Albuminoids and protein compounds do putrefy.

The modus operandi of chronic excessive intestinal putrefaction is the action of the resulting bacterial toxines and products of putrefaction upon the nerve endings (nutritional, trophic, sympathetic) in the nasal mucous membrane, which are carried to these parts by the blood stream and the lymphatics. These cause continued changes in the blood supply and nutrition of the parts, subsequently producing the pathological conditions which are so familiar to all of you and require no further narration.

Bassler[1] enumerates the following diseases believed by him to have, as their supposed obscure etiology, an underlying chronic excessive putrefaction going on in the large intestine: Myocarditis; chronic essential asthma; chronic nephritis; chronic hepatitis; chronic cholangitis; cholecystitis and cholelithiasis; chronic gastric and intestinal atony; chronic low secretory and motor conditions of the stomach and intestines and excess sensory conditions of the first; the mysterious peritoneal and omental adhesions; chronic constipation of dynamic and atrophic origin; chronic colitis, from simple catarrh to the membranous and atrophic forms; chronic indigestion (intestinal) with fat, sugar and starch intolerance; arteriosclerosis; premature senility; pseudopernicious anemia and the true types following gastrointestinal atrophy; chronic simple anemias; gout; intractable neurasthenial habitual headache; insomnia; catarrhal affections (particularly the general forms with atrophy of the submucous tissues); chronic backache; debility; neuralgias; loss of sexual power; loss of weight and strength; mental fatigue on slight exertion; mental confusions; excessive emotional depression and irritability; semi-invalidism; vasomotor disturbances; degenerative states of the central and peripheral nervous tissues; functional eye conditions; hypertrophy of the lymphatic tissues; atypical rheumatism, myalgia and polyarthritis or arthritis deformans.

Among the diseases mentioned which interest you are, essential asthma; arteriocapillary fibrosis

*Read before the Clinical Society of the New York Throat, Nose, and Lung Hospital, December 4, 1911.

[1] Bassler. *Journal of Advanced Therapeutics*, February, 1911.

and chronic hypertension without sclerosis; premature senility; pseudopernicious anemia; chronic simple anemia; gout; intractable neurasthenia; habitual headache; catarrhal affections, particularly the general forms with atrophy of the submucous tissues; neuralgias; vasomotor disturbances; functional eye conditions; hypertrophy of the lymphatic tissues; atypical rheumatism and polyarthritis. The obscure etiology may be found in the chronic state of putrefaction that may be going on in the large intestine.

The pathogenic bacteria harbor chiefly in the large bowel. The prepared food is passed from the stomach into the duodenum, thence it is rapidly propelled through the duodenum to be mixed with the intestinal liver and pancreatic secretions lower down as a step in the process of digestion. In the jejunum and ileum absorption of the nutritive material is the chief factor, while the unabsorbed chyme and detritus is passed into the colon in the onward progress of digestion.

In the normal small intestine nearly all the nutritive material, or as we term it, the chyme, is absorbed before it reaches the large intestine. There is very little absorptive power in the large bowel, and I may say that the small amount that does take place is principally the taking up of water from the feces. This gives to the stool its solid or semisolid consistence. The progress of the feces through the large intestine is slow, giving the pathogenic and other forms of bacteria ample opportunity for action.

In the colon, when stagnation exists to a pathological degree, the putrefactive changes take place very rapidly. The products of putrefaction, ammonia, sulphureted hydrogen, indol, skatol, phenol, etc., are taken up by the lymphatic and blood currents and carried to different parts of the body. It is there, plain to all of you to comprehend the action of the toxines and putrefactive products from the intestines acting upon distant parts of the organism, causing pathological change.

The changes produced are due to the action of the bacterial toxines and the results of putrefactive changes absorbed from the large bowel into the blood and lymphatics, which are brought either to the central nervous system acting centrally upon the organ, or to the organ itself producing its deleterious effects locally upon the nerve endings and blood supply, or to both.

The toxines acting centrally may cause disturbances in the innervation of the tissues, interfering materially with the blood supply of the structures in the area controlled by the central point. The other condition produced is the effect upon the blood supply and in this way the nutrition is considerably disturbed. Likewise, the removal of waste products of structural activity (a normal process) is materially retarded in this state, which in turn would also have a deleterious effect upon the tissues.

It is a simple matter to detect the putrefactive and fermentative changes in the large intestine. These are quite readily observed in the chemical examination of the urine, as I will later demonstrate to you with the different tests, and it takes but little time, study, and practice to obtain the necessary knowledge and skill to make these tests whereby deductions can be made which point to the disturbing factors. Correct and rational appropriate measures can then be invoked to the material benefit of the patient and a relief of the medical adviser.

No doubt you will be somewhat chagrined at my failure to give you the ultimate results of chronic excessive intestinal putrefaction in the gut upon the nasal mucous membrane. As I said in the beginning of my paper, I was not a specialist in rhinology and I am unfamiliar with rhinological changes. My object in bringing up this subject before you this evening is to stimulate you to the study and research of the obscure cases of rhinitis, whether they be acute, chronic, atrophic, or hypertrophic. Either of these may have as one of their underlying etiological factors, chronic excessive intestinal putrefaction. I am going to give this subject serious consideration and further work, and I hope that in the near future that some of you here to-night will be sufficiently impressed with what I have said to take upon yourselves to study carefully the relationship between the different pathological conditions in the nasal cavity and chronic excessive intestinal putrefaction from the standpoint of the rhinologist.

The test I prefer for indican is the following: I use a small calibre test tube (3/8 inch), placing about one and a half inch of urine therein. I then add about one inch of chemically pure hydrochloric acid and shake the mixture. One c.c. of hydrogen peroxide is then added and the tube again well shaken. One c.c. of chemically pure chloroform is then added to extract the indican if any should be present. You see that in the urine the blue indican is coming down with the chloroform. Indican as such is not present in the urine, and in order to extract it we must make it out of the contents of the urine. In the large bowel the beginning of the putrefactive process gives us indol, this is oxidized when it reaches the blood into indoxyl, which is excreted as such in the urine. In order to detect this substance we further oxidize the compound and form indican which we have extracted, as you see, from the urine.

We have two kinds of indican, a blue, as you have observed, and a red. The latter is exceedingly rare, but for your benefit I have brought this urine with me to show you. The same test is applied as before, and you see a red or deep pink in contrast to the deep blue. I wish here to caution you in the deduction of red indican. This is not red indican, but it is potassium iodide that is in the urine, and unless one is on his guard an erroneous opinion may be given.

In fermentation we do not get the blue in the chloroform, but instead we obtain in the same test a pink color in the superimposed fluid which you notice. I wish to call your attention again to mistakes that may happen from the fact that this second urine which you note gives the same test. This latter urine is from a patient taking large doses of sodium bromide. I have with me a urine of a diabetic patient, which shows well the test for excessive fermentation. Mind you, I say fermentation. The patient had as much as four per cent. of sugar,

but at present he has less than one tenth of one per cent.

In your routine work I believe it would be wise to cast an eye on the digestive tract and also to examine as often as possible the urine in the care of your patients.

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SARCOMA OF THE TESTICLE, WITH REPORT OF A CASE.*

BY ARTHUR C. STOKES, M. D.,
Omaha.

Tumors of the testicle, ovary, adrenal, and kidney offer special characteristics, which are a chapter of their own. Much theorizing has been done regarding these peculiar tumors, and many notable papers have appeared in the last few years, attempting a classification of the same. Hypernephroma, nephroma, mesothelioma, sarcoma, sarcoma carcinomatodes, teratoma, and mesoma chorioepithelioma are some of the names which have been applied to these related growths. In this short paper, we must confine ourselves to a description of the pathology of the tumor in our case, the operation done, and the results of the same. For more extended discussion of the pathology of these tumors you are referred to the work of Grawitz, Zudeck, Storck, Wilson, Hertzler, Chavessu, Adami, and Ewing.

Dr. H. H. Waite, pathologist for the medical school of the University of Nebraska, reports on our tumor, as follows:

Microscopically the testicle was found to be 7.5 cubic centimetres by 3.25. On cutting into it, many fibrous areas were found. The cut surface presented a vascular appearance; hemorrhagic areas were found over the surface in large numbers. The picture was of areas bounded by connective tissues stroma, presenting an alveolar appearance, resembling a fibroadenoma.

Microscopically the specimen showed an atypical cellular infiltration. The mesoblastic areas of the rete testis showed alveolar arrangement in some parts. The alveoli being lined with columnar epithelium, Malory's stain showed infiltrated connective tissue areas, with spindle cells in small numbers, but large round cells predominating. The alveoli were very vascular, many of them surrounding arteries. The percentage of connective tissue seemed increased, and everywhere infiltrated with round cells. Adenomatous arrangements of the epithelium were present. The epithelium showed areas of infiltration also. The specimen presented the anomaly of epithelial and mesothelial cells infiltrating the same specimen. Some areas presented definite adenomata, without infiltration. Tre infiltration did not extend into the epididymis, but the adenomata appeared to begin, or were very close to the tubules or beginning of the tubules of the testes. The tumor was apparently of the embryonic type. The lymphatics seemed to show no evidence of extension or metastasis. The tumor was, evidently, of the type of carcinoma sarcomatodes of Adami.

This tumor, to the writer, presented the following points of interest:

1. No tissue was discovered in the section that did not belong to the testicle.

2. Mesoblastic and epiblastic tissue, both had begun a rapid wild growth, with the mesoblast predominating.

3. It did not show any fat or areas of lipoid degeneration.

4. The origin of the tumor was either at the tubules or very close to the same.

5. There was no other tumor found at any distant point in the body.

HISTORY OF THE CASE.

CASE. Patient, O. M., colored, aged twenty-nine years, waiter by occupation, was seen early in 1911. He gave a negative family history, especially in regard to new growths. His personal history was also practically negative, had gonorrhea at twenty-five and twenty-eight years, syphilis denied, and there was no evidence of infection present. As seems to be the usual thing in these cases, he gave a history of an injury to the testicle at the age of twelve years, but had no trouble to speak of till about ten months before we saw him. He did say that he had had dull pain in this testicle at times for ten years previously, and that the testicle seemed larger than the other. During the three months before coming to us became much larger and more painful.

From the history and the enlargement, and eliminating tuberculosis testis and gumma, and because of the absence of glandular enlargement and the peculiar consistence and hard feeling of the testicle, a tentative diagnosis of malignant new growth, probably sarcoma, was made and operation advised.

All forms of tissue known to the histologist have been found in tumors of the testicle. Verneuil found brain tissue and nerve ganglion in his case. Chevassu found liver cells, muscle, portions of a thyroid in some of his cases. Fetal skulls, cartilage, teeth, hair, and nails have been found in various other tumors by observers, and Ewing goes so far as to believe that all forms of embryonal tumors of the testicle are teratomatous in origin, with some form of tissue predominating, according to the ordinary characteristics of the teratoma. Langhans first made a careful microscopical study of these tumors and believed that he could trace them to the tubules, and the tumors containing alveoli lined with epithelium were really of a carcinomatous type. According to Ewing, this fact lacks confirmation. He further states, however, that in his laboratory, in several thousand sections, from the testes of twenty-five children, he found stray groups of epithelial cells in numerous cases about or within the tubules, but he was not satisfied that these cells were the origin of all forms of these embryonal tumors of the testicle. Chevassu assumes an origin in the spermatoblast for all the large round celled tumors, which he believes to be different from the ordinary teratoma. The small celled tumors he regards as of teratoma origin.

Much theorizing has been done regarding the origin of these tumors, and Waldemyer and Riebert and Ewing seem to believe that these growths, since they are particularly common in ovary and testicle, are in some way related to the sexual cell. Ewing further states that the theory of Waldemyer and Riebert becomes more and more clear as investigation along this line proceeds. Ewing's conclusions are the following:

"Chondroma, myxoma, lipoma, and carcinoma have not been shown to exist apart from a teratomatous origin. While the alveolar large round cell circumvascular tumor, as in our case, are proved to be of teratomatous origin. Ewing farther states

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*Read before the Western Surgical Association, December 19, 1911.

that the commonest tumor of the testicle is an embryonal carcinoma, alveolar in type. The tumors are one sided developments of the teratoma."

Chevassu, in 128 cases, found sixty-six malignant, one case of pure sarcoma, and fifteen cases of mixed tumor. Kober finds forty-five tumors, which he classes as sarcomas of the testicle, but does not state how many of them are mixed tumors. Bland Sutton, in an article describing his operation, finds twelve cases of sarcomata of the testicle, in the London Hospital for the year 1897; the sarcomas are not classified into their different types.

Hermaphrodites and subjects with undescended testicle are particularly prone to this type of tumor; twenty per cent. of cases occurring in these individuals.

Roger Williams reports eight cases of bilateral new growths, three of them in early life, and five in adult life, and calls attention to the fact that these are found to be round celled sarcoma more often than any other type.

Rogers reports a case of double undescended testicle with an abdominal tumor which proved to be sarcoma complicating delivery. Two cases are cited by Kronpecher of sarcoma of both testicles in double cryptorchids.

Age seems to have little bearing, as cases are reported at all ages, from infancy (Silcock reporting a case of congenital sarcoma). Minot reports a case in a man of sixty years. Most cases, however, are found in the third decade. Two cases are reported with a syphilitic history, and one case of mumps with metastasis to an undescended testicle was sarcomatous. Chevassu reports the work of San Felice on the artificial production of tumors by the injection of saccharomyces neoformans into the testicle; also Bruandet's work, in which he obtained an epithelial infiltration by the injection of different substances, as macerated carcinoma of the stomach, gastric juice, and so on. He concludes that they do not throw much light on the subject, and are of little value.

Among the symptoms are enlargement of the gland, which is usually rapid, as in our case, where the most of the growth occurred in three months. Pfaff reports a case in which an undescended testicle became as large as a fetal head in two months' time, and mentions a case of Wyeth's similar to this. There is usually dull pain, although it is not always true, and the testicle is abnormally tender on palpation, and of a peculiar consistence.

The differential diagnosis is not a difficult matter, as the rapid growth, pain, and tenderness should lead one to suspect malignancy. Gummata, tuberculous testicle, and hydrocele are to be differentiated. The history of chancre and other evidences of syphilis, together with the slow growth and absence of pain, are characteristics of gumma. The tuberculous testicle is of even slower growth. Hydrocele should offer no difficulties.

The prognosis is always bad in malignant new growths of the testicle, and especially is this true of sarcoma. There are cases of reported cure, but as to whether or not there was return, perhaps, we should say, the development of abdominal metastasis, there is a profound silence. In regard to abdominal metastasis, Osler, on malignant new growths, suggests that in cases of obscure abdominal new growths, examination of the testicle may clear up the picture. Although Coley reports the cure of inoperable metastasis from sarcoma testis with his serum, the only hope for cure lies in the early diagnosis and radical operation.

J. B. Sutton describes the following operation done by him for the radical removal of all possibly involved tissue and which we performed in this case.

An incision was made into the scrotum and the testicle and vessels and cord freed to the internal ring, the testicle was then covered with gauze, and an abdominal incision made in the abdominal wall along the semilunaris line from the costal arch to the inguinal canal. This incision was made down to the peritoneum and the peritoneum pushed back; traction on the testicle showed the position of the spermatic vessels in the loose areolar subperitoneal tissue. The vas and artery were ligated and divided at the brim of the pelvis. The retroperitoneal tissues of the right lumbar region were well exposed and careful search was made for enlarged lymphatic glands, but none were found, in this case.

Jameson and Dobson (*Lancet*, 1910, i, 493), urge the removal of the cellular fatty tissue surrounding the glands because of possible involvement. Howard, following their suggestion, did an operation even more radical than the one just described. In his operation the abdominal incision extends from the external ring in a curve external to the linea semilunaris to a point an inch and a half above the umbilicus, all layers of the abdomen are incised, and the peritoneum is exposed. This is then dragged away from the retroperitoneal tissue, and the aorta and common iliac vessels are exposed from the renal vessels down. The tissue around the aorta, renal arteries, inferior mesenteric, common, and internal iliacs and the beginning of the internal iliacs were removed. The spermatic vessels were stripped away from the peritoneum, as far as the renal vein, ligated, and the whole growth, artery, veins, and lymphatics removed. After the removal of the testis the peritoneum was replaced, and the wound closed with drainage.

When we remember that the lymphatics of the testicles discharge high up into the aortic lumbar glands on the left into three glands to the left of the aorta, just below the renal artery, and on the right into three to five glands to the right of the vena cava between the vena cava and the aorta, we see the importance of getting them all out, in order to prevent any possible recurrence.

CONCLUSIONS.

1. Typical sarcoma of the testicle occurs more rarely than atypical.

2. Tumors of the sarcoma type, but atypical, occur more frequently than those of the carcinoma type, Ewing to the contrary notwithstanding.

3. Typical carcinoma of the testicle occurs occasionally, but always arises in the epididymis or tubules and never in the rete testis. All tumors taking on a carcinomatous appearance are teratomata in origin with the epiblast predominating.

4. The mixed tumors of the testicle originate

in the rete testis in tissue which, according to Grawitz, has its beginnings in primitive kidney embryonal tissue of mesoblastic origin carried down in the descent of the testicle. According to Waldemyer, they originate in the sexual cell, which has been subjected to some form of irritation. This last theory agrees more clearly with the clinical picture than does the theory of Grawitz.

5. All organs in which the peculiar tumors develop have the same embryological origin and are derived from the nephros.

Literature on prognosis is so fragmentary and imperfect that I have been unable to lay down any principles for operation from the accumulated literature, but believe from the pathology of the tumor that by the time clinical diagnosis is possible an operation as radical as that of Bland Sutton's should be done, and that the removal of the testicle and cord only from out the abdominal cavity begs the question and is never indicated.

503 Brandeis Building.

IODINE FUMIGATION.

By Charles J. Kœnig, M. D.,
Paris, France,
Otolaryngologist, American Hospital.

Having read with interest in *Presse médicale* for November 4, 1911, an article of Reynès concerning the method of Louge, who obtains iodine vapors in a nascent state by burning iodoform, I desire to call attention to the method I have used for six or seven years in the treatment of divers affections of the middle ear (chronic suppurative otitis, sclerous otitis, etc.), and which gives an iodine fumigation in a very simple manner by using pure iodine, the vapors being obtained and carried along by a current of warm air, which adds its effect to the therapeutic action of the iodine.

To that effect I employ: 1. A small metallic capsule made of two hemispheres, which can be screwed together and which are surmounted each by a tip, one conical for introduction into the funnel shaped end of the Eustachian catheter, the other cylindrical for adaptation to the tube of a hot air generator; 2, the hot air generator of Lermoyez and Mahn; 3, the following preparation:

℞ Menthol, ... 1.0 gramme;
Powdered camphor, } ..... āā 2.0 grammes;
Iodine in crystals, }
Powdered talc, ... 30.0 grammes.

This mixture, finely pulverized, gives a dry powder, resembling powdered cacao. I reached these proportions after a few trials. If less talcum powder is incorporated, a moist mass is obtained which cannot be used.

I place a small quantity of this powder between two layers of absorbent cotton, with which I line the interior of the hemispheres of the capsule. By allowing a current of warm air to pass through the latter thus prepared, after a short time varying with the temperature and the force of the current, there remains between the two layers of cotton the white talcum powder alone.

In this capsule one may also employ in the manner described all sorts of volatile substances, including iodoform powder. But to obtain a decomposition of the latter, a temperature of at least 90° C. (194° F.) is required with the formation of nascent iodine vapors and also of hydriodic acid velop have the same embryological origin and are derived from the nephros.

Concerning the use of iodine vapors in otology, they can be passed into the middle ear through the Eustachian tube by means of the catheter, or into the middle ear directly through the external auditory canal when there exists a perforation of the drum membrane.

In chronic suppuration and in certain forms of sclerosis of the middle ear, the results are quite appreciable. This method can naturally be applied in many other affections of the nose, throat, and ear, as well as in other conditions (cutaneous and uterine diseases), and in general medicine and surgery.

65 Rue de Miromesnil.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXIX.—What drugs, if any, in your experience have you found it advisable to withhold during the menstrual period, and why? (Closed February 15, 1912.)

CXX.—What are your views on the various substitutes, commercial and other, for mother's milk? (Answers due not later than March 15, 1912.)

CXXI.—What does hematuria signify to you and how do you treat it? (Answers due not later than April 15th.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short, if practicable no one answer to contain more than six hundred words; and our friends are urged to write on one side of the paper only.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the Journal. Our readers are asked to suggest topics for discussion.

The prize of $25 for the best essay submitted in answer to Question CXVIII was awarded to Dr. William Brady, of Elmira, whose article appeared on page 388.

PRIZE QUESTION CXVIII.

TREATMENT OF THE MOTHER AFTER CHILDBIRTH WITHOUT AN ASSISTANT.

(Continued from page 390.)

Dr. C. D. Enfield, of Jefferson, Iowa, thinks that—

To arrive at a satisfactory technique for use under such circumstances one must simplify the ideal procedure by removing those things which are not entirely necessary, and then, if possible, still further simplify the remaining essential features. Following this plan, then, he has arrived at the routine which follows. It is perfectly feasible without even the untrained assistance which one almost always has, is not unduly time consuming, and seems to be effective.

The placenta, upon delivery, is thrown into a pan of cold water previously prepared for it and examined rapidly but thoroughly. Having been found complete and with its full complement of membranes it is set aside. The patient now receives a hypodermic of one of the aseptic ergot preparations which also has been prepared previous to delivery. The fundus is massaged for a moment. The vulva is washed up with a cresol solution, the Kelly pad is removed, and the vulva again washed off. A sterile towel is placed under the buttocks, the vagina is wiped lightly with sterile gauze, wrung out of cresol solution to remove blood, and lacerations are looked for.

If a severe tear is found the vagina is packed lightly with iodoform gauze, provided no more active measures are required for hemostasis, and dressed with a sterile pad, reparative undertakings being left for more fortunate surroundings. If, on the other hand, a small mucous membrane tear only is found, it is sutured with silkworm gut which has been threaded to a needle and boiled with the instruments. The ends are left long; suggestion anesthesia alone is employed. A little iodoform gauze is used here also.

Provided no tear is found, a sterile pad is applied and held in place with a T binder.

The nipples are washed lightly with antiseptic solution, a small square of gauze laid over each, and a breast binder applied. This may be extemporized if necessary out of a diaper or long towel. If the uterus is well contracted an abdominal binder is now put on, and if it is provided with perineal straps it will also take the place of a T binder in holding the vulvar pad. However, the abdominal binder may also be made up from materials about the house and a few safety pins.

The patient is now assisted into a clean night dress, taken to her bed (or to the centre of it, if she has been delivered on the bed), and covered up. She is given a final inspection as to pulse, warmth of her extremities, adjustment of her dressings and binders as regards comfort, and last and most important, condition of the uterus.

This course of procedure is simple yet fairly complete. You could not safely leave your patient in less time than it will take to attend to these things, if you are prepared to do them expeditiously, and having done them you can leave with a clear conscience.

Dr. A. L. McDonald, of Duluth, writes:

The care of the mother after labor may be considered under four heads:

1. Control of hemorrhage. 2. Delivery of placenta. 3. Care of the perineum. 4. Comfort of mother. Hemorrhage rarely becomes alarming before the placenta has been expelled from the uterus, and is then controlled by normal uterine contractions, provided that organ is empty. The condition of the uterus is followed by abdominal palpation to see that it is contracted and that there is no form of concealed hemorrhage. After delivery of the placenta, the uterus should be grasped through the relaxed abdominal wall and firm contractions secured by massage. Hemorrhage at this time may be due to one of three causes: 1. Relaxation or atony of the uterus, and is best controlled by massage till the organ is firmly contracted. 2. If persistent and alarming it may be due to a second cause—retention of a part of the placenta or clots. In this event it is necessary to introduce a hand into the uterus, remove any contents, and secure contractions by bimanual massage. Sterile gloves should be used and all precautions taken to avoid infection, and a copious hot douche of sterile salt solution is of great value. A sterile solution of ergot should be given hypodermically, and the patient left under observation till firmer contractions are secured and hemorrhage is controlled. 3. A third cause is laceration of the cervix, and is characterized by continuous bleeding with the uterus contracted. This may be controlled by packing with sterile gauze, but better by sutures and a repair of the laceration. In no instance should a woman be left till all danger of hemorrhage has passed, one hour being a safe minimum. The placenta should always be carefully examined to see that it is complete and that no abnormity exists.

The perineum should be examined after the delivery of the child and all tears which do not involve the rectum repaired before delivering the placenta. A little anesthetic may be given and the necessary silkworm gut sutures placed. After delivery of the placenta the sutures are tied, not too tightly, and a sterile pad placed at the vulva. In all cases the external parts should be bathed with an antiseptic solution. The sutures should be removed on or about the tenth day.

The mother should be bathed and made comfortable in bed. External heat and mild stimulants, as hot coffee or whisky in hot drinks, may be used if necessary. If labor has been unusually hard, morphine, one sixth grain, with atropine, 1/150 grain, hypodermically, will be of use to secure rest. For multiparæ it may be necessary to give morphine, one sixth grain twice a day for a few days, to relieve after pains. The diet should be light till a movement of the bowels is secured on the second day by a laxative if necessary. The general rule of ten days in bed is safest, but the patient's strength and inclination may justify variation. More important is a fairly prolonged convalescence and a slow return to housework. It is well to examine each woman within one month and urge the repair of any laceration of the cervix or outlet which may have been overlooked.

Dr. S. Silverberg, of New York, states:

After completion of labor there are practically only two things, outside of taking the pulse and temperature, that we have to take care of, viz., bleeding and cleanliness. As to bleeding, it is unnecessary for me to say that we have always to look for the cause and treat accordingly. The methods of treating bleeding are described in every textbook on obstetrics.

I always make it a rule to examine the perineum for tears and I also look out for proper contraction of the uterus, which is essential in preventing bleeding. I do this by kneading the uterus abdominally, if necessary, and I, for the same reason, always stay with the mother for about an hour after the completion of labor. I think this ought to be more

universally practised, as this way many severe hemorrhages may be prevented. If no hemorrhage takes place within the first hour, we are more safe in leaving the mother alone. As to the giving of ergot in every case, I do not practise it. A normal case with the usual discharge does not require it, especially if you watch the mother for an hour. In certain cases, however, it is advisable to administer ergot.

Cleanliness is a part of the physician's treatment in a case of labor which ought never to be neglected. If the physician has no assistant upon whom he or she can depend, it is imperative that the physician should attend to it himself or herself. The vulva, perineum, and thighs should be thoroughly cleaned with cotton saturated with some antiseptic solution, bichloride or liquor cresolis compositus. A sterile pad of cotton in gauze is then placed in front of the vulva to protect it and absorb the discharge. The woman's undergarment or whatever she has on is now removed, and followed by the removal of the bed coverings, which are always more or less soiled. The mattress is wiped clean, and if no rubber sheeting was there before, it is now placed so that the buttocks of the woman lie on it. A clean—sterile if possible—bed cover is now placed, and then the woman is assisted in putting on clean night garments.

We must be careful all this time not to remove the vulvar pad. After the bed covers and the woman's clothes are changed, we remove the former vulvar pad and place a new sterile pad instead. I also place a big piece of sterile cotton in front of the anus to absorb any discharge which may not be absorbed by the pad and which would otherwise soil the bed cover.

An abdominal binder may now be put on (if the woman wants it, or the physician believes it necessary). I generally pin the vulvar pad to the front and lower part of the abdominal binder. The woman should now be well covered and the pulse and temperature taken—unless there was a reason for taking pulse and temperature before.

(To be concluded.)

Correspondence.

LETTER FROM EDINBURGH.

The Late Lord Lister.—The Late Dr. D. Christison.—Physicians and the Insurance Act.

Edinburgh, *February 22, 1912.*

The death of Lord Lister, who has just passed away full of years and of honors, is of exceptional interest to the medical profession of Edinburgh, as the late eminent surgeon began his investigations in this city. It was when he was assistant to Professor Syme that the problem of septic poisoning first presented itself to his mind. As professor in Glasgow University he began to grapple with it, and it is told of him that on one occasion, while going round the wards of Glasgow Infirmary, he came on a patient whose arm had been badly crushed without the skin having received any injury. Turning to the students he explained to them how he had noticed that when the skin was unbroken such injuries almost always healed satisfactorily, while when there was a skin wound trouble almost invariably followed, even in slight accidents. "I cannot help thinking," he added, "that the man who is able to explain this problem will gain for himself undying fame." We all know how this has come true and how the fame has been earned by Lister himself.

The day after Lister's death was announced, several references were made at the Edinburgh University classes to the great surgeon. Professor Caird, in the class of clinical surgery, referred to him as the man who had done more for the human race than any who had hitherto walked on the face of the earth. He remembered his first visit to the infirmary in Edinburgh. He felt like the others, that he ought to see what was going on in the other wards before joining the ranks of the unorthodox. In one ward he saw there patients dying of pyemia. In other wards patients died "like sheep on the hillside." If they walked into Lister's ward what a difference. In 1874, the speaker was told, "have nothing to do with Lister, he is hopelessly unorthodox." And yet as students every one thronged to Lister's wards, every one was attracted there, and Lister said, "From the beginning I had youth on my side." At that time many distinguished surgeons had as many as eighty per cent. of deaths, in spite of all sorts of treatment. But with Lister's discovery, pyemia vanished. Erysipelas ceased to be, hospital gangrene no longer existed, and tetanus was extremely rare. Professor Alexis Thomson, in the surgery class, referred to Lister's work apart from his discovery of antiseptic surgery. He pointed out that many new surgical procedures had been introduced by Lister; these were not associated with his name, as his name was too great to be associated with such minor affairs. On February 16th a largely attended memorial service was held in St. Giles's Cathedral, Edinburgh.

The death took place in Edinburgh recently of Dr. David Christison, son of the great teacher, Sir Robert Christison. Doctor Christison graduated M. D. in Edinburgh University about the time of the Crimean war, at which he was present as surgeon. There he contracted an illness which unfortunately rendered him unfit for further medical practice, and on his return home he abandoned medicine and devoted his life to the study of scientific archeology. He contributed many papers on this and kindred subjects and was a valued member of the Society of Antiquaries in Scotland.

The Insurance Act is still the subject of keen discussion, and nearly every day sees some fresh development in relation to the medical profession. On January 20th a largely attended conference was held in the Royal College of Surgeons, Edinburgh, with a view to considering the feasibility of appointing a Scottish Medical Insurance Council to act for the profession in Scotland. The conference was attended by representatives from the medical faculties of Edinburgh, Glasgow, and Aberdeen, the councils of the Royal College of Physicians and Royal College of Surgeons, and by the members of the Scottish Committee of the British Medical Association. The president of the Royal College of Surgeons, Edinburgh, occupied the chair, and indicated that the meeting had been called to consider whether united action could be taken by the various

bodies represented at the meeting in connection with the Insurance Act, and if any measures could be taken to help the profession in Scotland at the present crisis. After a full discussion, it was unanimously determined that it was desirable to form such a Central Council for Scotland.

At a meeting of the Royal College of Surgeons of Edinburgh, held January 31st, it was decided to intimate to the insurance commissioners that the college did not propose to appoint representatives to attend the conference to be held at the Home Office on February 2nd. The meeting, while declining the invitation, agreed that the commissioners should be informed that some time ago intimation was made by the college to the chancellor of the Exchequer that the medical provisions in the insurance bill were so unsatisfactory both to the interests of the public and the medical profession that, in its view, this part of the bill should be withdrawn. To this opinion the college still adhered. They were, however, willing to render any assistance in their power to the commissioners, should they determine to exercise their statutory powers in altering the terms contained in the act, or to aid the government in drafting an amending bill, which would safeguard the health of the public and preserve the educational and professional interests of those whom the college represented.

Therapeutical Notes.

Treatment of Sciatica by Perineural Infiltration.—Leszynsky (*Medical Record*, February 17, 1912) gives in detail the technique of the treatment, first introduced by Lange. The treatment consists in the injection of large quantities of fluid under high pressure directly over the sciatic nerve or its immediate vicinity. The patient lies upon the abdomen, the legs fully extended, and the feet projecting beyond the edge of the table. Under the lower part of the abdomen a firm pillow is placed to favor relaxation of the gluteal muscles. To locate the nerve: Draw a line from the sacrococcygeal articulations to the posteroexternal border of the great trochanter; at the junction of the inner third and the outer two thirds of this line is the spine of the ischium. The puncture is made one inch to the outer side of this point. With the point of puncture as a centre, paint with iodine an area of the skin about four cm. in diameter. The syringe used is all metal, holding 60 c.c. It has a slip tip which allows the needle to fit the barrel directly. The middle is of steel, 12 cm. long, with a calibre of 1.5 mm., provided with a sharp point protected by a dull tipped stylet projecting one mm. beyond the needle point. The stylet is withdrawn beyond the cutting edge before puncture of the skin and subcutaneous tissues. It is then replaced and the needle pushed in perpendicularly. When the sciatic nerve is reached, at a depth of 6 to 12 cm., the patient may feel either a sharp pain radiating from the point of contact to the popliteal space or down to the foot; or a sharp pain in the corresponding heel, a jerking movement of the leg, a sudden twitch in the calf muscles, or only a diffuse pain in the buttock. It is unnecessary and unsafe to penetrate the nerve sheath. The stylet is then removed. Fill the syringe with sterile normal saline solution at 95° to 100° F. Inject the fluid slowly, using 80 to 120 c.c. of solution. Withdraw the needle quickly, wash off the iodine with alcohol, and apply collodion to point of puncture, and finally cover this with sterile adhesive plaster. The patient is kept quiet in bed twelve to twenty-four hours. No anesthetic is required. Strict aseptic precautions are absolutely essential.

Subacute Rheumatism.—The following local applications are advised by Oppenheim:

1. ℞ Mentholis, ... gr. xv;
Guaiacolis, ... ʒi;
Methyl salicylatis, ... ʒi.
Olei camphorati, q. s. ad ..... ʒiv.
M. Ft. linimentum.
Sig.: Use locally on the affected parts.

2. ℞ Acidi salicylici, ..
Olei terebinthinæ, ... aa ʒi.
Adipis lanæ, ...
Adipis, ... ʒi
M. Ft. ungt.
Sig.: To be applied frequently to the affected parts.

3. ℞ Bismuthi subgallatis, ... ʒiv.
Petrolati, q. s. ad ..... ʒiiss
M. Sig.: Spread over the affected part and seal hermetically with absorbent cotton, renewing twice a day.

4. ℞ Tincturæ colchici seminis, ... ʒiv;
Tincturæ aconiti, ... ʒi
M. Sig.: Twenty drops three times daily. After the third day a progressive reduction in dose is made.

When the pain will not yield to colchicum, use the following:

5. ℞ Chloralis hydratis, ...
Potassii bromidi, ... āā ʒi;
Syrupi codeinæ, ... ʒi.
Aquæ, q. s. ad ..... ʒiij;
M. Ft. haustus. Sig.: Give one tablespoonful at night.
(*Progrès médical; Practitioner*, January, 1912.)

Eczema.—Sabatié (*Progrès médical*, November 18, 1911) advises in the acute stage the use of the following:

I.

℞ Olei amygdalæ expressi sterilisati. 10.00
Zinci oxidi, ... 20.00
M. Ft. pasta. Sig.: Apply to the affected parts.

II.

℞ Cretæ preparatæ,
Zinci oxidi,
Liquoris calcis,
Olei lini, ... āā 5.00.
M. Sig.: Apply locally.

In the chronic form, he favors the use of oil of cade, in mixtures of two strengths, which, combined in varying proportions, will grade the strength to suit the case. These formulæ are:

I.

℞ Olei cadini, ... 1.00.
Zinci oxidi, ... 10.00;
Petrolati, ... 30.00.
M. Ft. unguentum. Sig.: Apply locally.

II.

℞ Olei cadini, ... 10.00;
Zinci oxidi, ... 20.00;
Petrolati, ... 30.00
M. Ft. unguentum. Sig.: Apply locally.

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CENTRALIZATION OF HOSPITAL LABORATORIES.

The aid of the laboratory has become a necessity to the practitioner, still more so to the hospital. The closer its relations with the wards the better, both for physician and patient. Many examinations are more valuable if made under the supervision of those most interested. If the pathologist and the chemist have access to the wards, so much the better. The simpler laboratory work at least should be done in the hospital itself. It is possible, however, that certain examinations and tests of an elaborate, unusual, or expensive character could be made outside the hospital, without detriment to the service and with advantage to the results. Great hospitals, affording large amounts of material and a proportionate number of unusual cases, would necessarily require extensive laboratories of the first class, under the direction of men of the highest scientific and executive ability. With the smaller hospitals, the cost of building, equipping, and maintaining a series of fine laboratories would be prohibitive, in view of already overtaxed finances. All of their interests, however, might be subserved by a more comprehensive plan than has hitherto been put in practice.

For example, suppose a medical school to be surrounded by a group of hospitals, each representing some important branch of medicine. Each of these hospitals should have its own outfit for ordinary laboratory work, managed by a competent officer. Near by let there be an institution of the first class, having laboratories representing the refinements of modern medical research in chemistry, pathology, pathological anatomy, and bacteriology. To these should be added skiagraphy, photography, and all of the other adjuncts to the highest type of scientific effort. Such an institution would attract the interest of the most distinguished workers. A director of eminence and ability could be secured, who would place the institution in a position of dignity and draw to it assistants of the best promise. The officer in charge of the individual laboratories of each hospital should be a subdirector, a lieutenant of the director of the institute, in close touch with him and working more or less under his direction and advice, in harmony with the general plan and policy of his chief.

All of the pathological material and its products should be made available under carefully planned schemes for the development of the best scientific results. This would add directly to the fame of the subdirectors, for each would carry on his investigations under the most favorable conditions and receive credit proportionate to his success. Each different hospital, representing a special department of medicine or surgery, would thus advance its own interests, while the gathering of all into one common centre would be productive of incalculable benefit.

A variation of this plan, which does not seem to have received attention, is the adaptation of it to independent hospitals and asylums. In great cities there are apt to be many institutions, now unprovided for, which could avail themselves of such an arrangement, supposing proper service were offered and the cooperation of a sufficient number of hospitals secured. In the smaller cities the relative advantages would be even greater, for in them the institute would stand alone as the centre of scientific effort and advancement, not only for the town, but for a wide surrounding region. All of the reputable hospitals in the vicinity could be included in its work, each bearing its proper share of the general expense. The more capable heads of lesser institutes could in time be promoted to greater ones.

Thus scientific progress would be stimulated, valuable results would be secured, and the unnecessary reduplication of expensive establishments would be avoided, providing a maximum of efficiency at a minimum of cost.

D. Bryson Delavan.

DIETETIC DISCRETION DURING THE LENTEN SEASON.

It is becoming increasingly evident that gradually, as the development of science is progressing, many religious practices are shown to be eminently compatible with our physical welfare. To none of these observances does this apply more directly than to the dietetic restrictions of the Lenten season observed by a large proportion of the Christian world. In its bearing upon health, the Lenten period of forty days might be compared—in view of the extremes of heat and cold which occur in our latitudes from winter to summer and which often exceed 100° F.—to the effects of a slow voyage from the frigid Arctic to the torrid tropics, with all the biophysical variations that such a trip would involve. During the cold period all our functions are, so to say, "up to the hilt of the indefatigable Samson himself," owing probably to the combined influences of three physiological factors: The need of greater heat production, a correspondingly active intake of oxygen, and the stimulating influence of the cold air upon the cutaneous sensory terminals which, in turn, enhance reflexly the activity of the heat centres. Cellular metabolism is more rapid and the assimilation of food products is correspondingly activated. Under these conditions, the intake of food must necessarily be greater; more proteids, more hydrocarbons, more calories in a word, are required to sustain the working efficiency of the human machine. Conversely, the lassitude, or "spring fever" of an intercurrent period of warm weather—or indeed the torpor or so called laziness of southern climes—betokens diminished heat production, slowing of cellular interchanges, a reduced consumption of fuel, and, therefore, the less need of food.

Gradually, as spring is approached, however, the organism adjusts itself to the loss of stimulation which the cold weather insured, and all goes well—provided the pleasures of the table are not allowed to run riot with the provisions of Nature. It is at this time that the gouty may store up a rich supply of purin bases which underlie the early appearance of one or more of the sundry manifestations of this so called diathesis—various types of headache such as migraine; neuralgia, and cutaneous disorders, particularly eczema and acne; bronchial disorders of toxemic origin, asthma for instance. Arteriosclerosis and angina pectoris are also influenced adversely by the use of food beyond actual needs, particularly during the transitory period between winter and spring. Indeed this may be said to apply to all conditions in which toxemias of gastrointestinal origin play any serious genetic rôle. The wise, particularly those who to any degree suffer from any of the foregoing disorders, will reduce the use of red meats to once a day during the Lenten season, and depend mainly upon fish, vegetables, and fruit to meet the needs of their vital process, with plenty of fresh water as their standard beverage.

LET US ABANDON THE ROLE OF DEFENDER.

The recent attacks of sentimentalists and misinformed enthusiasts upon the scientific methods of medical research, so called vivisection, have demonstrated a very marked element of shrewdness, a portent of danger, since it savors strongly of a determination to win, regardless of the honesty of the means employed. There are at present two threatening bills before the legislature of this State, both most dangerous to the welfare of scientific medicine and hence to that of the community at large. Their danger lies not in the limitations they would prescribe so much as in those which their deliberate misconstruction would insidiously throw about the laboratory and the laboratory worker. One would, for instance, absolutely prohibit the use of curare "upon any living animal," even if anesthetized to the point of total abolition of sensation. It would license both the laboratory and the experimenter for only one year at a time; it would confer upon lay individuals and, what is worse, upon those who advocate the abolition of all animal experimentation, the members of the various anticruelty organizations, the power and privilege of inspecting the conduct of those experiments about which they know nothing and in which they can see a suffering, greater to them by far than the agonizing death of one of their own children from laryngeal diphtheria, if we are to believe their own statements. The other bill, fathered by Mr. Barnes, is for the appointment of a commission to investigate the conduct of animal experimentation, to be composed of 'seven members, three of whom shall be men . . . known to be in favor of unrestricted vivisection, three of whom . . . known to be opposed to unrestricted vivisection; and the remaining member one . . . a man . . . known to be impartial and without prejudice on the subject and who shall be chairman of the commission." This reads well enough and seems to be eminently fair, but it will be noticed that the decision of the commission would be that of the one man who is supposed to be impartial. While we are not pessimistic we are constrained to believe that so impartial a man could not easily be found endowed with the intellectual capacity and the courage to make such a decision.

These bills might be analyzed further without, we think, presenting any more conclusive evidence of the sly intentions for harm manifested by their

shrewd and clever authors. The time has been long ripe for the abandonment, on the part of the medical profession, of the position of defense into which it has allowed itself to be thrown. For even if there is still knowledge enough among our legislators to defeat these bills, it must be borne in mind that in such matters, in which we have easily aroused sentiment to be unscrupulously wielded against us, should there be but a single plausible contention raised by our opponents we must of necessity lose the whole battle. The profession has itself alone to blame for its present uncomfortable predicament, for it has adopted a course which has placed it at a very great disadvantage. It is not too late, however, to wake up to the unpleasant realization that we are in imminent danger of having our hands tied, at least in this State, just as completely and by just such a shrewd measure as nearly prevented all biological research in England a few years ago. When we arouse ourselves from our contented lethargy we must take up the fight with a vim, and by well directed efforts turn the tables upon our foes and show them to be the shameful sinners we are now thought to be. This will be possible only by a process of campaigning in which we must "tell the truth and shame the devil." We shall have to show the immeasurable good which has accrued to mankind in general, and to each living person, solely through what we have wrested from the realm of the unknown by the humane and necessary sacrifice of many a dumb animal. Such a war of justification cannot fail of success, for there are scores of misguided people, now our bitter enemies, who have hearts which will draw them to us when they once see the truth of the whole matter and realize that they themselves, or their children, even now may owe their very lives and health to just such experiments as they would rob us of. This battle of elucidation has already been begun by Dr. William J. Robinson in a debate with William R. Bradshaw, of the Antivivisection Society.[1] We must awake to our duties to ourselves and to our suffering brethren, for whose welfare experiments are done, win right minded men and women to our side, and set at naught the unjust opposition of our zoophile antagonists.

THE EPIDEMIC OF PELLAGRA IN SOUTH CAROLINA.

Dr. R. M. Grimm, of the Public Health and Marine Hospital Service, during September and October, 1911, visited the vicinities of Spartanburg, Chester, and Rock Hill, South Carolina, for the purpose of collecting data on the epidemiology of pellagra, which at that time had a very grave aspect. He was able to collect a series of 380 cases, and reports his researches and conclusions in the *Public Health Reports*, for February 23, 1912. The series included eighty-nine deaths from pellagra (23.8 per cent) and eighteen pellagrins became insane (4.8 per cent.); some of these have remained in hospitals while others have returned to their homes much improved. As to heredity, practically all of the information had no bearing or was negative. No relation could be found between any of the patients and any diseased domestic animals. As to the relation of cases this was found to be varied and complex, but not conclusive. As to food, the families of the pellagrins used largely imported goods, that is, packed meats and canned goods, with very few home grown products. Eighty-three pellagrins gave a history of having used corn products more or less regularly as an article of diet, mostly as corn bread. The meal used was ground at some of the large mills of the country and shipped out in large quantities. The water supply did not show anything exceptional. Of eighty-three pellagrins visited, sixteen did not belong to the cotton mill class, and they all lived in unscreened houses where mosquitoes were found to be plentiful.

PROFESSOR JULIUS PAGEL.

Professor Julius Pagel died in Berlin January 31st. The manifestation of his character in his writings was an upright honesty opposed to all pretence. He was perhaps the greatest, the most trustworthy medical historian of his time and the value of his work is great and inestimable. Pagel was inexhaustible in his knowledge, especially of the medical history of the Middle Ages, in bibliography, and biography. We owe him the biographical lexicon of distinguished physicians of the nineteenth century. He understood how to bring life into his treasures of learning by inspiring physicians to make use of them and his works will continue to fascinate us. He wrote insistently that from the standpoint of the practitioner nothing was less excusable than the neglect of the study of medical history. The critical education thus given furnishes a powerful weapon against the hasty love of novelty of modern therapeutic industry. History teaches caution and warns against the uncritical adoption of new methods. In this sense he wrote his *Grundriss eines Systems der medicinischen Kulturgeschichte* (Foundation of a System of Medical History of Culture), Berlin, 1905, and for this reason he was physician and historian in one person, eminently destined to be a true mentor and adviser

[1] *New York State Journal of Medicine*, February, 1912, p. 91 et seq.

to physicians. He could from a high standard of historical knowledge review quietly the very latest and most modern tendencies in medicine, weigh them critically, and warn against too hasty, too enthusiastic an inclination toward the new.

Julius Leopold Pagel was born May 29, 1851, and had studied since 1871 in Berlin. His inaugural dissertation was a history of the medical school of Göttingen during the eighteenth century. Since 1876 he had been established in Berlin and had found time to continue his historical studies along with his practice. In 1885 he became one of the editors of the biographical lexicon. Since 1891 he had been assistant professor of the history of medicine at the university of Berlin and in 1899 he wrote that part of Virchow's *Jahresbericht* devoted to the history of medicine. So numerous are his contributions that it would require a large catalogue to record them.

The foregoing is an extract from a memoir by Dr. Eduard Bäumer which appeared in the *Deutsche medizinische Presse*, the editor of which journal adds that the working power of Pagel was phenomenal and that it seemed as if he had been aware that he would not live long and had to hasten in order to give out of all that was in him. In his conversation he often dwelt on one thought, his aversion to *réclame* in medicine.

A SEVENTEENTH CENTURY FEE.

Our readers will, we think, be much interested in the case presented in this issue by the Honorable Justice Riddell, of Ontario, particularly in the theories of the plaintiff, the surgeon Randall, who ventured to deny that there was such a thing as laudable pus—which persisted in our surgical textbooks, nevertheless, till long after the discovery of Lister—and averred in the face of the entire faculty that sepsis was due to small organisms, invisible only because of the imperfection of the microscopes then in use. This Randall was evidently a genius and it is a pity that we can learn so little of him. Not only did he deride the ideas of his time concerning pus and infection, but he disbelieved in sympathetic ointments. The counsel for the defendant, in the case described, very properly warns him of the possible disapprobation of Holy Church; "he saith forsooth that the true treatment is to keep all extraneous matter away from the wound and even the air which he imagineth to be full of his bugs and gnats and beetles," not mentioned anywhere in Holy Scripture. This daring innovator and skeptic lost his suit, as might have been expected from the character of the gentlemen of the jury, to whose piety the counsel for the defendant did not appeal in vain. The historic character of the surgeon's reward, a gratuity and not really a fee, is also brought out in this amusing case.

A THEORY OF CANCER.

We gladly take this opportunity to give credit to Dr. W. M. McDowell, of Seattle, Washington, who, in a letter (see p. 466) refers us to the publication of his essay *A Cancer Theory*, which appeared in 1902 in London. In this pamphlet the author developed a theory of the origin of cancer of which he also treated in our issue for February 18, 1911 (page 325), in an article, entitled The Origin of Cancer and Its Control. It certainly is interesting that Doctor McDowell, ten years ago, promulgated a theory which is now taken up by German scientists (see JOURNAL, February 3, 1912, p. 237), who have been able to sustain the theory by experiments upon mice.

A DISTINCTION BETWEEN TABLETS FOR EXTERNAL AND INTERNAL USE.

Dr. A. Freudenberg, of Berlin, makes a proposal in the *Münchener medizinische Wochenschrift* for February 13th, which, we think, carries with it a great deal of weight. He suggests a different shape for tablets to be used externally from those to be used internally, for example, round tablets for internal use and square tablets externally. If such a custom were adopted by the manufacturers of all countries it would be a great step toward the prevention of the internal use of poisonous tablets, and the profession, together with the nurses and the laity, would soon become used to the distinction.

PROFESSOR VON CZERNY'S RESIGNATION.

The elections for the German Reichstag have brought great surprises, and while the countries not belonging to the Fatherland congratulate the socialists on their success, the defeated parties, especially the centrists and the conservatives, are furious over the victory of their antagonists. How high the political waves go is shown by the resignation of Professor von Czerny, the well known surgeon at Heidelberg University, from his position as surgeon general with the rank of major general in the German army. He had supported the so called socialistic bloque in Baden and his standing as an officer was questioned by the military authorities, who are all conservatives.

Medical Law.

V. RIGHTS AND LIABILITIES OF THIRD PARTIES.

In the case of Atlantic Coast Line R. Co. v. Whitney, 56 Southern Rep. 937, a trial court in Florida gave a judgment against a railroad company of $20,000 for the loss of a leg. The grounds upon which the verdict was based were, first, the failure of the railroad to install certain safety devices; and, second, the unskillfulness and incompetence of its surgeon.

The Supreme Court set the judgment aside upon the familiar ground that a railroad company is not liable for the malpractice of a surgeon whom it employs to attend its injured employees unless it has been negligent in selecting or retaining him. In this case the plaintiff endeavored to show such negligence by introducing several witnesses who had received maltreatment at the hands of the surgeon, but the court held that this was not sufficient. Mr. Justice Cockrell, speaking for the court, said: "His general reputation may be so bad that the law will impute knowledge; but nothing short of this will make it (the railroad company) liable."

VIII. CIVIL MALPRACTICE.

The manner in which the courts sometimes apply different principles to conditions appearing much the same and arrive at different results is illustrated in the case of Taylor v. Protestant Hospital Association, 96, N. E. Rep. 1089.

In the main series of articles it was shown that the liability of the physician for malpractice was not altered by the fact that he was treating the patient without compensation, or as a charity patient, upon the ground that to permit of a less degree of care and skill in such cases would be against public policy and might, to use the words of Justice Pryor, "make the health and life of the indigent the sport of reckless experiment and cruel indifference."

By a parity of reasoning, one would expect a public charitable hospital to be liable to a patient who was injured by the negligence of its nurses. But observe the difference.

In the case above mentioned the patient was not a "charity patient," but was a "pay patient," and, it appears, employed a certain surgeon to perform an abdominal operation. The nurse, who was employed by the hospital to assist the surgeon, and to keep count of the sponges provided for use in the operation, negligently failed to keep a proper count, and one of them was left in the abdominal cavity, causing death.

The defense of the hospital was that it was a public and charitable corporation, not operating for profit, and that it could not be held liable for the negligence of its employees if it had used reasonable care in their selection; and the legal situation was not changed, even though the patient had paid.

The Ohio Court reviewed many of the decisions of this country and drew clearly the line to be observed by the courts of that State: That where a corporation was organized for profit to its shareholders, then the corporation would be liable for the negligence of its employees; but where the corporation was organized for public charity and its assets were a benevolent fund in the hands of its trustees, to be used only in the administration of that charity, then those funds could not be depleted by such casualties unless they were caused by the negligence of its trustees; and that the nature of the organization was not changed, even though a particular patient paid for his care and nursing; all money received in this was being held upon the same trust as the principal part of its assets, a purely benevolent fund.

X. THE PHYSICIAN AS WITNESS.

A physician, testifying as an expert, may, in answer to a hypothetical question, answer that from the facts stated, in his opinion, the condition of the party could or would result from such facts. Galveston, H. & S. A. Ry. Co. v. Grening, 142 S. W. Rep. 135.

In the case of Otto v. Milwaukee & Northern Ry. Co., 134 N. W., Rep. 157, the doctor who was called as a witness to give evidence as to the nature of the injury to the plaintiff as he found it, and the course and result of his treatment, was asked if the fracture of his arm might have been caused by his falling from a street car, and was permitted, over objections, to answer the question. In reviewing the case, Mr. Justice Marshall said: "No justification appears for allowing that. It was not a subject for expert evidence."

While it may have been unnecessary in the particular case to call upon a physician as an expert to express his opinion as to how the injury might have been caused, yet it is not apparent that the question was bad either in form or because it was beyond the usual scope of expert testimony. In the case of Quinn v. O'Keefe, 9 App. Div., 68, Mr. Justice Willard Bartlett said: "The testimony of the same witness that a fall from a carriage could produce such a wrench to the backbone as he had described was also admissible. It is the constant practice of the courts in this class of cases to admit the expression of opinions by competent medical experts upon an ascertained physical condition of suffering or bad health, as to whether that condition might have been caused by, or be the result of a previous injury?" In the same case one of the expert witnesses testified in substance that some changes had taken place in the lower portion of the spinal cord of the plaintiff and that he could tell with reasonable certainty that they were one of two or three things—either some inflammatory changes about the lower portion of the cord, or some in the cord itself—and that a wrench of the spine would be competent cause to produce both of these troubles. The same justice, in referring to this testimony, said: "The appellant argues that this evidence should not have been received, because an expert should not be permitted to answer at all when the only question was whether a given injury is capable of producing one among two or three conditions, either of which condition is equally indicated by the symptoms of the patient. But there is no rule of evidence which excludes such testimony. Probabilities are proper to be considered in reference to an existing physical condition; it would be manifestly unjust to keep from the consideration

of a jury the expert evidence of a physician that the plaintiff exhibited symptoms which were equally characteristic of two different internal conditions, either of which conditions could be occasioned by the accident which had befallen the patient, simply because the witness was unable to say with certainty which of the internal conditions actually existed."

And so in the recent case of Gage v. Mills Ely Co., 132 N. Y. Supp., 935, a physician was permitted to testify that plaintiff was suffering from one of two diseases which might have been caused by the accident to the plaintiff.

News Items.

Change of Address.—Dr. J. A. Maloney, to 3417 Old York Road, Philadelphia.

Harvey Society Lectures.—The tenth lecture in the course will be given this evening at the New York Academy of Medicine by Professor H. S. Jennings, of Johns Hopkins University, his subject being Old Age, Death, and the Meaning of Conjugation in Lower Animals.

Mortality Statistics of New York.—During the two weeks ending February 24th, the total deaths from all causes reported to the Department of Health of the City of New York numbered 3,239. Of this number, 430 were from pulmonary tuberculosis; 60 from diphtheria and croup; 28 from measles; 33 from scarlet fever; one from smallpox; 18 from typhoid fever; 6 from whooping cough, and 6 from cerebrospinal meningitis.

Personal.—Dr. James Anderson, of Petaluma, Cal., has been elected associate professor of anatomy in the College of Physicans and Surgeons of San Francisco, from which institution he graduated two years ago.

The degree of doctor of laws was conferred upon Dr. S. Weir Mitchell, of Philadelphia, by Johns Hopkins University, on February 22d, at Commemoration Day exercises. Doctor Mitchell was the orator of the day.

Dr. John W. Churchman, of Baltimore, has been appointed assistant professor of surgery in the Yale Medical School.

Dr. Warren P. Morrill, formerly of Baltimore, has assumed his duties as superintendent of the General Hospital of Winnipeg, Canada.

Dr. Eli H. Long has resigned as secretary of the Medical Department of the University of Buffao.

Meetings of Local Medical Societies to be Held during the Coming Week:

MONDAY, *March 4th.*—Medical Association of the Greater City of New York (Special Meeting in the Borough of the Bronx); Clinical Society of the New York Throat, Nose, and Lung Hospital; German Medical Society of the City of New York; The Brooklyn Hospital Club.

TUESDAY, *March 5th.*—New York Academy of Medicine (Section in Dermatology); New York Neurological Society; Long Island Medical Society; Society of Alumni of Lebanon Hospital, New York; Syracuse Academy of Medicine; Medical Association of Troy and Vicinity; Clinical Society of the West Side German Dispensary and School for Clinical Medicine.

WEDNESDAY, *March 6th.*—Society of Alumni of Bellevue Hospital; Harlem Medical Association; Society of Alumni of St. John's Hospital, Brooklyn; Psychiatrical Society of New York; Long Island Society of Anesthetists; Brooklyn Society for Neurology.

THURSDAY, *March 7th.*—New York Academy of Medicine; Brooklyn Surgical Society.

FRIDAY, *March 8th.*—New York Academy of Medicine (Section in Otology); New York Society of Dermatology and Genitourinary Surgery; Eastern Medical Society of the City of New York; Society of Clinical Serology and Hematology; Society of Alumni of St. Luke's Hospital; Society of Ex-Internes of the German Hospital, Brooklyn.

SATURDAY, *March 9th.*—Therapeutic Club. New York.

Bequests to Hospitals.—The charitable bequests contained in the will of Henry Batterman, who died in Brooklyn last week, amount to over $80,000. The income of $20,000 is given to the Bushwick and East Brooklyn Dispensary; the Brooklyn Home for Consumptives, the Brooklyn Association for Improving the Condition of the Poor, the German Hospital, and the Brooklyn Hospital will each receive $5,000.

The Albany Hospital will receive $10,000, under the will of Anderson D. Lawrence, who died in November.—By the will of Emily H. Moir the Presbyterian Hospital and the New York Eye and Ear Infirmary will each receive $20,000.

By the will of Louis Demuth, who died in New York on December 14th, the German Hospital and the Mount Sinai Hospitals will each receive $1,000.

By the will of Mrs. M. T. Haecker, the Bay Ridge and the Bushwick Hospitals, Brooklyn, will receive $1,000 and $500 respectively.

A bequest of $75,000 to the Presbyterian Hospital, New York, is contained in the will of Edward O. Kinberg, who died recently in Brooklyn.

Brooklyn Physicians Protest Against Medical Inspection of School Children by Nurses.—At a recent meeting of the Medical Society of the County of Kings, resolutions were adopted condemning the action of the Department of Health in abandoning the medical inspection of school children by physicians and assigning the work to nurses, at an increased cost of $84,000 a year. The resolutions were drawn up on January 17th by the Public Health Committee of the Public Service League, after a careful investigation of existing conditions, but were not made public until last week, after receiving the endorsement of other representative bodies of the medical profession, including the New York Academy of Medicine and the Medical Society of the County of New York. The resolutions are as follows:

Therefore, be it resolved, That a protest be made to the Board of Health against the employment of nurses in the treatment and diagnosticating of any disease of the children in the schools or the exclusion of any child from the school based upon such diagnosis, and we further

Resolve, That a protest be made against the proposed establishment of dispensaries in different parts of the city for the treatment of the general medical defects of school children, and we further

Suggest, That the rules of the State Board of Charities relating to dispensaries be rigidly enforced in the dispensaries already established by the Board of Health.

Dr. W. Schirmer, Dr. Elias Bartley, Dr. Joshua Van Cott, Dr. A. T. Bristow, Dr. J. Richard Kevin, Dr. J. C. Kennedy, Dr. L. J. Morton, Dr. E. Rodney Fiske, Dr. O. S. Ritch, Dr. J. Rankin, Dr. J. H. Droege, Dr. H. Heeve, Dr. O. Rohde, Dr. James Slevin, Dr. John Shields, Dr. John Reb, Dr. John Walsh, Dr. Leon Louria, Dr. J. W. Fleming, Dr. W. Pascuale.

The Sanitary Control of Venereal Diseases.—At a meeting of the Department of Health of the City of New York, held on February 20th, resolutions were adopted calling for the systematic reporting to the department, by physicians and institutions, of all cases of venereal diseases. The department has had this matter under consideration for several months, on April 5, 1911, passing a resolution to the effect that the early adoption of a comprehensive plan for the sanitary control of venereal diseases was necessary for the protection of the public health, and in July an appropriation of $55,000 was granted for the establishment of a venereal hospital on North Brother Island. The resolutions adopted on February 20th, which have the approval of the advisory board of the department, are in part as follows:

Resolved, First, That on and after May 1, 1912, the superintendent or other officers in charge of all public institutions such as hospitals, dispensaries, clinics, etc., be required to report promptly the name, sex, age, nationality, race, marital state and address of every patient under observation suffering from syphilis, chancroid, or gonorrheal infection of every kind; and

Second, That all physicians be requested to furnish similar information concerning private patients under their care, excepting that the name and address of the patient need not be reported.

Third, That all information and all reports, in connection with persons suffering from these diseases, shall be regarded as absolutely confidential.

Fourth, That the Department of Health shall provide facilities for the free bacteriological examination and also shall provide, without charge, vaccines for the treatment of such infections, and

Fifth, That the Department of Health shall undertake to make, without charge, Wassermann and Noguchi tests;

Sixth. That these diagnostic and therapeutic facilities be extended only when the data required for the registration of the case are furnished by the physician treating the patient, and

Seventh, That the department provide and distribute circulars of information in relation to these diseases.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

February 15, 1912.

1. E. G. BRACKETT: Different Approaches to the Hip Joint with Special Reference to the Operations for Curved Trochanteric Osteotomy and for Arthrodesis.
2. WILLIAM H. DAVIS: Prevention of Infant Mortality by Breast Feeding.
3. F. J. COTTON and ALEXANDER M. BURGESS: Liver Cyst, a Rare Case (with a Moral).
4. ROBERT M. GREEN: Three Unusual Cases: I. Cyst of the Liver. II. Volvulus and Strangulated Internal Concealed Hernia Complicating Pregnancy. III. Acute Torsion of Hydrosalpinx Complicating Pregnancy.

1. A Study of the Different Approaches to the Hip Joint.—Brackett illustrates his paper abundantly with no fewer than thirty plates. The approaches described are the anterior, lateral, lateroposterior, and posterior routes. These routes are not new, they are all old and known, but the writer has found it difficult to obtain accurate information of surgical aid, so dissections have been made to determine the surgical anatomical guides in the approach to the hip joint in order to enable one to find the way with the least damage to the parts while *en route*. Two of these approaches, the anterior and the lateroposterior, have been studied in great detail with reference to special operations for which they may be used. The reader must be referred to the original paper for the details of these dissections.

3. Liver Cyst.—Cotton and Burgess report a case in which an exploratory laparotomy in a supposedly hopeless case of malignant disease, revealed the presence of a simple cyst of the liver, which was evacuated and the life of the patient saved. The "moral" seems to be that liver cysts do occur and that apparently hopeless malignant disease may not be as bad as it looks—a very real reason for an exploratory laparotomy in all supposedly inoperable cases.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

February 17, 1912.

1. W. H. PARK: Rôle of Animal Experimentation in the Discoveries Leading to Our Present Knowledge of the Etiology, Prevention, and Cure of Diphtheria.
2. W. S. THORNE: Elements of Error in Statistics of Breast Amputation for Cancer.
3. ALFRED C. CROFTAN: Experiences with Salt Restriction in Nephritic Edema.
4. JAMES C. GWATHMEY: Up to Date Methods of Anesthesia.
5. E. FLETCHER INGALS: Tacks and Nails in the Air Passages: Bronchoscopy.
6. RAYMOND C. TURCK: Case of Repair of Facial Defect.
7. ERNEST LAPLACE: New, Simple, and Effective Tourniquet for Controlling Hemorrhage of Scalp.
8. ROBERT L. PAYNE, Jr.: Decompression Operations for Fractures of the Base of the Skull.
9. WILLIAM G. STILLER: Multiple Hemangioperithelioma of the Brain.
10. ARTHUR D. DUNN: Case of Anuria of 114 Hours' Duration. Decapsulation of Both Kidneys with Complete Recovery.
11. EVAN O. KANE: Peculiar Twin Ectopic Gestation.
12. D. E. JACKSON: Ether Valve for Use in Animal Experimentation.
13. C. E. FERGUSON: Cæsarean Section Performed because of Dystocia from Ventral Fixation of the Uterus.
14. ALEXIS CARREL and RAGNVALD INGEBRIGTSEN: Production of Antibodies by Tissues Outside of the Organism.
15. F. R. FRAZIER: Direct Transfusion of Blood in Acute Hemorrhagic Disease.
16. J. GRAHAM HARKNESS: Early Nerve Involvement in Syphilis.
17. S. D. VAN METER: Removal of Paraffin from the Bladder.

2. Elements of Error in Statistics of Breast Amputation for Cancer.—Thorne has long believed that the statistics of recoveries after operations for growths in the female breast, diagnosticated as cancer, were unreliable as scientific data. He remarks that a certain percentage of tumors diagnosticated as malignant, disappear spontaneously if not operated on; that these tumors, if removed, are classified as malignant and are accredited recoveries after operation for cancer, thereby swelling the record and invalidating its scientific value. The accepted percentage of breast tumors classified as malignant is too high. Lastly, in exceptional cases, a tumor microscopically malignant fails to exhibit malignant activity.

3. Experiences with Salt Restriction in Nephritic Edema.—Croftan observes that, in proper cases, salt restriction aids materially in the rapid elimination of retained sodium chloride and of water, generally causing a decrease of edema. Excessive salt restriction occasionally causes an increase or a reappearance of edemas, due to a loss or insufficiency of the renal function to automatically dilute and concentrate the urine, and a certain amount of water, which would ordinarily be excreted, is retained, and the edemas increase accordingly. In very acute forms of nephritic edema salt restriction should be combined with drink restriction that the edemas may be diminished or disappear. To test the renal capacity an occasional drinking or a salt day, singly or combined, is a useful means. This will also test the degree of retention of chlorides, or of retardation in their excretion. Persistence in salt restriction is desirable. It is useless to try it only for a few days, for so short a period does not suffice to spare kidneys or enable them to regain their function. A week or even two weeks sometimes pass before any result is apparent, particularly in the more chronic forms of nephritis.

5. Tacks and Nails in the Air Passages: Bronchoscopy.—Ingals reports three cases which show the remarkable tolerance of the air passages for foreign bodies, the necessity of being prepared to do a quick tracheotomy when dyspnea is present, and the advantage of having a tube through the glottis into the trachea during the tracheotomy.

7. A New, Simple, and Effective Tourniquet for Controlling Hemorrhage of the Scalp.—Laplace has devised a simple and available tourniquet for controlling hemorrhage in this locality. It consists in applying to the head, from the chin over the head to the nape of the neck, a certain length of two inch roller bandage, and a similar piece of bandage crosswise, from shoulder to shoulder over the head. A piece of quarter inch rubber tubing, seven feet long, is then applied around the head on a level with the external auditory meatus, stretched effectively so as to make four rounds about the head, and the ends are tied. The bandages, which cross at the vertex, are cut at the crossing point, making four strips, one on each side, and one front and back. These strips passing under the rubber tubing are now tied at their respective points, securing the rubber in position and preventing slipping. The loops, held by an assistant, may be used to steady the head. If the bandage strip in the back is pulled down, the rubber bands are brought under the occipital protuberance and effectively control hemorrhage from the scalp in operations on the cerebellum.

13. Cæsarean Section Performed because of Dystocia from Ventral Fixation of the Uterus.—Ferguson reports a case of this character. An in-

creased number of cases of dystocia, due to operations for relief of versions of the uterus, have been reported during the last few years. Ventrofixation, operative or pathological, may result in uterine inertia, tetanic contractions, and obstructed labor. Persistent vomiting, pain, and abortion belong to the early history of these cases. Some patients are delivered at term of dead or living children by forceps, craniotomy, or version. In view of these complications the author advises careful examination of all pregnant women who have been subjected to a suspension or fixation; repeated examinations, from the sixth to the eighth month, are necessary to anticipate any possible dystocia. In doubtful cases the most conservative treatment would seem to be the induction of premature labor.

17. **Removal of Paraffin from the Bladder.**—Van Meter availed himself of the solvent action of benzin in a case where an improvised bougie made of paraffin had slipped back into the bladder. After washing the bladder with boric acid solution, a small quantity of which was left there, four ounces of benzin were introduced into the bladder and left there about eleven minutes. The bladder contents were then churned with a litholopaxy bulb and then drawn off. This operation was repeated until the liquid, which was at first opalescent, was clear. No irritation followed the use of the benzin.

MEDICAL RECORD

February 17, 1912.

1. William H. Thomson: Pathology of Chill Affecting Localized Areas of the Skin.
2. A. L. Soresi: General Medical Education: The Only Rational Preventive Medicine.
3. Alfred Gordon: Degeneration of the Posterior Columns of the Spinal Cord in a Nontabetic Individual.
4. William M. Leszynsky: Treatment of Sciatica by Perineural Infiltration.
5. G. B. Taylor: Adenoids in School Children and Their Effect on the General System.
6. A. Parker Hitchens: Treatment of Simple Catarrh of the Respiratory Passages with Bacterial Vaccines.

1. Pathology of Chill Affecting Localized Areas of the Skin.—Thomson, in this paper, calls attention to the fact that catching cold is a very different thing from being chilled by cold, and lays especial stress on this point that "catching cold," whenever and wherever its local effects are manifested, is always caused by an interference with the supply of arterial, and not of venous blood to the part. In elucidating the subject he enunciates the following laws: 1. The integrity of the body tissues depends upon the constant circulation through them of arterial blood; 2, there is an intimate association between the vasomotor nerves of any area of the skin and those of the internal parts underneath that area; 3, conversely, every internal inflammation causes a marked hyperesthesia of the skin over the inflamed organ, which leads to any irritation of it being reflected inward to the aggravation of the inflammation; 4, special associations occur between widely separated parts of the body through the vasomotor system. Various conditions, exemplifying the validity of the laws promulgated by the author, afford many indications for treatment. As chronic nasal catarrh points to a weakened susceptibility of the vasomotor centres at the nape of the neck, nothing so restores their tone as cold properly applied. Sudden and very brief douching of the back of the neck with cold water, followed by active dry friction to improve the circulation in the parts, seems best to the author. The hair should be carefully protected, as wet hair would prolong the chill. The nose itself may be treated with insufflation of a fine powder composed of two drachms of bismuth subcarbonate with six grains of aristol. Protection of the cutaneous surface, when any chronic internal inflammation exists, is urged, and convalescents from measles and pertussis should not be exposed to the cold, especially at night; such children may be put into Canton flannel bags for protection of the skin against the cold air.

2. General Medical Education, the Only Rational Preventive Medicine.—Soresi holds that there will never be real preventive medicine, not even against infectious disease, if the medical profession is left to fight alone. The author makes a strong plea for compulsory education of the masses. He marks the futility of disinfectants, vaccination, inoculation of sera, and sanitary regulations. The eradication of tuberculosis, which theoretically could be accomplished in a few years, is made impossible from the fact that the social value of our sanitary regulations is not understood by the public and therefore the social causes on which tuberculosis feeds are not removed. If the public were sufficiently educated in medical matters to appreciate what the profession knows about diseases, preventive medicine would be a present fact and not a future hope.

3. Degeneration of the Posterior Columns of the Spinal Cord in a Nontabetic Individual.—Gordon says that, while this condition may occur in various organic affections of the cerebrospinal axis in association with other lesions, as a primary and isolated condition it is extremely rare; he reports a case which presents such an occurrence. Apart from the loss of the patellar tendon reflex, it did not present a single symptom of classical tabes during the entire course. It was associated with a deformity of the spinal column and a thickening of the lower dorsal vertebræ, at which level the characteristic lesions of tabes were present. Clinically it was not a case of tabes.

BRITISH MEDICAL JOURNAL.

February 10, 1912.

1. T. F. Gardner: Prognosis.
2. F. W. Price: Early Diagnosis of Pulmonary Tuberculosis.
3. William Gordon: Influence of Prevalent, Rain Bearing Winds on the Course of Phthisis.
4. W. M. Crofton: Prevention and Treatment of Pulmonary Tuberculosis.
5. J. P. Mitchell: Marmorek's Antituberculosis Serum.
6. A. G. R. Foulerton: Parasites of Leprosy and Tuberculosis.
7. F. Nicholson: Actinomycosis of Lung.

3. Rain Bearing Winds in Phthisis.—Gordon presents tables and statistics relating to the effect of strong, prevalent, rain bearing winds upon the course and fatality of phthisis and concludes that there is very considerable evidence to show that they have an unfavorable influence.

4. Pulmonary Tuberculosis.—Crofton advises all the usual methods of prophylaxis now so well known, but would suggest the use of increasing doses of tuberculin as a preventive measure for every member of any family in which there is a case of the disease. He is of the opinion that this procedure is effective in increasing the resistance to the disease. He would employ this particularly in the case of pregnant women, if not already tuberculous, in nursing mothers, and in infants and

young children. As to the use of tuberculin as a remedial agent he advises its careful administration, as an adjuvant to other measures employed. In the drug therapy of the disease he finds but one remedy which is of value, that is iodine in some form by intravenous or intramuscular injection. He uses one quarter to one grain of iodoform dissolved in ether with a little paraffin added. This he gives from two to five times weekly by vein or into the muscles. As the first method of administration has met with much adverse criticism and as the second is less effective, he sought to increase the action of the latter, but without much success. The theory of the action of iodine is that iodoform may be split up by oxidation to form formaldehyde and free iodine, both of which act as germicides; or that the iodoform molecule may act unchanged. There is also the possibly beneficial effect of the known action of iodine in converting toxine into toxoid, which latter is not poisonous. The fact that the injection of iodoform abolishes the reaction to tuberculin suggests the truth of this latter hypothesis.

5. Marmorek's Serum.—Mitchell used this serum in ten cases of tuberculosis with no strikingly favorable results, there being some improvement in but three of the ten. In only one of the three was there any sign of a cure having been effected under the use of the serum. The subcutaneous method of administration is fraught with serious dangers from the development of anaphylaxis.

LANCET.

February 10, 1912.

1. W. K. Hunter: Chronic Glandular Enlargements.
2. C. B. Lockwood: Amputation for Diabetic Gangrene.
3. G. T. Western: Vaccine Treatment of Puerperal Septichemia.
4. Robert McCarrison: Vaccine Treatment of Simple Goitre.
5. A. P. Dodds-Parker: Fate of Appendix after Abcess Formation.
6. P. Bahr and G. C. Low: Tuberculosis of Heart.
7. William A. Brend: Medical Provisions of the National Insurance Act.

2. Diabetic Gangrene.—Lockwood relates his experiences in the operative treatment of this condition and brings out the striking benefit afforded the victim of the disease by the prolonged inhalation of oxygen. He cites several cases in which it very considerably prolonged life and afforded great comfort. One patient, who was evidently not far from an attack of coma, improved markedly and survived an amputation. In this case for some reason the oxygen was stopped by Lockwood's house surgeon, and there was an almost immediate change for the worse, and the patient seemed as though death was imminent, but a return to the oxygen brought him out of danger and he was ultimately discharged from the hospital.

3. Puerperal Septichemia. — Western has made blood cultures or cultures from the cavity of the uterus or from both sources in one hundred cases of this infection, and finds that the blood yields positive growths in only about forty per cent. of the cultures; that the uterine cultures may be obtained pure in some seventy-six per cent.; and that the uterine cultures parallel those from the blood in the nature of the organism causing the infection. He has therefore adopted the plan of relying mainly upon this latter as his source from which to prepare the autogenous vaccine to be used. This, not only on account of the far higher incidence of positive cultures, but also because, from this source, it is possible to obtain sufficient growth in twenty-four hours from which to make the vaccine, whereas from the blood the vaccine cannot usually be made in less than three or four days. While waiting in either case he gives stock vaccines. As his cultures almost invariably yielded pure strains of streptococci, seventy-six per cent., when he had to resort to a stock it was to a streptococcus vaccine that he turned. These stock vaccines, however, gave generally inferior results to those obtained from the use of the autogenous. The cases in his series were all rather severe and none could be considered mild. For the sake of comparison, he cites statistics of the general mortality from puerperal septichemia and formulates the following conclusions from the results of his series: 1. That the mortality from cases of puerperal septichemia in which there is bacteriological evidence of the existence of organisms in the blood stream is from eighty-five to ninety-five per cent.; 2, that by inoculation with autogenous vaccines this mortality may be reduced to about fifty-five per cent.; 3, that the mortality among the notified cases of the disease is about sixty per cent.; 4, that this latter mortality may be reduced by appropriate vaccines to about thirty per cent.

4. Vaccine Treatment of Simple Goitre.—McCarrison, in studying the amebic flora of the intestine in cases of endemic goitre in India, was led by the uniformity of the bacterial growth to try the effects of a vaccine made from this composite growth upon some of the cases. The effects were striking, there being a prompt decrease in the size of the enlarged gland and complete recovery in many cases. Upon examination of this bacterial growth it was found to consist mainly of a somewhat altered type of colon bacillus. He therefore used a vaccine made from this alone and obtained similar good results. He also tried the effects of a vaccine made from a staphylococcus and of one from a spore bearing bacillus, with favorable results from both. He treated thirty-three cases in all, with most excellent results, but calls attention to the fact that the treatment is suitable for recent cases of parenchymatous goitre only. The results were best when the composite vaccine was used. By way of explanation of the action of these varied vaccines, he suggests that the cases are due, as he has previously shown, to an ameba in the intestine; that the thyroid is the means of combating certain toxines normally present in the intestine; that when to these there is added the specific virus of goitre (from the ameba) there is an extra strain put upon the gland and in consequence of this it undergoes hypertrophy. By the use of one of the vaccines, which in itself is in no way specific for goitre, there is removed from the thyroid gland the added strain of neutralizing the toxines arising in the intestine from the bacteria there present, and the gland is able to return to its normal size and take care of the specific toxine of the disease. This conclusion is substantiated in part by experiments upon animals.

5. Fate of the Appendix.—Dodds-Parker examined the state of the appendix in seventeen cases in which there was a definite history of previous abscess with drainage. He draws the following

conclusions: 1. The appendix was never destroyed, but was damaged; 2, there was decided liability to fresh attacks as long as such diseased organ remained in the abdomen; 3, it is wiser to remove such a menace to life when the condition will permit; 4, the danger of a second operation is not great, and existing hernias may be cured at the same time.

PARIS MÉDICAL.

February 10, 1912.

1. Pierre Sebileau: Indications for Mastoid Trephining.
2. L. Delherm and C. Vincent: Voltaic Vertigo.
3. Dopter: Analysis of Nontuberculous Sputum.
4. Gilbert: Treatment of Itch.
5. Torel: International Sanitary Conference of 1912.

2. Voltaic Vertigo.—Delherm and Vincent point out that this phenomenon is produced by applying the poles of a galvanic current of two to five milliampères in front of the tragus on either side; the head inclines to the side of the positive pole. The reflex is modified by hyperesthesia, by an exaggerated resistance to the current, by asymmetry of reaction, the inclination of the head being much greater to one side than the other, and, finally, by its total absence. Destruction of one or both labyrinths modifies the reaction, also unilateral or exocranial section of the acoustic nerve, and absence of the auditory apparatus. Its presence or absence becomes important in legal medicine because it may be modified by traumatism, vascular disease, infections, and neoplastic or inflammatory tumors, and thus serve in the diagnosis of some injury that might otherwise pass unobserved.

PRESSE MÉDICALE

February 7, 1912.

1. A. Gilbert, E. Chabrol, and Henri Bénard: Biligenesis Following Experimental Injections of Hemoglobin.
2. Robert Leroux: Dangers of Menthol.
3. Léon Meunier: A Clinical Symptom of Duodenopyloric Ulcer.

February 10, 1912.

4. Gaucher and Guggenheim: Prognosis in Auricular Disturbances Caused by Hectin.
5. Marcel Labbé, and Bith: Diuresis in Typhoid Fever.
6. E. Deglos: Gout of the Salivary Glands.

1. Biligenesis Following Hemoglobin Injections.—Gilbert, Chabrol, and Bénard, from experiments on dogs, conclude that the biliary pigments, after these injections, are elaborated, not in the blood or the parenchyma of the spleen, but in the liver. The latter is no mere filter for the elimination of bilirubin formed outside of itself, but is the organ of election for the transformation of hemoglobin into bile pigments. It is known that extirpation of the liver is not followed by accumulation of bile pigments in the blood, and, from a pathological viewpoint, this shows the fundamental importance of the liver in icterus caused by hyperhemolysis, contrary to the theory of hematogenous biligenesis emitted by Tarchanoff.

2. Drawbacks of Menthol.—Leroux warns us against using menthol too soon, too long, too often, or in too great quantity. It has killed nurslings and caused suffocating quantities of mucus to be secreted in young children. Spasm of the glottis, cyanosis, and syncope have followed its administration in chronic bronchitis. Acute otalgia, conjunctivitis, pharyngeal cough, buzzing in the ears, labial and nasal erythema, chronic hypertrophy of the nasal mucosa are also attributed to the use of menthol. Solutions in oil or petrolatum of one to thirty, or even one to fifty, are too strong for children under seven years.

3. Duodenopyloric Ulcer.—Meunier states that characteristic symptoms of this lesion are pain in crises, with apparent relief between the latter; pain some hours after meals; pain after drinking a pint of milk, disappearing abruptly after an eructation of gas.

6. Gout of Salivary Glands.—Deglos describes several cases of this affection, not very rare, and important because the cause of the pain and swelling is likely to be overlooked.

SEMAINE MÉDICALE.

February 14, 1912.

R. de Bovis: Total or Partial Hysterectomy in the Treatment of Uterine Myomata.

Hysterectomy in Uterine Myomata.—De Bovis discusses the question of partial or total hysterectomy for the removal of myomata; the latter procedure became very popular as soon as aseptic methods were discovered, but the mortality was large, and great skill subsequently developed in the operation of supravaginal partial ablation. There is no doubt that complete removal of the uterus is indicated in the presence of infection with its dangers of metritis and inflammation of the annexa, and, *à fortiori*, where there is any suspicion of malignant degeneration of the growth. The supravaginal operation, however, is still the safer.

BERLINER KLINISCHE WOCHENSCHRIFT

January 22, 1912.

1. C. Hirsch and W. Maschke: Experimental Investigations of Nephritis.
2. Franz Bertling: The Use of Urethan in Pediatrics.
3. L. Kuttner: Two Cases of Polycythemia.
4. L. Kuttner: Tumor of the Hypophysis.
5. P. Uhlenhuth and P. Mulzer: Successful Injection with Blood, Serum, and Semen of Syphilitic Persons into the Testicles of Rabbits.
6. Schueller: Reinfection of Syphilis.
7. Baerthlein: Differential Diagnosis of Vibrios Similar to Those of Cholera.
8. Lehmann: Indications for Decapsulation of the Kidney.
9. Federmann: Limits of the Possibility for Operation in Carcinoma of the Stomach.
10. Otto Schnaudigel: Diseases and Injuries of the Eye in Industrial Life.
11. Julius Ritter: Our Public Method of Disinfection.

2. Urethan in Pediatrics.—Bertling thinks that urethan will have an important place in the therapeutics of diseases of children. It is a sure hypnotic and gives the best results in producing nocturnal sleep in children who are restless from nervous excitation, hungry from therapeutical reasons, or suffer pain from injuries, stomatitis, and other inflammatory diseases. He especially endorses its use in nurslings, and gives the following schedule of doses: From one to five months, from 0.5 to 0.9 gramme; from six to twelve months, one gramme; from one to two years, 1.5 gramme; for two years, two grammes. Furthermore, urethan is a good antispasmodic in toxic convulsions, and is to be preferred to chloral hydrate. The doses are, by mouth, from 0.5 to 2.0 grammes; per rectum, 2.0 to 3.0 grammes. And, finally, he has found urethan a good drug to be given, in not too small doses before retiring, in pertussis.

5. Successful Injection with Blood, Serum, and Semen of Syphilitic Persons into the Testicles of Rabbits.—Uhlenhuth and Mulzer state that they have found, from their experiments, that rabbits are well adapted for syphilis investigations.

as they are very susceptible to human syphilitic virus. The authors produced orchitis and periorchitis syphilitica through injection of blood microscopically free from spirochetes after an incubation period of eight weeks. They were also successful in producing syphilis through injections with blood, blood serum, and semen microscopically free from spirochetes. The authors, therefore, come to the conclusion that blood, serum, and semen of secondary syphilitics which do not seem to contain spirochetes, can be infectious under certain circumstances.

6. Reinfection of Syphilis.—Schueller reports two cases of syphilitic reinfection, and calls attention to the fact that such reinfections are now oftener observed with the new treatment of salvarsan than formerly.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

January 25, 1912.

1. G. F. Nicolai: The Electrocardiograph as a Diagnostic Help to the General Practitioner.
2. Carl Stäubli: Indications and Contraindications of a Climate of Greater Altitude.
3. Bofinger: Intestinal Catarrh and Paratyphus Injections in the Thirteenth Army Corps.
4. Leo Jacobsohn: Symptomatology of New Formations on the Conus and the Cauda Equina.
5. Gustav Stümpke: Salvarsan and Fever.
6. Hans Ritter: The Period Arsenic Can Be Found in Animal Organisms after Intravenous Injection of Salvarsan.
7. H. Strauss: Clinical Investigations with Urine Pepsin.
8. H. Weber: Cammidge Reaction and Determination of the Point of Solution in Microscopical Examinations.
9. Stephan Rusznyák: Mutation of Antitryptic Titre of the Serum in Anaphylaxis.
10. H. Schürmann: New Aseptic Pocket Case for Hypodermic Injection.
11. Pick: Small Instrument for the Cure of Impediments to Nasal Breathing.
12. Dionys Hellin: Remarks on Doctor Stuertz's Article on Artificial Paralysis of the Diaghragm in Chronic Partial Diseases of the Lungs.

5. Salvarsan and Fever.—Stümpke comes to the following conclusions: Intravenous injections of absolutely pure distilled water without any medicinal admixture will very seldom produce noteworthy increase of temperature. But intravenous injections of the same distilled water in which salvarsan is dissolved produces very often elevation of temperature. This elevation of temperature must, therefore, be the result of the admixture of salvarsan. As the first injection of salvarsan will show more frequently such temperature changes, the elevation must be the result of the endotoxines and not a fever produced by the drug itself. Physiological salt solution of 250 c.c. produces without a medicinal admixture temperature elevation. The simple distilled water should, therefore, be preferred to normal salt solution.

6. Arsenic in the Animal Organism after Intravenous Injection of Salvarsan.—Ritter observes from his own investigations and from the reports in the literature, that intravenous injections of salvarsan will deposit in the rabbit arsenic in the organs, especially the liver.

8. Cammidge Reaction.—Weber remarks that the Cammidge reaction is of great import in the diagnosis of diseases of the pancreas. If a diseased pancreas gives off its secretion there will appear in the urine a substance which produces a positive Cammidge reaction, which substance consists of a combination of hexose and an unknown substance; this substance is not fermentative and is easily disintegrated through boiling with hydrochloric acid in such a way that the hexose ingredient will show as phenylglucosazone in the Cammidge reaction.

MEDIZINISCHE KLINIK.

January 28, 1912.

1. Stertz: Importance of Lumbar Puncture for the Diagnosis of Diseases of the Brain and Spinal Cord.
2. W. Weygandt: Mental Condition of the Tuberculous.
3. W. Hammer, J. P. Kirch, and Hermann Schlesinger: Typical, but Little Known Blood Changes in Old Age.
4. Gottfried Maier: Collapse Induration and Tuberculosis of the Apices of the Lungs.
5. Wilhelm Benedikt: The Question of the Use of Large or Small Doses of Radium Emanation.
6. Walter Löwenstein: Treatment of Pneumonia.
7. V. Franz: Modern Points of View of the Doctrine of Descent
8. C. Adam: Conjunctivitis.

1. The Importance of Lumbar Puncture for the Diagnosis of Diseases of the Brain and Spinal Cord.—Stertz speaks of Nonne's four reactions of the cerebrospinal fluid, which, he says, are of great importance for diagnostic purposes: The cytodiagnostic reaction, the albumin determination, the serological examination of the blood, and the Wassermann reaction. The cytodiagnosis is especially of great importance in luetic and metaluetic diseases where we find a great increase of the cells which normally exist only in a small number or do not exist at all. Lymphocytosis, or better, pleocytosis of the spinal fluid, shows in about ninety-five per cent. of cases of progressive paralysis and ninety per cent. of tabes. The quantitative examination for albumin shows that the cerebrospinal fluid normally contains very little albumin (globulin), between 0.2 and 0.5 per mille; but this proportion is largely increased in certain diseases, but the increase does not run parallel with the pleocytosis. The serological examination of the blood and the Wassermann reaction are only to be used in syphilitics and possibly in malaria, leprosy, and frambesia.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

January 30, 1912.

1. Boas: Extraanal Bloodless Treatment of Hemorrhoids.
2. Henke: Importance of Carcinoma of Mice.
3. von Dungern: Biology of Round Cell Sarcoma of Dogs.
4. Pribram and Löwy: Nitrogen Containing Colloid of the Urine.
5. Konjetzny: Pathology of the Angiomata.
6. Isenschmid: Clinical Symptoms of the Cerebral Angioma.
7. Kimura: Tendon Suture.
8. Foerster: Effect of Methyl Alcohol.
9. Schulz: A Mistake in Trommer's Reaction for Sugar.
10. Friediger: Acute Benzin Poisoning in a Nursling.
11. Mertens: Peritonitis Purulenta Asecendens.
12. Sieber: Hot Air Treatment in Gynecology.
13. Fein: Removal of Incompletely Severed Pieces of the Tonsils.
14. Pfaundler: Hungry Children?
15. Seitz: Franz von Winkel.
16. Schröder: Frederick the Great and His Time in Reference to Medical Conditions.
17. Krauss: Waiting Room of the Physician.

2. The Importance of Carcinoma in Mice.—Henke speaks of the importance of von Wassermann's discovery of the eosin treatment of carcinoma in mice, to which we have referred editorially. He remarks that the discovery is a very great one, but warns the profession, as well as the laity, against the conclusion that this discovery could be immediately adapted to man.

4. Nitrogen Containing Colloid of the Urine.—Pribram and Löwy remark that an increase of colloid in the urine is absolutely not a characteristic proof of the existence of a malignant tumor; the excretion of colloid is especially changed in faulty metabolism of the digestive organs; diseases of the liver and kidney may also produce an increase of colloid. The authors observed an increased secretion of colloid in acute diseases, accompanied by fever, which they explain by augmentation of the toxic disintegration of albumin. In disturbances of internal secretion the output of colloid is slightly in-

creased; in diabetes insipidus rather severely increased; while in diabetes mellitus the increase is "enorm."

8. The Effect of Methyl Alcohol.—Foerster gives a review of the effect of methyl alcohol upon man. He remarks that while its effect is very dangerous in some, in others the same quantity of the same quality will have absolutely no effect. The same can be said of the methyl alcohol vapors. The author then speaks of toxic and harmless methyl alcohol, and says that we cannot distinguish between the two kinds. He finally refers to the toxic cases which occurred in the municipal asylum in Berlin, and remarks that the methyl alcohol introduced into the body might have undergone there certain chemical changes which finally resulted in so many fatalities.

ZENTRALBLATT FÜR CHIRURGIE.

February 10, 1912.

1. M. Katzenstein: Formation of a Joint Ligament by Free Periosteal Flaps.
2. E. Bircher: Avulsion of the Malleolus Lateralis Tibiæ Posterior.
3. H. Gocht: Prevention of Pressure Paralyses after the Application of Esmarch's Bandage.

1. Formation of Joint Ligaments.—Katzenstein makes flaps of the periosteum, folds them longitudinally with the bone making surfaces in apposition, and uses them to replace injured ligaments about the joints.

ZENTRALBLATT FÜR GYNÄKOLOGIE.

February 3, 1912.

1. I. E. Moritz: Question of the Epithelium in the Isthmus Uteri.
2. M. von Holst: Operative Treatment of Prolapse of the Uterus.
3. A. Solowij: Early Symptom of Extrauterine Gravidity.

February 10, 1912.

4. I. J. Veit: The Electrometrogramme.
5. Klages: Gravidity and Labor in Uterus Bicornis Unicollis.
6. B. Nádory: Kézmárszky's Decapitation Ecraseur.

1. The Question of the Epithelium in the Isthmus Uteri.—Moritz never found in the isthmus epithelium which produced mucus as such; that is, she found a secretion from the glands and from surface epithelium of the corpus which finally was changed into mucus after coming in contact with other secretions. She was also able to demonstrate an exact space where the ciliary epithelium of the isthmus became a mucus producing epithelium of the cervix.

ANNALS OF SURGERY.

February, 1912.

1. C. H. Mayo: Parathyroids and Their Surgical Relation to Goitre.
2. B. M. Bernheim: Arteriovenous Anastomosis—Reversal of the Circulation—as a Preventive of Gangrene of the Extremities.
3. J. S. Horsley: Notes on the Technique of Suturing Blood-vessels with a New Instrument.
4. W. M. Boothby: Note on the Division and Circular Suture of the Aorta in Pregnant Cuts.
5. C. A. Elsberg: Observations upon a Series of Forty-three Laminectomies.
6. D. W. Montgomery and Culver: Prophylaxis and Treatment of Epithelioma of the Lower Lip.
7. C. A. McWilliams: Acute or Spontaneous Perforation of the Biliary System into the Free Peritoneal Cavity.
8. M. H. Richardson: The Error of Overlooking Ureteral or Renal Stone under the Diagnosis of Appendicitis.
9. T. B. Wilson: Mesotheliomata (So Called Hypernephromata) of the Kidney.
10. W. Lerche: Surgical Treatment of Diverticula of the Urinary Bladder.
11. G. H. Wilson and A. Scott Warthin: Primary Tuberculosis of the Penis.

1. Parathyroids and Their Surgical Relation to Goitre.—Mayo asserts that the secretion of the parathyroid glands is essential for the normal metabolism of the body. When decreased, either by experimental removal or by destruction of the parenchyma by intraglandular hemorrhage (possibly taking place during labor), or by hypoplasia from any cause, the condition of tetany develops. Congenital syphilis seems a factor in some instances. In some cases probably enough of the gland tissue remains to carry metabolism along until some condition, such as infection, pregnancy, etc., calls for a greater secretion. An insufficiency results, with tetany. In operations about the neck and upper chest, therefore, the greatest care should be taken to avoid injury to, or removal of, the parathyroids. If one should be accidentally removed in the course of operation it should be implanted at once beneath some part of the remaining capsule. Sometimes the parathyroids are present within the thyroid glands. The parathyroid and thyroid glands seem to be morphologically and functionally related, and the removal of either may under certain conditions be compensated for by the remaining glands. The calcium content of the blood has been proved to be reduced in tetany. In parathyroidectomized animals all the tetanic symptoms have been controlled by a five per cent. solution of calcium acetate or lactate, intravenously or by mouth, the relief lasting twenty-four hours. While transplantation of parathyroids, the use of serum, or of extracts seems ideal treatment; the results are unfortunately disappointing, but they may have a trial. The administration of calcium salts offers the best hope of relief at present. The patient's general condition, especially that of the gastrointestinal tract, should be carefully attended to.

2. Arteriovenous Anastomosis as a Preventive of Gangrene of the Extremities.—Bernheim reviews forty-six cases of this surgical procedure from the literature, and adds six cases of his own. He has had five successes and one failure. The femoral artery and vein are exposed in Scarpa's triangle and the vein is divided at an inch higher level than the artery. An end to end anastomosis is then made between the artery and vein and the open ends of the vessels are ligated. In extensive gangrene the operation will probably fail, but in selected cases, with threatened or beginning gangrene, in Raynaud's disease, or thrombosis of the femoral artery, it should be successful. Good technique is essential.

3. Technique of Suturing Bloodvessels with a New Instrument.—Horsley, to overcome the difficulties in managing the guy sutures and to prevent damage by excessive handling of the bloodvessels in bloodvessel anastomosis, has devised an instrument which he describes as follows: "This instrument consists of a small steel shaft, about one sixteenth of an inch in diameter, which curves at one extremity into a shorter shaft. The long shaft or handle is six inches long, and the short shaft is 1.75 inch long. The short shaft is placed at an angle of 55° to the long shaft. The curved portion is flattened out quite thin, so as to form a light spring. There are five buttons, one on the main shaft as close as possible to the curved one at the extremity of the short shaft, one a half inch below this, and two on the main shaft at points about opposite the buttons on the short shaft. All these buttons hug the instrument closely and are so

constructed that the guy sutures are held securely by merely wrapping them twice around the buttons." The guy sutures are inserted in the usual manner and then fastened around the buttons of the instrument. This gives equal tension on all the guy sutures and holds the vessels in such a position that the rest of the operation is easily accomplished without excessive handling of the blood-vessels. It also insures uniformity of the sutures, preventing the alternate stretching and relaxing which must occur every time the guy sutures are changed when they are held by hand, and makes a skilled assistant unnecessary.

5. **Observations upon a Series of Forty-three Laminectomies.**—Elsberg, in a series of forty-three laminectomies reviewed, found that thirteen were performed for tumor. Nine of these were extramedullary and four were intramedullary, and various parts of the spinal column were affected. The intramedullary growths were treated by a small incision in one posterior column of the cord, over the tumor. The external wound was then closed for the time being, and on reopening, about a week later, the tumor was found more or less completely extruded from the cord substance, so that it could be removed with little injury to the cord tissue. Where the tumors are in the lower part of the cord, or cauda equina, the results are very satisfactory, patients having a history of pain in the back and lower extremities for years, incontinence, impotence, sensory disturbances, and paralyses rapidly clearing up after extrusion and removal of the tumor. In a number of cases in which laminectomy disclosed no tumor, the decompressive effects relieved pressure symptoms, such as exaggerated reflexes and sensory disturbances. Careful hemostasis and delicacy of manipulation are indispensable, both to prevent bleeding and injury to the delicate spinal cord substance. The dura should be carefully closed by a continuous suture of fine silk to prevent leakage of the cerebrospinal fluid, or infection, and the muscles and fascia should also be carefully sutured. Elsberg has removed as many as six or seven spines and laminæ, the patients having functionally perfect spinal columns after recovery.

6. **Prophylaxis and Treatment of Epithelioma of the Lower Lip.**—Montgomery and Culver draw attention to the frequency with which seborrhea of the skin is coexistent with epithelioma of the lip, and they believe that examination in cases of seborrheic degeneration of the skin will generally disclose a like condition of the lower lip. A line of sebaceous glands stretches across the front of the lip between the corners of the mouth, about half a centimetre above the cutaneous border. This line in seborrhea may be dry, brown, and facetted, scurfy, or horny, and this is suggestive if the skin is seborrheic. In the development of cancer the seborrhea at some point becomes more decidedly crusted, and removal of this crust will disclose eroded tissue beneath, which the microscope shows to be cancerous. Careful examination by a low power lens should be made in suspected cases. Hyperkeratosis over a limited area followed by fissure, and later by ulceration, is often observed. The treatment is to curette off the crusts and cauterize with trichloracetic acid, controlling the action of the acid by wet pledgets of cotton. After the crusts caused by the caustic are cast off, x ray treatment is begun, the x ray being very efficacious in this class of cases. In more advanced cancer, radical surgery will be required. Recurrences after the radical operation are given as from ten to seventeen per cent., but probably this is due to the whole lip being seborrheic, which naturally evolves into epithelioma.

7. **Acute or Spontaneous Perforation of the Biliary System into the Free Peritoneal Cavity.**—McWilliams concludes that acute, spontaneous perforation of the biliary system is very rare, occurring in only nine per cent. of the cases. Calculi are the most common cause of such perforation, and the gallbladder is most often the site. Early operation gives the best hope of success, and cholecystostomy is the operation of choice, giving sixty-one per cent. of recoveries. Simple suture of the perforation after abdominal incision is to be unhesitatingly condemned, as four out of five cases so treated end fatally. Six cases are reviewed from the Presbyterian Hospital of New York, and 108 from the literature.

8. **The Error of Overlooking Ureteral or Renal Stone under the Diagnosis of Appendicitis.**—Richardson points to the ease with which a mistake in diagnosis may be made in cases of appendicitis, due to the misleading and puzzling symptoms sometimes present, which may point to almost any abdominal or pelvic condition. In other cases, such as stone in the ureter or kidney, the symptoms may point to appendicitis and lead to removal of this organ, leaving unremedied the true cause of the trouble. Impacted stone in the right ureter is not infrequent, giving symptoms almost identical with appendicitis, but the x ray will disclose the real condition. He believes that removal of the appendix, even if normal, can do no harm and is a source of danger removed, but to remove such an appendix and leave the real cause of the pain and symptoms is a grievous blunder. A colic requiring opiates or anesthesia to control, without fever, distention, vomiting, or other signs of beginning peritonitis, suggests stone, especially if there is blood in the urine, even in microscopic quantity. When stone is first impacted, nothing but morphine or general anesthesia will control the pain, which is agonizing, but in an old impaction pain may be slight or absent. Universal x ray examination in abdominal diagnosis would be foolish, but in cases in which stone is suggested, or possible, the x ray should be used.

10. **Surgical Treatment of Diverticula of the Urinary Bladder.**—Lerche states that both muscular and mucous diverticula of the bladder may form before birth or later in life, the cause in either instance being some obstacle to the outflow of urine. Enlarged prostate is a common cause. If the diverticulum is dependent, drainage is poor and stagnation is favored. Inflammation may extend from the walls of the diverticulum to the peritoneum. If large, pressure on surrounding organs may cause damage, hydronephrosis by pressure on the ureter being particularly likely. Calculi may form in the sac, the irritation predisposing to ma-

lignancy. If drainage is good, symptoms may be absent. The most characteristic symptom is a feeling after urinating that the bladder has not been completely emptied, and the ability of the patient to repeat the act, voiding more urine. Stagnation leads to diverticulitis and cystitis, with urinary tenesmus and the passage of turbid, stinking, slimy, and perhaps bloody urine. After urination, residual urine can be drawn off with a catheter. The cystoscope may discover the opening into the diverticulum. Radiographs, taken in front and laterally, after filling the bladder with a five or ten per cent. collargol solution, will disclose the sac. Radical operation gives the best prognosis. Lerche introduces a small rubber bag, fastened on the end of a ureteral catheter, into the sac, and then inflates the bag through the catheter. This makes the walls of the sac tense, palpable per rectum, and facilitates its dissection and removal. The presence of a diverticulum of the bladder, when situated so that stagnation of its contents is favored, is a constant menace to the patient if it becomes inflamed, the mortality rate of diverticulitis being 83.1 per cent.

11. **Tuberculosis of the Penis.**—Wilson and Warthin conclude that primary tuberculosis of the penis is rare, but does occur, and probably is sometimes mistaken for syphilis, chancroid, or cancer. Two cases are cited which steadily progressed despite all measures, till tuberculous treatment was instituted, when rapid recovery took place. Circumcision, practised under the old Jewish ritual, was formerly a common cause of tuberculosis, and unclean surgery was the means of infection of two cases cited, which were operated in by the same surgeon, at the same place and time, and following operation on a tuberculous patient. Secondary infection of the ureter can of course follow tuberculosis higher up in the urinary tract. A case of primary tuberculosis of the foreskin is also reported in a patient without a history of sexual exposure, and with no demonstrable tuberculous lesions elsewhere in the body. This was regarded as a cryptogenic hematogenous infection, and healed promptly under tuberculosis treatment.

ARCHIVES OF PEDIATRICS.

January, 1912.

1. Henry Koplik: Hospitals and Methods of Prevention of Infection.
2. S. S. Woody and J. A. Kolmer: Diazo Reaction in Scarlet Fever and Serum Sickness.
3. F. W. Pinneo: Anesthesia in Surgery of Childhood.
4. C. G. Grulee: Dietetic Treatment of Infantile Tetany.
5. Julius Levy: Relations of Social Conditions to Infant Mortality.
6. C. A. Frost: Is the Milk of Eclamptic Mothers Toxic?

2. **Diazo Reaction in Scarlet Fever and Serum Sickness.**—Woody and Kolmer have studied the diazo reaction in the urine of 375 cases of scarlet fever, fifty-six cases of uncomplicated diphtheria, and thirty-seven cases of serum sickness, that is, the development of scarlatiniform, urticarial, or morbilliform rashes, after treatment with antitoxine. They first quote Ker as follows: "The diazo reaction is invariably absent in serum rashes. If the urine then gives the test the presumption is in favor of scarlatina, in which disease the reaction not infrequently occurs." They also quote Rivier to the same effect. They then state that the object of their study was threefold: 1. To determine the percentage of positive reactions in scarlet fever according to the stage of the disease; 2. the frequency in which the diazo reaction occurs in diphtheria; 3, to study the reaction in cases of serum sickness. Out of the 375 cases of scarlet fever, 8.53 per cent. had a positive diazo reaction, 17.3 per cent. were positive during the first week, 7.8 per cent. during the second week, and from then on there was a diminution of the percentage of positive reactions. In the diphtheria cases without rashes, 5.4 per cent. gave positive reactions, and 12.9 per cent. were positive the first week. Out of the thirty-seven cases of antitoxine rashes, 10.8 per cent. afforded positive reactions. The scarlatiniform rashes only had 6.2 per cent. positive. Their conclusions are as follows: 1. The diazo reaction was found positive in 17.3 per cent. of scarlet fever and 12.9 per cent. of diphtheria patients during the first week of these infections. It is during this week that scarlatiniform serum rashes are so apt to develop and make a differential diagnosis from scarlet fever quite difficult. 2. The percentage of positive reactions in serum sickness is much lower. A few positive reactions were found, averaging 10.8 per cent. for all kinds of rashes, but many of these positive results may have been due to diphtheria. The value of the diazo reaction in differential diagnosis is very slight, not because the reaction is occasionally present in a serum rash case, but because the percentage of reactions in scarlet fever and diphtheria is comparatively low and inconstant, so that a negative reaction in a case presenting a scarlatiniform rash is of little value in excluding scarlet fever.

CLEVELAND MEDICAL JOURNAL.

January, 1912.

1. C. D. Camp: Increased Endocranial Pressure.
2. J. F. Jackson: Medical Charities.
3. A. W. M. Ellis: Infarction of the Adrenals.
4. J. J. R. Macleod: Regulation of Contract Medical Practice.
5. G. I Bauman: Chronic Arthritis with Tuberculosis of the Ankle.
6. J. D. Pilcher: Action of Caffeine on the Mammalian Circulation.

6. **Caffeine.**—Pilcher, experimenting upon dogs, finds that with small therapeutical doses there is an increase in the cardiac tone; the heart contracts more completely and its relaxation in diastole is less. There is vascular relaxation of peripheral origin, together with central stimulation of the vasomotor centre, which usually leads to a rise in the blood pressure. The end result of this combined effect is a more rapid blood flow and a greater mass movement of the blood. This suggests its clinical efficacy in cases in which the heart is dilated. It is to be noted that with larger doses the opposite effects are seen, the heart decreasing in tone and finally stopping in extreme distention. It was noted, in perfusion experiments, that the peripheral vaso dilator effects were no less in the other abdominal viscera than in the kidneys, which is opposed to the theory of local specific dilatation of the renal vessels. The beneficial action of the drug would seem to depend upon the combination of factors which leads to a more rapid flow of a greater volume of blood through the organs and does not of necessity have an increased blood pressure as a prerequisite factor. It was found that caffeine stimulates the heart directly and also stimulates the vagus centre, thus tending to slow the otherwise faster rate. Both rate and depth of respiration are increased by therapeutical doses. The diuretic effects of the

drug seem to be due to the alteration which it induces in the circulation rather than to any direct effect upon the kidney cells. On animals he found that caffeine acted synergistically with alcohol to increase the fatality from cardiac failure. The presence of alcohol seemed to sensitize the heart to the action of caffeine upon it. From this it would seem that little benefit could be expected from its use in cases of severe alcoholic intoxication.

THE JOURNAL OF EXPERIMENTAL MEDICINE.

January, 1912.

1. Wilfred H. Manwaring: Effects of Subdural Injections of Leucocytes on the Development and Course of Experimental Tuberculous Meningitis.
2. G. Canby Robinson and George Draper: Studies with the Electrocardiograph on the Action of the Vagus Nerve on the Human Heart.
3. Alfred H. Cohn: Auricular Tachycardia with a Consideration of Certain Differences between the Two Vagi.
4. Robert L. Dixon: The Effects of Splenectomy upon the Cell Content of the Thoracic Duct Lymph in the Dog, and Its Relation to the Action of Pilocarpine.
5. Hideyo Noguchi: Cultural Studies on Mouth Spirochætæ.
6. Hideyo Noguchi: Direct Cultivation of Treponema Pallidum Pathogenic for the Monkey.
7. Mary Butler Kirkbride: Islands of Langerhans after Ligation of the Pancreatic Ducts.

February, 1912.

8. Frances H. McCrudden: Chemical Studies on Intestinal Infantilism. (I) Endogenous Metabolism.
9. F. H. McCrudden and H. L. Fales: Chemical Studies on Intestinal Infantilism. (II) The Relation of Endogenous to Exogenous. Metabolism.
10. James B. Murphy and Peyton Rous: Behavior of Chicken Sarcoma Implanted in the Developing Embryo.
11. R. V. Lamar and S. J. Meltzer: Experimental Pneumonia by Endobronchial Insufflation.
12. Charles R. Austrian: Production of Passive Hypersensitiveness to Tuberculin.
13. Isaac Levin: Immunity in Cancers of the White Rat. The "Precancerous State and Mechanism of Organ Resistance to Tumor Growth.
14. C. J. Wiggers, K. C. Eberly, and H. L. Wenner, Jr.: Pressor Influence of Augmented Breathing.
15. Hideyo Noguchi: Morphological and Pathogenic Variations in Treponema Pallidum.

5. Cultural Studies on Mouth Spirochætæ.—Noguchi, by means of methods used in isolating and growing *Treponema pallidum,* has shown the existence in the normal oral cavity of man two distinct types of spiral organisms in addition to *Spirochæta buccalis* (Cohn). These he names *Treponema microdentium* for the smaller and *Treponema macrodentium* for the larger, believing them to be of the same genus to which the pallidum belongs. The two species differ from one another morphologically and in respect to their cultural properties.

6. The Direct Cultivation of Treponema Pallidum Pathogenic for the Monkey.—Noguchi, in a previous communication, reported the obtaining of *Treponema pallidum* in pure culture from the testicular lesions of rabbits inoculated with human syphilitic material. To grow the organisms he makes use of two all important factors: First, the maintenance of strict anaerobiosis; and second, the property possessed by the pallidum of migrating in the solid medium in which it is multiplying. The material used is obtained from lesions rich in the pallidum, such as chancre, condyloma, or skin papule, and then carried through the somewhat complicated methods given in the article. As a result pure growths were obtained which, when injected into the skin of two lower monkeys, caused the production of lesions resembling the primary syphilitic lesion occurring in man. A positive Wassermann reaction developed in the course of the disease. Examination of the culture showed that *Treponema pallidum* multiplies by longitudinal division.

7. Islands of Langerhans after Ligation of the Pancreatic Ducts.—Kirkbride reports several experiments made to determine whether or not the islands of Langerhans show any special immunity to the effects produced by ligation of the pancreatic ducts, the important point being that glycosuria results from complete removal of the pancreas, but not when the ducts are ligated. Special staining methods were used to differentiate the acinar from the islet cells. The following conclusions are drawn: First, that the contrast in the staining reaction between the granules of the acini and islet cells can be confirmed; second, that during the atrophy of the acinar cells, and even after the last traces of them have disappeared, the islet cells remain morphologically unaffected and filled with the granules which are peculiar to them. Taken with the experiments of McCallum, this seems to offer strong evidence in support of the view that the islands of Langerhans are especially, if not exclusively, concerned with the maintenance of the normal carbohydrate metabolism.

11. Experimental Pneumonia by Endobronchial Insufflation.—Lamar and Meltzer call attention to the fact that the most reliable evidence of an etiological relationship between a given microorganism and a definite disease is the experimental production of the disease by a pure culture of the microorganism. The pneumococcus is generally accepted as the cause of lobar pneumonia. Nevertheless, this assumption rests essentially on the statistical evidence that in most cases of lobar pneumonia the pneumococcus is recoverable from the lungs of the patients. The more convincing evidence, based upon the experimental production of pneumonia by inoculations with pure culture, is, in spite of numerous experiments, still lacking. Three methods of introducing the pneumococcus have been used: Direct injection of the culture into the lung tissue through the thoracic wall, endotracheal injections, and inhalation of the culture. The method employed by the authors consisted in injecting pure cultures of the pneumococcus into the lungs through a catheter or small stomach tube, which is introduced through the mouth, larynx, and trachea into a bronchus. In this way they succeeded in producing lobar pneumonia in dogs in forty-two successive experiments without a single failure, with a mortality of at least sixteen per cent. The fatal cases resembled closely lobar pneumonia in man. In the nonfatal cases,the pathological and bacteriological findings were again in accord with the conditions in man. The writers believe, therefore, that these results furnish the first unmistakable experimental evidence of an intimate etiological relationship between the pneumococcus and lobar pneumonia.

13. Studies on Immunity in Cancer of the White Rat.—Levin begins his article by stating that the point of utmost importance to the clinician as far as the cancer problem is concerned, is the determination as to whether or not the process is a purely local one or whether, even in its incipiency, it is a general parasitic or constitutional disease. Most pathologists and clinicians are inclined to consider cancer, in its early stages, a local disease. The growth of cancer must be due to two factors: 1. The presence of a group of peculiarly changed

cells, and, 2, the reactivity of the host. Ribbert has held that a cancer cell is not different in any way from a normal cell, and that the only changed condition is in the surrounding connective tissue. In his latest publication he inclines to the view that not only are the cells of fully developed cancer different from normal cells, but that the beginning of the process of cancer formation may be due to a primary change in a group of cells. In the experiments an epithelial tumor that had developed from a polymorphous sarcoma was used. The results showed that the normal testicle in white rats was resistant to the growth of the tumor, while the rest of the organism of the same animal might be susceptible to the growth of the same tumor. The failure, therefore, of the growth of this tumor in the testicle is not due to a general condition of the organism, but to a local action of the testicle on the tumor cell, an inhibitory action upon the tumor cells by the tubular cells, aided probably by the products of cellular metabolism. Levin's experiments show that it is possible to render the same testicle artificially susceptible to the growth of the tumor when the parenchymatous cells of the organ become degenerated and unable to inhibit the cancer cell. The connective tissue that is present is maintained by the writer to be a secondary formation of an unspecific nature, and serves only for the support and nutrition of the cancer cells. Growth of cancer, then, represents a loss of equilibrium between the inhibitory power of the parenchymatous cells and the proliferating power of the cancer cells.

15. Morphological and Pathogenic Variations in Treponema Pallidum.—Noguchi reports briefly the occurrence of definite differences in strains of *Treponema pallidum* cultivated by him. Certain strains appeared thicker than others and retained their characteristics unmodified throughout numerous transfers from one rabbit to another within a period of over a year. The thinner strains possessed greater agility than the heavier. He found, also, a difference in the pathogenicity of the microorganisms. The thicker type did not, as a rule, produce any change in the inoculated testicle until about five or six weeks after inoculation, when small, localized, hard nodules developed. The thinner strain, obtained from a mucous patch in a case of malignant syphilis, always caused diffuse testicular swellings within ten to fourteen days, that progressed rapidly for five to six weeks. The suggestion is made that this is a highly important distinction, and if, in the study of a still larger number of specimens of pallidum, it is maintained, it is capable of throwing light on certain important clinical features of the human syphilitic disease.

NEW YORK STATE JOURNAL OF MEDICINE.

February, 1912.

1. Royal Whitman: Fracture of the Neck of the Femur.
2. William J. Robinson: Indispensableness of Animal Experimentation.
3. Charles Stover: Health Officer in Relation to Public Sanitation.
4. Frank Overton: Relations of the Health Officer.
5. J. W. Poucher: Cæsarean Operation.
6. E. I. Harrington: Lactic Cultures.
7. F. V. Bogert: Urinary Examination in Infants.
8. L. A. McClelland: Early Operation in Acute Mastoiditis.
9. J. F. McCaw: Faucial Tonsils.
10. H. P. Groesbeck: Periodical Headaches.
11. S. Floersheim: Benzidine Test for Occult Blood.
12. W. N. MacArtney: Tynhoid State.
13. H. C. Lewis: Huntington's Chorea.

2. Animal Experimentation.—Robinson has brought together a few of the facts in this matter in an impressive way, and cites extensive statistics from many cities to show the decline of the mortality since the introduction of antitoxine. He also refers to the developments in the study of syphilis and the introduction of salvarsan and to many other facts as showing the great value of the use of the lower animals in the advance against disease.

PEDIATRICS.

December, 1911

1. E. Pritchard: Common Ailments in Infancy and Their Treatment.
2. E. J. Lederle: Sanitary Control of New York's Milk Supply.
3. O. W. Hunter: Carcinoma and Sarcoma in Early Childhood.
4. J. W. Amesse: Prophylaxis and Treatment of Infantile Paralysis.
5. P. Hillkowitz: Infantile Paralysis. Etiology and Pathology.
6. G. E. Davis: Surgical Treatment of Poliomyelitis.

2. Sanitary Control of New York's Milk Supply.—Lederle discusses the governmental control of the sanitary quality of milk consumed in large cities, and outlines the method adopted by the board of health in New York city. He suggests that theoretically it is better that the State authorities should exercise a uniform control over the production and sale of milk in all communities, but in practice, some of the large cities, notably New York, have found it necessary, in the absence of thoroughgoing control by the State authorities, to develop their own system of country milk inspection. The following grading of milk was adopted January 1, 1912, by the board of health of New York city: A. Milk suitable for infant feeding; B. Milk suitable for adults to drink; C. Milk for cooking and manufacturing purposes. A includes, 1, certified or guaranteed milk, controlled by the county medical societies and the board of health; 2, "inspected" raw milk drawn from tuberculin tested herds from farms complying with at least seventy-five per cent. of the regulations of the department of health regarding sanitary production and having an average bacterial count of not over 60,000 in each c.c.; 3, selected milk pasteurized in strict accordance with the regulations of the department. The average bacterial count must not be over 50,000 in each c.c. when sold. Grade B includes milk pasteurized under the regulations of the department, and raw milk which complies with the requirements for "inspected" milk in grade A, but substituting physical examination of herds for the tuberculin test. Grade C includes all other milk not included in grades A or B. Pasteurization will not be required, but grade C milk shall be sold only under a special permit from the department of health, its use restricted to cooking and manufacturing. In discussing the necessity of pasteurization Lederle refers to a certain typhoid fever outbreak which was traced directly to infection of the milk through chronic typhoid bacillus carriers, who had suffered from the disease years before and who, at the time, were perfectly well and could not ordinarily have been considered a source of danger. Therefore, efficient surveillance would require the bacteriological examination of the intestinal discharges of all persons engaged in the milk traffic. This being impossible, the only way in which the sanitary authorities can meet the present conditions is by requiring pasteurization at least of all milk which is not of special exempted grades. The board of health,

therefore, decided that the situation called for more drastic action, and a resolution was adopted, providing for the compulsory pasteurization of the entire milk supply of New York city except that of the special grades, beginning January 1, 1912.

LIVERPOOL MEDICO-CHIRURICAL JOURNAL.

January, 1912.

1. Thomas R. Bradshaw: Prognosis in Valvular Diseases of the Heart.
2. H. Drinkwater: Woman's Place in Medicine: Historical Sketch.
3. I. Harris: Artificial versus Natural Selection.
4. Arthur F. Hertz: Pathology and Treatment of Constipation.
5. Charles J. Macalister: New Cell Proliferant and Its Clinical Application in the Treatment of Ulcers.
6. W. B. Warrington: Treatment of Syphilis of the Nervous System and of Parasyphilitic Diseases.
7. John H. Watson: Acute Perforation of the Stomach; with an Analysis of Certain Predominant Symptoms.
8. Ernest W. Lewis: Congenital Malformation of the Rectum Associated with Sacrococcygeal Meningocele in an Adult.
9. F. T. Paul: Wound of Thoracic Duct.
10. R. W. Murray: Intussusception in Children and Adults.
11. H. F. Woolpenden: Intussusception in an Infant: Resection and Recovery.
12. G. P. Newbolt: Preliminary Laryngotomy in Operations upon the Tongue.
13. Frank Jeans: Subphrenic Abscess.
14. Frederick P. Wilson: Wassermann Test for Syphilis.
15. E. E. Glynn: Influence of Certain Ductless Glands upon the Sex Characters.
16. B. Moore, G. W. N. Joseph and O. T. Williams: Calcareous Deposits in Arteries and Glands.
17. D. Moore Alexander: Bacterial Infections of the Respiratory Passages and Their Treatment by Vaccines.
18. R. Stenhouse Williams: Work Done in the School of Public Health, University of Liverpool.
19. W. Permewan: Nasal Polypus in a Bleeder.
20. Nimmo Walker: Abscess of the Frontal Lobe of the Brain Following Empyema of the Frontal Sinus.
21. Charles A. Adair-Dighton: Retrospect of Rhinology and Otology for 1911.
22. H. D'A. Blumberg: The Doctor's Soliloquy.

4. The Pathology and Treatment of Constipation.—Hertz says that the abnormal action of the bowels in constipation may manifest itself in three different ways: Defecation may be too infrequent, the stools may be insufficient in quantity, or they may be abnormally hard and dry. Some people in perfect health defecate two or three times a day, others not more than once in every two or three days, but the latter cannot be considered diseased as long as the defecation, when it does occur, is complete. A form of constipation known as cumulative is one in which the feces excreted are insufficient, although the bowels are opened every day. In another form the amount of feces formed may be normal and the bowels may be opened daily, and yet the feces may be abnormally hard and dry, owing to prolonged retention. A more scientific classification is a division into two classes, according to which of the two great physiological processes which maintain the regular action of the bowels is deranged. These two processes are the passage of the residue of food from the stomach into the pelvic colon, and the complete evacuation of the colon at proper intervals. In the first class the passage through the intestines is delayed; this may be called intestinal constipation. In the second the final excretion of the feces is not properly performed; for this Hertz has adopted the name dyschezia. The two forms may coexist, but usually one is more prominent. He defined constipation as a condition in which one of the residue of a meal taken eight hours after defecation is excreted within forty hours. The average time taken for the residue of a meal to reach the iliac colon is eleven hours. Delay is due to deficiency of the motor activity of the intestine, or the force required to carry the feces to the pelvic colon is excessive. Usually the delay, aside from organic obstruction, occurs in the large intestine at some point distal to the hepatic flexure. The motor fault may be due to muscular weakness, deficient reflex activity, inhibition, or uncontrolled and irregular action. In the second form, dyschezia, the act of defecation is incomplete. This is due to a want of proper proportion between the power of expelling the feces and the force required to do this completely. It usually results from disregard of the call of Nature, from ignorance, or laziness, or fear of pain. It may also be due to weakness of the voluntary muscles, unsuitable position, and hysteria. Whatever the cause, feces accumulate and cause atony and dilatation of the rectum. A third class of cases is that in which the quantity of feces formed is insufficient to produce an adequate stimulus in the pelvic colon and rectum. Whatever the cause, the first essential of treatment in the majority of cases is an attempt to open the bowels at the same hour every day, best just after breakfast, as most of the contents of the intestines are then in the pelvic colon and food taken into an empty stomach is a powerful stimulus to intestinal activity. Every call to defecation at any other time should be obeyed at once. A proper position is necessary in cases of dyschezia, so a footstool should be provided to support the feet, nine inches lower than the seat of the closet. Diet should be regulated and plenty of food taken. A glass of cold water should be drunk before breakfast, another half an hour before dinner, and a third just before retiring. Drugs are practically useless in dyschezia, though sometimes useful in other forms. Enemata are useful, though they do not cure. Cold baths or cold douches after warm baths are beneficial. Regular exercise is very important. When associated with visceroptosis proper support of the abdominal muscles is of the greatest value. Deep abdominal massage is useful when the intestinal muscles are not active. Some patients who are unwilling to undergo systematic treatment at home are willing to devote some weeks or a year to a "cure" at a health resort.

5. A New Cell Proliferant.—Macalister was much impressed by what he had heard and read in old writings concerning the value of symphytum, or common comfrey, in the treatment of ulcers, and tried it on an old rodent with good success. The root was found to contain chemically a crystalline solid that had the same empirical formula as allantoin, which it greatly resembled chemically. Allantoin is a compound obtained by the alkaline oxidation of uric acid in the cold. It is present in both animals and plants. It was first discovered in the former and received its name from the fact that it was found in the fetal allantoic fluid. Later it was found in the urine of pregnant women and has recently been demonstrated in very small amounts as normally present in healthy urine. Macalister finds it to be a cell proliferant and reports several cases in which he has used it with good results.

6. Syphilis of the Nervous System.—Warrington asserts that a majority of cases of syphilis of the nervous system rapidly improve under treatment, and if the syphilitic growth has not undergone retrograde changes an apparently complete cure ensues. If scar tissue has resulted, antisyphil-

itic drugs will have no effect. The disease is characterized by remissions and recurrences, and frequently treatment with mercury may succeed at first and fail later. Sometimes treatment has no effect whatever. In case of doubt as to diagnosis a three weeks' treatment is enough for a therapeutic test.

12. **Laryngotomy in Operations upon the Tongue.**—Newbolt maintains that early diagnosis, wide excision, followed by removal of the glands of the neck, offers a reasonable hope of recovery in cases of cancer of the tongue, and that where the operation is likely to be extensive, or where the posterior portion of the tongue is affected, preliminary laryngotomy is of the greatest value, because then the surgeon can see what he is doing, there is no hurry, no blood gets down the larynx, and the anesthetist is not in the surgeon's way.

15. **Ductless Glands.**—Glynn gives this summary of his conclusions: 1. The adrenal cortex and medulla have a different development and different functions; the former is especially connected with growth and sex characters, the latter with blood pressure. 2. The enlargement of the adrenal cortex during breeding, pregnancy, and after castration, and the small size in deficient sexual development, are additional evidence of the association of the cortex with sex characters. 3. Adrenal hypernephromata are associated with sex abnormities, almost invariably in children, usually in adult females before the menopause, but apparently never in adult females after the menopause, or in adult males. 4. Hyperplasia and hypernephromata of the adrenal cortex in females are usually associated with a diminution of certain female and a development of male sex characters. The converse rarely occurs. 5. The only condition in which some female sex characters are constantly acquired in males, or male sex characters fail to develop, is after castration performed before puberty, and sometimes in acromegaly. 6. Premature development of female sex characters in females may occur with certain ovarian tumors, and of male sex characters in males with certain tumors of the pineal gland, the adrenal cortex, and the testicles. 7. It is probable that hypernephromata of the adrenal, which are acquired in children, either directly or indirectly, cause the abnormal sex characters in children and adult females before the menopause. It is possible that some of the sex abnormities found in pseudohermaphroditism may also be due to the bilateral adrenal enlargement. 8. The functional association of the adrenal with the pituitary and other ductless glands and the appearance of certain sex abnormities in acromegaly and pineal tumors, indicate that a true solution of the connection between the adrenal cortex and sex will only be found when the interrelationships of the various ductless glands are better understood.

16. **Calcareous Deposits in Arteries and Glands.**—Moore, Joseph, and Williams find that calcareous degenerations in the aorta and in caseating glands show differing compositions, varying with the stage of the process. In the earliest stages there is a large amount of free fat; as the degeneration progresses there is a formation of calcium soaps, which gradually become broken down, the calcium ion combining with phosphoric acid and carbonic acid radicles to form insoluble deposits of calcium phosphate and calcium carbonate. The small amount of organic matter in the diseased portion is possibly of the nature of purin bases. There is some evidence to show that these changes are the results of deficient oxygenation at the part.

JOURNAL D'UROLOGIE
(FORMERLY ANNALES DES MALADIES DES ORGANES GÉNITO-URINAIRES).

January, 1912.

1. Poussón: Calculus Disease Historically Considered.
2. Widal, Lemierre, and Ambard: Study of Renal Changes, Particularly Urea Excretion in Orthostatic Albuminuria.
3. Legueu: Urinary Disturbances Caused by Fibroma of Cervix Uteri.
4. Hovelacque: Anatomopathological Study of Complete Extrophy of Bladder.
5. Marion: Tuberculosis and Carcinoma of Same Kidney.
6. Heitz-Boyer: Rapid Diagnosis of Urinary Tuberculosis by a New Method (Antigen Reaction).
7. Marsan: Chronic Painful Nephritis.

3. **Urinary Disturbances Due to Uterine Fibroma.**—Legueu says, as to the bladder and urethra, complete retention is preceded in most cases by incomplete retention with distention, or perhaps simple dysuria. In some cases there was hematuria without cystitis, due to compression of the bladder veins. The bladder is raised from the pelvis toward the umbilicus. Retention is usually caused by traction upon the urethra, lengthening it, diminishing its calibre, and even drawing the meatus from the anterior vaginal wall into the vulva; or retention may be caused by direct compression of the urethra or by adhesions between the bladder and tumor, preventing the bladder from contracting. As to the ureters, large fibromata cause renal insufficiency, which is probably due to stretching of the ureters and narrowing of their lumen, giving retention. When operating, to avoid the bladder, the abdominal incision is made high, the cul-de-sac between the bladder and uterus recognized, and the tumor separated from the bladder from above downward.

5. **Tuberculosis and Cancer of the Kidneys.**—Marion's case was in a woman of fifty years, who had a history of pollakiuria, dysuria, cloudy urine, and at times slight hematuria. When ten years old, she was operated upon for suppurated glands. The right kidney was palpable. Ureter catheterization showed a diminished quantity of urine, with pus and tubercle bacilli from this kidney. It was removed, showing marked tuberculosis of inferior pole, a normal middle portion, and an epithelioma of superior pole.

6. **Rapid Diagnosis of Urinary Tuberculosis.**—Heitz-Boyer states that studies of the antibodies, after the method of complement deviation, give good results in syphilis (Wassermann reaction) and in echinococcus (Winderburg reaction); as applied to tuberculosis its results are uncertain. Debré and Paraf have sought the antigen instead of antibodies. This method has been applied to the urine. The reaction has been used in the Necker Hospital in thirty-two cases, and in other hospitals eleven times. These forty-three cases are divided into three classes: 1. Cases of proved tuberculosis; 2, probably tuberculosis; 3, doubtful cases. One case in this last class showed cells from the left kidney; the reaction was positive;

guineapig injection negative. Nephrotomy showed cystic kidney, with two areas looking like tuberculous granulations; guineapig inoculations of that portion of the parenchyma were positive for tuberculosis. In the forty-three cases, twenty-five were positive, eighteen negative. Twenty-three of the positive findings were confirmed by finding tubercle bacilli or inoculation or examination of an excised piece. Among the eighteen negative, one was erroneous; the other seventeen were confirmed by inoculation or by examination of the kidney.

REVUE MÉDICALE DE LA SUISSE ROMANDE.

January, 1912.

1. Dind: Syphilis.
2. J. Morax: Professional Secrecy.
3. M. Muret: Professional Secrecy in Obstetrics and Gynecology.
4. Jaquerod: Ultimate Results in the Treatment of Pulmonary Tuberculosis by Koch's Old Tuberculin.
5. A. D'Espine and H. Mallet: Cardiac Thrombosis in Diphtheria.
6. Dubois: Phagedena in Tertiary Syphilis Overcome by Injection of Salvarsan.
7. R. Burnard: Tuberculous Meningitis with Aphasia.
8. Meyer: Apical Involvement in a Case of Sporotrichosis.
9. Grandjean-Hirter: Considerations on a Case of Phobia Promptly Cured by Rational Psychotherapy.

1. Syphilis.—Dind lays stress on the fact that the subsequent appearance of secondaries cannot always be counted upon to prove the luetic nature of an ulcer. There appear to be certain cases of syphilis in which the chancre is the sole manifestation of the disease. This may be accounted for by a natural immunity of the skin in these individuals; all grades of superficial involvement may, indeed, be witnessed in syphilis, partly owing to variations in cutaneous susceptibility. The author agrees with those who advocate the regulation of treatment in accordance with the results of frequent Wassermann tests. When the reaction has been kept negative for a certain period of time—not as yet determined definitely—treatment may confidently be discontinued. Dind has given 700 intravenous injections of salvarsan in 280 patients and five intramuscular injections in two children. Some patients received three, and a few from four to six injections, recently, at intervals of only five to eight days. Full doses were used in each case, and, notwithstanding the vigorous treatment, the only unpleasant consequences noted in the series were venous thrombosis, uncomplicated by phlebitis and soon disappearing, and gastrointestinal disturbances. The temperature, though sometimes considerably raised on the day of injection, never exceeded 38° C. on the following day. The impression left by these cases, all treated exclusively with salvarsan, was that the remedy is distinctly more effective than other antiluetic measures. The author sees no reason for combining mercury with it. The tendency to a return of the positive Wassermann after administration of salvarsan would seem to preclude any hope of an immediate aborting action of the disease. On the other hand, the probability of a subsequent curative action seems greater than with mercury, at least if one takes for comparison the frequency of recurrence of secondary lesions under the use of the two remedies. In the early part of the secondary period, in patients under mercury, skin lesions, and especially involvements of the mucous membranes, are not infrequently seen. In the series of cases treated by the author with salvarsan and kept under observation in so far as was possible, on the other hand, but in four rashes or mucous patches developed.

4. Late Results of Tuberculin Therapy.—Jaquerod gives a report of the present condition of two series of tuberculous patients treated with old tuberculin some years ago. Of thirteen patients originally "cured" seven years ago, ten have had no recurrence; of eleven patients cured six years ago, ten have remained well. These two series comprise only cases in which the tuberculous process was of an intermediate degree of severity, both the early favorable cases and the advanced cases being excluded. Jaquerod advocates tuberculin therapy only in cases of "open," localized, chronic, and afebrile tuberculosis in which the morbid process is stationary and shows neither a tendency to extend nor to heal. Of such cases, unimproved by hygienic and dietetic measures, a large percentage proceed to recovery under ascending doses of tuberculin. The author does not believe that cases naturally tending toward recovery should receive tuberculin with the object of hastening the cure. He finds that in a certain proportion of patients tuberculin therapy is available for only one course of treatment, i. e., in these cases, upon attempting to employ it a second time in the event of recurrence, the reaction induced, even with minimal doses, is so great as to be prohibitive; he prefers therefore to reserve tuberculin for cases where the stationary condition of the disease demands it rather than employ it indiscriminately in all instances. In febrile cases tuberculin is to be strictly avoided.

MONATSSCHRIFT FÜR KINDERHEILKUNDE.

Volume X, No. 9, 1911.

1. V. Menschikoff: Retention of Chlorides in Exudative Processes of the Skin.
2. W. Schlieps: The Heart Sounds of Infants in Health and Disease.
3. Sopoloff: Method of Performing Artificial Respiration in Children.
4. M. Katzenellenbogen: Theory of Salt Fever.
5. A. Uffenheimer: "Arthritismus" in Children and Uric Acid Excretions.
6. A. Czerny: Question of Reactive New Growth in Cirrhosis of the Liver.

2. Heart Sounds in Infants.—Schlieps calls attention to the fact that in severe nutritional disturbances in infants one heart sound becomes weakened. As the disease progresses this heart sound gradually becomes weaker and weaker until it disappears altogether and only one sound is audible. There is some difference of opinion whether it is the first or second heart sound which is thus affected. According to some authorities it is the first heart sound that disappears, and, according to others, the second heart sound. It is important to distinguish between the two, because treatment is necessarily different. Heubner, Salge, Rietschel, and Thiemich think it is the second one which is affected, while Czerny and Moser say it is the first. Schlieps's observations were made by determining the systolic and diastolic contractions of the heart by means of the Röntgen rays and at the same time listening with a stethoscope to find out which was the sound affected. The author concludes that just as in the infections in older children, so in nutritional disturbances in infants, the first heart sound is the one which becomes weakened.

ZEITSCHRIFT FÜR UROLOGIE.

January, 1912.

1. Cholzow: Surgery of Chronic Nephritis.
2. Porosz: Sexual Neurasthenia.
3. Bjorling: Prostatic Bodies.
4. Adrian: Determination of the Amount of Residual Urine.

1. **The Surgery of Chronic Nephritis.**—Cholzow cites a number of cases of chronic, painful nephritis treated by decapsulation, opening the peritoneal cavity, and *fixing the omentum around the kidney*. The experimental results are as follows: Müller found five months after operation a profuse development of new bloodvessels, both surrounding and inside of the substance of the kidney. Girgolew shows that from ten days to eight weeks after operation the vessels are not only in the cortex, but extend into the medulla as far as the papilla. If decapsulation is done under cerebrospinal anesthesia, there is relatively little danger. The operation is indicated for raised endorenal pressure with anuria, hematuria, or pain; and for nephritis with urinary changes and poor general condition. The operation is generally bilateral, and both sides are decapsulated simultaneously or with an interval of a few days. Some of these patients were observed for fourteen months after operation, and the result appeared to be permanent. Reduced albumin and better kidney function followed the operation. In one case he failed to cure the kidney pain, and operated again two and a half months later. He found the kidney surrounded by the omental capsule, which was rich in bloodvessels. An excised piece of capsule and kidney showed small and large bloodvessels running between the omentum and the surface of the kidney and down into the kidney.

Proceedings of Societies.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Twenty-fourth Annual Meeting, Held in Washington, D. C., December 12, 13, and 14, 1911.

The President, RUDOLPH MATAS, of New Orleans, in the Chair.

(*Continued from page 413.*)

Postoperative Gastric Dilatation.—Dr. T. C. WITHERSPOON, of Butte, read this paper, which appears in this issue of the JOURNAL on pp. 435 *et seq.*

Dr. GEORGE A. HENDON, of Louisville, after reporting two cases of postoperative gastric dilatation, drew the following conclusions: 1. The essential in the pathology were not known. 2. The most plausible theories were (a) kinking of the lower duodenum under the mesentery, causing a mechanical obstruction, and, as a result, oversecretion and the paralysis of overdistention; (b) some unfamiliar toxines caused paralysis of the muscular walls and resultant hypersecretion and retention, this caused the organ to become heavy and to sag down, thus producing the duodenal kink. 3. There was a deadly toxine generated, either as the cause or the result of the dilatation, which had a peculiar and powerful depressing effect upon the vital organs. 4. That in the treatment we should not wait for vomiting to appear before becoming active. 5. The stomach tube was the only reliable means for relief. 6. That obscure and alarming symptoms affecting the abdomen after surgical operations should be investigated through the stomach tube.

Lymphatic Edema and Elephantiasis.—Dr. ALBERT VANDER VEER, of Albany, reported a case of lymphatic edema, which was possibly congenital in character, in a woman, forty years of age. Careful attention was given to her general health, as much rest as possible advised, and pressure by means of bandages was applied from the toes up to the groin. This afforded relief, but when removed the general edema would return. Operative intervention was not attempted at any time. Since observing this patient he had seen a few cases of distinct lymphatic edema of the lower extremities, each one complicated with enlargement of the scrotum and vulva, several arm cases following removal of the breast in a female, and one in a young woman without tumor or operation. The second case was one of elephantiasis in a woman, seventy-two years of age. Case three was one of marked lymphatic edema of the left arm extending from the fingertips to the shoulder following an operation for the removal of the left breast. Case four was one of lymphatic edema of the right leg. Ligation of the femoral artery in Scarpa's space was performed. The patient did well, but there was not much diminution in the size of the leg or permanent improvement. A year later ulcers appeared and amputation was done to the middle third of the thigh. The patient convalesced nicely and was very much more comfortable afterward, but ligation of the artery did not bring the desired relief. Others cases were reported by Dr. Vander Veer with comments.

Indications for Abdominal Cæsarean Section in Eclampsia.—Dr. JOHN F. MORAN, of Washington, D. C., reported four cases of eclampsia which occurred in two patients he saw in consultation, in which Cæsarean section was performed, saving both mothers and all of the children. The first patient, a primipara, eight months' gestation, frequent convulsions, cervix intact, was operated upon by Dr. I. S. Stone, and the second was operated upon at term under like conditions, in three successive labors, by Dr. W. P. Carr.

Kellitz, in 1897, collected twenty-eight cases of eclampsia operated upon by Cæsarean section with a maternal mortality of fifty per cent., and an infantile mortality of sixty-two per cent. Streckeisen, in 1903, collected twenty-eight cases, twelve mothers died, and nine infants were dead or died shortly after birth. Hillman, in 1899, collected thirty-nine cases and reported one of his own, giving a mortality of 50.5 per cent. for the mothers, and 43.2 per cent. for the infants. All but seven of these cases were previously reported by Kelly or Streckeisen.

The speaker had collected fifty-three cases, including the four herein reported, operated in from 1901 up to the present time. Seventeen mothers died, a mortality of 32.32 per cent. Forty-five infants were born alive, seven were stillborn, and four were not mentioned. Altogether 116 cases had been reported with a maternal mortality of forty-nine per cent. While the statistics of the last decade showed a marked improvement over the previous one, the mortality still was far above the general death rate of eclampsia. A careful analysis of the cases, however, showed that many of the patients had been subjected to other methods of treatment and were moribund at the time of operation. Abdominal and vaginal Cæsarean section

were not proposed as substitutes for the other methods of intervention in eclampsia, but the claim was made that they had a well defined field of application in certain cases of eclampsia. If they were to have an established place in the treatment of this complication, the indications for which they were urged must be met by prompt elective action, for to delay until the patient was in extremis and all other treatment had failed, was to invite disaster.

The Lane Operation; the Indications for and the Limitations of the Procedure, with a Discussion of the Principles Underlying It.—Dr. John Young Brown, of St. Louis, said that during the last three years he had operated in sixteen carefully selected cases of this type. In all of these cases a diagnosis had been arrived at by a process of exclusion and in each intestinal stasis had been demonstrated by means of the bismuth meal prior to operation.

A long incision through the right rectus sufficient for general exploratory purposes had been made. The ileum had been divided six inches above the ileocecal valve and both proximal and distal ends closed, a lateral anastomosis then being made between the ileum and sigmoid. Prior to this, a general exploration of the abdomen had been made and such work done as the individual pathology would indicate. Of the sixteen cases operated in, fourteen presented well defined pericolic membranes, and in all there was present kinking of the ileum. In two of the cases the condition found at operation was undoubtedly due to primary involvement of the appendix. In nine of these cases the constipation and the symptoms of intestinal toxemia had been entirely relieved, the patients gaining in weight and showing marked general improvement. In five of the fourteen cases, while the improvement had been satisfactory, much annoyance had resulted from gaseous distention and pain in the excluded cecum and colon. These were the type of cases in which Mr. Lane advocated a secondary operation, which operation should consist of the removal of the colon down to the sigmoid. It could not be too strongly emphasized that neither the Lane operation nor any of the suspension operations should be undertaken unless there were well defined demonstrable pathological lesions justifying their performance. All so called atonic and neurasthenic types of enteroptosis would yield far better results if given proper rest, hygienic, and dietetic treatment.

Parathyroids and Their Surgical Relation to Goitre.—Dr. Charles H. Mayo and Dr. Bernard F. McGrath, of Rochester, Minnesota, said it was known that the parathyroids were concerned in the metabolism of the body, but definite knowledge of their physiological function and pathological importance was yet very limited. Many diseases had been attributed to these glands without having had their etiological relationship supported by scientific investigations. Experimentation, clinical and histological examinations, had shown a connection between the parathyroids and tetany. Recent investigations had proved that pathological processes in the thyroidal tissue produced hyperplasia with resultant lessened function, especially in the presence of a contributing factor, as, for example, gastrointestinal disease. Hemorrhages, which probably occurred in the glands during labor, were given as one of the causes of the pathological processes. It was stated that tetany did not take place at the time of bleeding, because the brain of the newborn was not sensitive, owing to the larger content of calcium. The attacks rarely occurred before the third month. Defective calcium metabolism had been noted in experimental tetany. Histological examinations had shown a relationship between the parathyroids and tetania gravidarum.

Cases of tetany associated with congenital syphilis, in which the parathyroidal tissue was hypoplastic, had been cited. Some authorities held a morphological similarity and interrelation of function between the parathyroids and the thyroid gland. In operations on the thyroid, the variable size, location, appearance, and condition of these little bodies should be kept in mind. If such a mass were accidentally removed, it should at once be implanted beneath some part of the capsule. Parathyroidal tissue was sometimes present within the thyroid, in which case it could be injured in a simple operation on this gland. It had a large factor of safety. Postoperative tetany was rare. In 3,203 operations on the thyroid gland in St. Mary's Hospital, but one case was observed, and that was doubtful. There was no trustworthy treatment for tetany. To compensate for glandular deficiency, transplanting parathyroids from other individuals, feeding with animal glands, the use of serum, or the extract of parathyroidal tissue was indicated. To restore the balance in calcium metabolism, calcium salts, acetate or lactate in four to five per cent. solution, should be administered either intravenously, subcutaneously, by stomach, or by rectal enemata. To avoid those factors contributing to the attacks by increasing the toxic metabolic factor, the patient's general condition, especially the gastrointestinal tract, should receive careful attention.

The End Results of Operations in Graves's Disease. — Dr. George W. Crile, of Cleveland, said that in studying the end results of his cases, he had made several generalizations. No patient had died of the disease after leaving the hospital; no patient was made worse by the operation. Every patient was either benefited or cured. Among the factors that influenced the end results were the environment of the patient, the freedom from shock, the means at hand for diversion, as well as the avoidance of strain. The elimination of all nervous shock at the time of operation had proved a good clinical asset. The improvement began usually the next day after the operation and continued for from six months to two years. He regarded patients as cured when they were able to withstand nervous shocks, such as fright, disapointment, worry, etc., in a normal manner. He had found that the time required for a complete cure was dependent upon the environment of the patient. Automobiling, travel, yachting, nature study, a happy turn in the tide of life, were the ideals that facilitated these cures. He knew of no class of patients who were so profoundly grateful, who became such militant partisan advocates of the operative treatment of this disease, as those cured. There might be hesitation on the part of practitioners to recommend surgical treatment for Graves's disease, but the cured patients shared

no such doubt. They were stronger advocates of operation than the most surgical surgeon. The immediate operative risk was approaching that of operations for acute appendicitis; that all operative recoveries were either improved or cured; that the extent of the cure depended largely on the environment and medical direction during the year following the operation. He knew of no class of patients where relief was so deeply fundamental as those patients tortured by an ever present pathological emotional state.

Omentopexy in Cirrhosis of the Liver.—Dr. H. H. GRANT, of Louisville, collected a total of 144 cases from the literature, of which seventeen patients or eleven per cent. died of the operation; seventeen or eleven per cent. were reported as cured; sixty-four or about forty-four per cent. improved, and thirty-two or twenty-two per cent. were unimproved. He reported three cases of his own, and then drew the following conclusions: 1. That even in the condition of advanced degeneration of the liver and general toxemia, with resulting ascites, over ten per cent. of symptomatic cures were obtained, and over fifty per cent. at least were improved and helped to many months and years of life. 2. That as this advanced condition was often preceded by a year or more of latency, during which suspicious symptoms had been declared to be the cause, early diagnosis of the lesion would surely lead to the grave unless operation was undertaken; therefore, exploration and repair were justified, with a far better promise than could be hoped for later on. 3. That as it was not possible to be certain of the character of a cirrhotic lesion before exploration, the surgeon need not be deterred from the steps by any uncertainty as to its applicability, as all forms of cirrhosis were fatal under the expectant plan of treatment.

Primary Sarcoma of the Gallbladder.—Dr. R. S. CATHCART, of Charleston, South Carolina, said that on June 6, 1908, a case was referred to him for operation with a probable diagnosis of gallstones. The man was forty-five years of age, fairly developed, but had a slight cachectic or septic look. Operation revealed the case to be one of primary sarcoma of the gallbladder. Its surgical interest was only that the patient was alive and in good health, doubtless due to operation at an early stage.

Dr. RANDOLPH WINSLOW, of Baltimore, reported a case of congenital gangrene of the right forearm, with successful amputation, in an infant, five days old. The points of interest in this case were the early age at which amputation was done and the etiology of the disease. As to the first item, he had not made any search of the literature in order to discover if there were earlier cases of amputation than the one reported, but he was not aware of any. The ability of a frail child of that age to undergo such a mutilating operation, without an anesthetic, was also noteworthy. It was possible that an anesthetic might have been well borne, but he feared to attempt it. As to the etiology of the condition, he was in entire ignorance. He was well aware that intrauterine amputations had been observed, and were attributed to the constriction of the limb by encircling amniotic bands. Sometimes more than one limb was amputated in this manner. Playfair, in his *Midwifery*, published in 1880, figured a case in which all four limbs had been amputated *in utero*. In the case he had just reported the attending physician specifically stated that no pressure by the cord or by bands was present. There might have been a thrombosis or embolism of the vessels of the arm, but what would have caused such condition? The gangrene was not of the dry or anemic type, but was more of the obstructive type. The forearm and hand were swollen, discolored, and offensive.

Wherein the Diagnosis of Pellagra is of Surgical Importance.—Dr. LEGRAND GUERRY, of Columbia, South Carolina, after discussing the digestive disturbances, the pupillary symptoms, the psychic phenomena, and the skin eruptions of pellegra, reported three cases, one of which was sent for operation on account of digestive and intestinal symptoms, but this case was finally diagnosticated as pellagra and was not operated in. The patient died several weeks later. Case two was in a young vigorous child, who was taken suddenly ill with an acute abdominal pain, with general abdominal tenderness and rigidity, but most marked over McBurney's point. The temperature was 102° F.; pulse 120. Two pellagra experts saw this case and advised operation. On opening the abdomen the appendix was found slightly inflamed, but not at all enough to explain the severity of the constitutional symptoms. Five days later, when the eruptions appeared, the real cause of the trouble was revealed. This case ended in recovery. Case three was in a middle aged man, who gave a history of chronic abdominal trouble for several years. Although the appendix was removed and the gallbladder drained, this did not explain the trouble. He was kept in the hospital for a long time under operation, and while there a very mild pellagrous rash developed on the back of his hands which settled the question of the diagnosis.

The Matas Operation in the Treatment of Traumatic Aneurysm.—This paper, by Dr. WALTER C. G. KIRCHNER, of St. Louis, appeared in the JOURNAL of February 17, 1912.

(To be concluded.)

Letters to the Editor.

ACUTE INDIGESTION.

NEW YORK, February 25, 1912.

To the Editor:

Many deaths ascribed to an overburdened stomach have been reported lately in the daily press. They are misleading to the ignorant, but *not* to well informed physicians.

Fortunately, wise communications have appeared in the medical journals, which may serve to counteract wrong impressions among the laity. Unfortunately, however, when once bad seed has been sown, future growth is always inferior and the only real correction is to uproot the plant, plough again, and put into the soil, prepared afresh, really good seed. What should be widely circulated is simply

this: If death occurs from acute indigestion, it means in a very large proportion of instances *neglect* of premonitory symptoms of disease. Either the patient has foolishly made light of them, or has been ill advised, and in either case, fatal results ensue. The morale of the story is, particularly for men, or women past middle life—have a physician of knowledge and character, consult him always when indisposed, even with apparently slight ailments, and then follow strictly his counsel. Do not attempt to reason and antagonize by thought, word, or deed, but simply obey. This is the highest wisdom in analogous circumstances, as to matters of religion, law, business interests. Why not in what pertains to men's bodies?

Beverley Robinson, M. D.

A THEORY OF CANCER.

Seattle, Washington, *February 14, 1912.*

To the Editor:

Apropos of experiments in destruction of cancer in mice by means of sodium tellurate, in 1902 while in London, I had a pamphlet published advancing the theory that cancer is an excessive anabolism of epithelium, depending upon an excessive supply of nuclein or lecithin or phosphatide, i. e., phosphorus in combination with fat or lipoid to form glycerophosphates; compared to a corresponding deficiency in capacity for catabolism of these nuclear elements; and that this subcatabolism was due to a paucity of the oxygenating and alkalinizing elements that should obtain in the blood serum in sufficient quantity to control any proliferating tendency by converting such phosphonitrogenoliponuclear elements to their end products, e. g., phosphates, urea, carbon dioxide, etc., in crystalloid osmotic form capable of being taken up consistently by the lymphatics to be carried off in solution in the sweat and urine.

After spending a year in London hospitals and research centres, and in Bouchard's laboratory in Paris, meanwhile trying to get assistance from the Carnegie Institute and the Rockefeller Research and every avenue that occurred to me, my resources gave out and I had to seek a more tangible means of livelihood.

It was my belief, as I at that time stated to many of the most prominent cancer investigators in the world, in person or by mail, that what was necessary, in order to cure cancer, was an efficient means of restoring the balance—of making up the deficiency of mineral and oxygen in the blood serum; to increase the epithelial catabolism by increasing the oxygenation and alkalinization of the tissue suffering want of it, without temporarily jeopardizing the life of the patient by promoting excessive resorption of catabolic products and a consequent toxicity that might prove fatal.

In your issue for February 18, 1911, page 323, you very kindly published an article bearing on this subject, for me. A copy of my pamphlet, *A Cancer Theory,* published by Baillière, Tindall & Cox, ten years ago, was on file, among other places, in the New York Academy of Medicine.

W. M. McDowell, M. D.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Carbonic Acid Snow as a Therapeutic Agent in the Treatment of Diseases of the Skin. By R. Cranston Low, M. B., F. R. C. P., Assistant Physician to the Skin Department, Royal Infirmary, Edinburgh. New York: William Wood & Co., 1911. Pp. xi-117. (Price, $1.50.)

The purpose of this little volume, as stated in the preface, is to give the general practitioner information which will enable him to treat certain diseases of the skin by refrigeration with carbon dioxide snow. It seems to us that the author has fully presented the subject, and if his instructions regarding the technique of its employment are followed, it should be a useful agent in the hands of the practitioner.

A little over one half of the volume is given up to a description of the various methods for collecting and applying the snow, its effects on the skin, and the microscopic changes produced by it; the remainder of the book is devoted to its therapeutic uses, references, and index.

Mr. Low takes up the diseases in which this treatment may be employed, reviewing them in the order in which the remedy has been most thoroughly tested. In this way he treats over forty diseases or disease groups—a rather too comprehensive field, it seems to us. It would be better in practice to limit its use to the few diseases first enumerated, such as nævi, lupus erythematosus, keratoses of various kinds, epithelioma, etc.

Some interesting photomicrographs are included, and illustrations of three cases thus treated. Abundant illustrations are also given of the various forms of apparatus employed for containing, collecting, and moulding the snow.

Nouveau traité de médecine et de thérapeutique. Publié en fascicules sous la direction de A. Gilbert, professeur à la Faculté de médecine de Paris, et L. Thoinot, professeur à la Faculté de médecine de Paris. XXXIX. Maladies des os. Par Marfan, professeur à la Faculté de médecine de Paris, Apert, Aviragnet, Léon Bernard, M. Garnier, J. Hallé, Milian, médecins des Hôpitaux de Paris. Avec 164 figures intercalées dans le texte. Paris: J. B. Baillière et fils, 1912. Pp. 755.

This splendid volume, a notable example of French science and scholarship, is unique in its elaborate presentation of diseases of the bones from an exclusively medical standpoint. We are perhaps too much accustomed to regard the bones as the domain of the surgeon; really, apart from fractures and dislocations, they are to a much greater extent the concern of the physician. This fact is apparent when one considers the effects on the osseous system of such diseases as tuberculosis, syphilis, rhachitis, leprosy, infantile scorbutus, arthritis deformans, acromegaly, phosphorus poisoning, osteomalacia, and the osteoarthropathies of tabetic and pulmonary origin. All these are fully considered, and there are also sections of the greatest scientific interest on gigantism, nanism, achondroplasia, actinomycosis, Madura foot, leontiasis, anakhré, and many other rare and curious conditions not readily to be found elsewhere than in this valuable and unusual book. As would be expected from the painstaking excellence of the work of French syphilographers, the section on syphilis is a model of completeness, and the elaborate treatise on rickets by Professor Marfan is, we believe, among the best which have ever been written. The admirable illustrations throughout add to the value of the text, which we hope may soon be presented to a larger circle of readers in English translation. The American reader will note with pleasure the recognition accorded the late Dr. C. A. Herter, of New York, for his description and careful study of a new type of infantilism.

Die nervösen Erkrankungen der Tabakraucher. Von Prof. Dr. L. v. Frankl-Hochwart. Mit 1 Abbildung. Wien und Leipzig: Alfred Hölder, 1912. Pp. iv-87.

This monograph represents a clinical study of the deleterious effects of tobacco smoking, and is based upon the experience of the author over a period of some sixteen

years. During this time about 1,500 patients have been followed up, among them 700 who smoked to excess in whom lues, alcoholism, diabetes, and other exhausting diseases could be excluded. The literature is also thoroughly reviewed. In estimating the effects of the abuse of tobacco three methods were largely used: 1. The observation of those patients who smoked to great excess; 2, statistical comparisons of large numbers of smokers with normal tables (moderate smokers and abstainers); 3, the method of diagnosis *e causa sublata*, the appearance or disappearance of symptoms synchronous with the use of or abstinence from tobacco. The symptoms are classified as follows: 1, Cerebral type; 2, spinal peripheral type; and, 3, the nervous affections of internal organs. Many cases of interest are cited, among them one of a young woman artist who devised an apparatus by means of which she could smoke 200 cigarettes at one time. Among the objective signs frequently found, and attributed to chronic nicotine intoxication, were tremors of the extremities and inequality of the pupils with occasional sluggish reactions. The fact that the excessive use of tobacco is an important factor in the development of symptoms referable to practically all parts of the nervous system is plainly brought out, although the author admits that it will require years of investigation to obtain accurate knowledge on this subject.

The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of GUSTAVUS P. HEAD, M. D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School, and CHARLES L. MIX, A. M., M. D., Professor of Physical Diagnosis in the Northwestern University Medical School. Volume IX. Skin and Venereal Diseases. Miscellaneous Topics. Edited by W. L. BAUM, M. D., and HAROLD N. MOYER, M. D. Volume X. Nervous and Mental Diseases. Edited by HUGH T. PATRICK, M. D., Professor of Neurology in the Chicago Polyclinic, Clinical Professor of Nervous Diseases in the Northwestern University Medical School, etc., and PETER BASSOE, M. D., Assistant Professor of Nervous and Mental Diseases, Rush Medical College. Series 1911. Chicago: The Year Book Publishers, 1912. (Price, $1.25 a volume.)

Volumes IX and X of the Practical Medicine Series have been published by the Year Book Publishers, of Chicago. Volume IX discusses Skin and Venereal Diseases and Miscellaneous Topics, such as the history of medicine, the relations of insurance to practice, medical sociology, and the like; it is edited by Dr. W. L. Baum and Dr. Harold N. Moyer. Volume X takes up Nervous and Mental Diseases, under the editorial supervision of Dr. Hugh T. Patrick and Dr. Peter Bassoe. These volumes conclude the admirable conspectus of all branches of medicine and surgery for the year, and may be cordially recommended as most useful as well as convenient works for a busy reader.

NEW PUBLICATIONS.

Barbour, A. H. F.—Maternity Primer. New York: William Wood & Co., 1912. Pp. 165. (Price, 75 cents.)

Sadler, William S.—The Physiology of Faith and Fear. Or the Mind in Health and Disease. Illustrated. Chicago: A. C. McClurg & Co., 1912. Pp. xxii-580. (Price, $1.50.)

Myers, Charles S.—An Introduction to Experimental Psychology. London: Cambridge University Press; New York: G. P. Putnam's Sons, 1912. Pp. vi-156. (Price, 40 cents.)

Doncaster, L.—Heredity in the Light of Recent Research. London: Cambridge University Press; New York: G. P. Putnam's Sons, 1912. Pp. x-143. (Price, 40 cents.)

Thomson, St. Clair.—Diseases of the Nose and Throat. Comprising Affections of the Trachea and Esophagus. A Textbook for Students and Practitioners. With Eighteen Plates and 294 Figures in the Text. New York: D. Appleton & Co., 1912. Pp. xvi-791.

Hortzler, Arthur E.—A Treatise on Tumors. Illustrated with 538 Engravings and 8 Plates. Philadelphia and New York: Lea & Febiger, 1912. Pp. 725.

Keyes, Edward L., Jr.—Diseases of the Genitourinary Organs. Considered from a Medical and Surgical Standpoint, Including a Description of Gonorrhea in the Female and Conditions Peculiar to the Female Urinary Organs. With One Hundred and Ninety-five Illustrations in the Text and Seven Plates, Four of which are Colored. New York and London: D. Appleton & Co., 1912. Pp. xvii-975.

Guiteras, Ramon.—Urology. The Diseases of the Urinary Tract in Men and Women. A Book for Practitioners and Students. With Nine Hundred and Forty-three Illustrations in the Text and Seven Plates. In Two Volumes. New York and London: D. Appleton & Co., 1912. Volume I, pp. xxii-667; Volume II, pp. xix-757.

Miscellany.

A Dramatic Answer.—The following striking scene is reported editorially in the *New York Times* for February 6th, under the heading A Poisonous Industry: Claude Kitchin, representative of the second district of North Carolina, tried to "laugh out of court" the case of the sponsors of the Esch match bill at the hearing held to consider whether the Ways and Means Committee of the House should report this measure, which forbids the use of poisonous white phosphorus in the manufacture of matches by imposing a destructive tax. In the midst of his hilarity a figure more startling than Banquo's ghost and not less horrible appeared and confronted the committee. A man whose jaw and throat had been eaten away by the invading fumes as he bent at his work in one of the match factories stood a mute witness of their terrible effects. It is reported that Representative Kitchin checked his light flowing mirth, stared, shrunk back, and fled.

A Deserved Tribute to a Branch of the Profession.—What the Army Medical Corps of the United States Army can do in the extermination of diseases peculiar to countries not of the same climatic conditions as obtain in the United States has been shown by its work in Cuba and the Panama Canal Zone, but no better illustration has been given than is furnished by the way it has practically wiped out beriberi as a disease in the Philippine Scouts. Much of the efficiency of that excellent body of native soldiery in the early days of its organization, says the *Army and Navy Journal* for January 20, 1912, was impaired by the ravages of that disease, but now under the watchful care of the medical officers of the army the scourge has become virtually nonexistent, less than half a dozen cases having developed in the last fiscal year. What this small number of cases means is shown in the annual report of the commanding general of the Philippines division. In 1909 there were 836 cases, in 1910 there were 189, and in 1911 only five. In the first five months of the calendar year of 1911 there was only one case of beriberi among the scouts, an indication that even the remarkable record of the previous year would be surpassed. At the close of 1909 the medical officers of the army came to the conclusion that the cause of the disease was the highly polished rice of commerce. They thereupon decided upon a radical change in the ration by limiting the amount of rice to sixteen ounces and enforcing the use of only undermilled, or unpolished, rice. Immediately gratifying results followed, which have continued until General Bell feels justi-

fied in saying in his report: "It seems to be evident that the reduction in quantity and the use of undermilled rice are in themselves sufficient to prevent the occurrence of beriberi. The polished rice theory of the disease is fully sustained." With those who know the difficulty of breaking in upon the immemorial customs of the Oriental people, there is no doubt that the army medical officers justify the commendation given to them by General Bell, when he says in his report: "This unprecedented favorable condition reflects most creditably on the zeal, energy, and efficiency of the members of the medical corps, whom it has been my privilege to have serving under me."

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending February 23, 1912:

Cholera—Foreign: *India,* Nov. 27-Feb. 6, 283 deaths; *Indo China,* Dec. 26-Jan. 1, 347 cases, 247 deaths; *Siam,* Dec. 3-20, 410 deaths; *Turkey in Europe* (Constantinople), Jan. 15-21, 1 death; *Mexico* (Merida), Jan. 28-Feb. 3, 4 cases, 1 death; *West Indies,* (St. Vincent), Feb. 19, 1 case.

Plague—Foreign: Brazil (Para), Jan. 21-27, 6 cases, 6 deaths; *India* (Calcutta), Jan. 31-Feb. 6, 6 deaths; *Indo China,* Dec. 26-Jan. 1, 6 cases; *Java,* Nov. 26-Dec. 2, 6 cases, 6 deaths; *Mauritius,* Nov. 24-30, 16 cases, 12 deaths; *Turkey in Asia* (Jiddah), Jan. 13-15, 2 cases.

Smallpox—United States: *Alabama* (Montgomery), Jan. 26-Feb. 10, 4 cases; *Florida,* Feb. 4-10, 53 cases; *Kansas,* Nov. 1-30, 210 cases, 2 deaths; Dec. 1-31, 205 cases; *Kentucky* (Newport), Feb. 4-10, 1 case; *Massachusetts,* Jan. 1-31, 11 cases; *Missouri* (Kansas City), Dec. 1-31, 16 cases; (St. Louis) Feb. 4-10, 1 case; *North Dakota,* Jan. 1-31, 25 cases; *Ohio,* Jan. 1-31, 93 cases; *Tennessee* (Chattanooga), Feb. 4-10, 1 case; *Vermont,* Jan. 1-31, 32 cases; *Virginia,* Jan. 1-31, 114 cases; *Washington,* Dec. 1-31, 88 cases.

Smallpox—Foreign: *Canada,* Feb. 4-10, 20 cases; *China,* Jan. 1-7, 28 cases, 22 deaths; *Egypt* (Cairo), Jan. 1-7, 1 case; *Great Britain* (Bristol), Jan. 29-Feb. 3, 2 cases; (London) Feb. 14-20, 1 death; *France* (Paris), Jan. 14-20, 8 cases, 1 death; *Germany* (Hamburg), Jan. 21-27, 1 case; *Indo China,* Dec. 26-Jan. 1, 3 cases; *Italy,* Jan. 16-Feb. 27, 179 cases, 61 deaths; *Java,* Jan. 1-6, 2 cases; *Mexico,* Jan. 26-Feb. 10, 6 cases, 7 deaths; *Portugal* (Lisbon), Jan. 21-27, 2 cases; *Russia,* Dec. 1-Jan. 27, 25 cases, 3 deaths; *Siam,* Nov. 5-Dec. 2, 185 deaths; Dec. 3-30, 441 deaths; *Teneriffe,* Jan. 21-27, 2 deaths; *Turkey in Asia* (Beirut), Jan. 14-27, 170 cases, 22 deaths; *Turkey in Europe* (Constantinople), Jan. 22-28, 6 deaths.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending February 24, 1912:

De Laney, M. A., Major, Medical Corps. Ordered to Philadelphia, Pa., on official business pertaining to the Medical Department of the Army. **Manly,** Clarence J., Major, Medical Corps. Relieved from treatment at the Walter Reed General Hospital, D. C., and granted thirty days' leave of absence on surgeon's certificate of disability.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the two weeks ending February 24, 1912:

Baker, M. W., Surgeon. Commissioned a surgeon, from November 17, 1911. **Barber,** G. H., Medical Inspector. Commissioned a medical inspector, from September 17, 1911. **Charlton,** R. G., Assistant Surgeon. Commissioned an assistant surgeon, from January 26, 1912. **Davis,** R. G., Assistant Surgeon. Commissioned an assistant surgeon, from January 26, 1912. **Evans,** S. G., Surgeon. Ordered to the Naval Medical School, Washington, D. C. **Eytinge,** E. O. J., Passed Assistant Surgeon. Ordered to the naval station, Guam. **Hathaway,** G. S., Passed Assistant Surgeon. Detached from the *New Orleans* and ordered home to await orders. **Mink,** O. J., Passed Assistant Surgeon. Orders of January 24th revoked. **Schier,** A. R., Acting Assistant Surgeon. Detached from the marine recruiting station, Kansas City, Mo., and ordered to the marine recruiting station, Memphis, Tenn. **Schmidt,** L. M., Passed Assistant Surgeon. Detached from the navy recruiting station, Chicago, Ill., and ordered to the Naval Hospital, Norfolk, Va. **Stibbens,** F. H., Passed Assistant Surgeon. Detached from the *St. Louis* and ordered to the *Intrepid.* **Taylor,** J. L., Passed Assistant Surgeon. Ordered home to await orders.

Births, Marriages, and Deaths.

Married.

Campbell—Grove.—In Wynewood, Pa., on Monday, February 12th, Dr. Duncan Campbell, of Woodbury, N. J., and Mrs. Maud Wilson Grove. **King—Eaton.**—In Seattle, Wash., on Wednesday, February 14th, Mr. Judson King and Dr. Cora Smith Eaton. **Lawton—Shea.**—In Waterbury, Conn., on Tuesday, February 20th, Dr. Richard J. Lawton, and Miss Katherine Shea. **Moynan—Gardner.**—In Greenwich, Conn., on Wednesday, February 14th, Dr. William T. Moynan, of New York, and Mrs. Alice Gardner.

Died.

Baker.—In Peoria, Ill., on Wednesday, February 14th, Dr. R. Leslie Baker, aged forty-one years. **Brown.**—In Potsdam, N. Y., on Sunday, February 18th, Dr. Hiram D. Brown, aged seventy-seven years. **Bunch.**—In Muncie, Ind., on Friday, February 16th, Dr. Robert A. Bunch, aged sixty years. **Clementson.**—In Braddock, Pa., on Friday, February 16th, Dr. William Alexander Clementson, aged thirty-eight years. **Dickeson.**—In Media, Pa., on Wednesday, February 21st, Dr. William T. W. Dickeson, aged eighty-five years. **Ettmueller.**—In Jefferson City, Mo., on Sunday, February 11th, Dr. Gustav Ettmueller, aged seventy years. **Finnegan.**—In Anacortes, Wash., on Monday, February 12th, Dr. Charles J. Finnegan, aged forty-seven years. **Gerrie.**—In Brooklyn, on Tuesday, February 20th, Dr. James Gerrie, aged seventy-six years. **Ghent.**—In Belton, Texas, on Tuesday, February 13th, Dr. H. C. Ghent, aged eighty-three years. **Goodman.**—In Louisville, Ky., on Monday, February 19th, Dr. John Goodman, aged seventy-four years. **Guthrie.**—In Prescott, Arizona, on Thursday, February 15th, Dr. Adam Guthrie, aged fifty years. **Henderson.**—In Philadelphia, on Tuesday, February 13th, Dr. John D. W. Henderson, aged seventy-two years. **Herst.**—In Pittsburgh, Pa., on Friday, February 16th, Dr. George Reinman Herst, aged thirty-eight years. **Isham.**—In Cincinnati, on Tuesday, February 20th, Dr. Asa B. Isham, aged sixty-seven years. **Lamb.**—In Washington, D. C., on Wednesday, February 21st, Dr. J. Melvin Lamb, aged forty-nine years. **Lawson.**—In Acushnet, Mass., on Tuesday, February 20th, Dr. Frederick B. Lawson, aged seventy-three years. **Mathiot.**—In Pittsburgh, Pa., on Tuesday, February 20th, Dr. Edward Bernard Mathiot, aged fifty-one years. **Minor.**—In Cincinnati, Ohio, on Sunday, February 18th, Dr. Thomas Chalmers Minor, aged sixty-five years. **Moore.**—In Pawnee, Okla., on Wednesday, February 21st, Dr. William M. Moore, of New Brunswick, N. J. **Parker.**—In Lexington, Ky., on Tuesday, February 13th, Dr. Stafford L. Parker, aged seventy-three years. **Pearson.**—In Slippery Rock, Pa., on Monday, February 12th, Dr. Benjamin Pearson, aged seventy-three years. **Porzer.**—In Newark, N. J., on Tuesday, February 20th, Dr. Oscar Porzer, aged forty-one years. **Potter.**—In Newton, N. J., on Thursday, February 15th, Dr. Emerson B. Potter, aged fifty-three years. **Powell.**—In Baltimore, on Thursday, February 15th, Dr. John Fletcher Powell, aged eighty-one years. **Rae.**—In Bradford, N. Y., on Tuesday, February 13th, Dr. Georrge W. Rae. **Smith.**—In Arcadia, Fla., on Thursday, February 15th, Dr. Kirby H. Smith. **Thompson.**—In Ville Platte, La., on Wednesday, February 14th, Dr. E. Thompson, aged fifty-eight years.

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Original Communications.

A REPORT OF BONE TRANSPLANTATION AND OSTEOPLASTY IN THE TREATMENT OF POTT'S DISEASE OF THE SPINE.*

BY FRED H. ALBEE, M. D.,
New York,
Assistant Professor (Head of Department) of Orthopedic Surgery, Cornell University; Professor and Adjunct Professor of Orthopedic Surgery, University of Vermont and Postgraduate Medical School.

The following contribution is a preliminary report of the use of osteoplasty and bone transplantation, in the treatment of Pott's disease of the spine. The osteoplastic procedure, herein described, was applied only to the first four cases reported below and the technique and results obtained were presented in an abstract at the meeting of the American Orthopedic Association, May 15, 1911. The present paper is based upon twenty cases, four of osteoplasty and sixteen of bone transplantation from the tibia. In the NEW YORK MEDICAL JOURNAL for May 27, 1911, Hibbs independently reported a very ingenious plastic procedure where he uses flaps of periosteum dissected from the spinous processes to accomplish the same purpose, namely, to cause proliferation of sufficient bone to hold and immobilize the diseased portion of the spine. It is feared that these periosteal flaps of themselves cannot be depended upon to proliferate bone, and for extensive and conclusive data upon this subject, reference is made to Macewen, *Philosophical Transactions,* Series B., Vol. 199, pp. 253-279, and to the same author's very recent and admirable monograph, *The Growth of Bone,* in which he states, after citing many convincing experiments and clinical experiences, "While not under estimating the periosteum as a limiting and protecting membrane, of great use in physiological and pathological conditions, there are no data to indicate that it can of itself, secrete or reproduce bone. It (periosteum) has no osteogenetic function." He further states that bone is reproduced by the proliferation of osteoblasts derived from preexisting osseous tissue, as a bone graft, and that its regeneration takes place independently of the periosteum; also that the periosteum in the case of osteomyelitis proliferates new bone, but only when osteoblasts have migrated into it from the bone cortex beneath, influenced by some stimulant, such as an underlying acute infection.

The author has unintentionally confirmed in several instances the inability of the periosteum to reproduce bone, when not previously stimulated. At the Loomis Laboratory, Cornell University Medical College, most of the diaphysis of dogs' ulnas has been removed leaving the periosteum from the inner side of the bone attached to the muscles, etc. The portion of ulna thus stripped from the periosteum has been split into halves, one of which was covered with periosteum. This half has been in each instance implanted into the dog's spine. Bone has failed in every instance to proliferate in the leg from the periosteum left from the ulna.

The inefficiency of the present ambulatory treatment of Pott's disease, especially in the upper dorsal region, has been wisely stated by Ridlon and Jones (*Lectures on Orthopedic Surgery,* 1899): "In the upper dorsal region, from the first to the sixth vertebra, the deformity may be expected to increase under any form of treatment which does not include prolonged and uninterrupted recumbency as its essential feature." And, Schapps adds (1905) in discussing this statement: "This is equally true as to the efficacy of recumbency and the inadequacy of the old methods of treatment in the upright position."

One needs only to visit our best regulated clinics, and examine the old and present spinal tracings to be convinced of the truth of these statements.

Two papers published in the *American Journal of Orthopedic Surgery* for November, 1910, by Professor Lange and Doctor Brackett, have been partly the means of stimulating the author to develop an operative method, if possible, which would have some, if not all the advantages of an erasion or excision of the tuberculous knee or of the author's operation for the adult tuberculous hip, and produce absolute immobilization and support, by bony union, of the spinous processes of the few vertebræ involved with the healthy ones on each side.

In the case of the knee or hip, as soon as bony ankylosis is established, although only a fractional part of the diseased tissues may have been removed, it is surprising how rapidly the tuberculous process subsides, and a complete recovery with a stiff joint results.

This has been especially emphasized by Ely, from both clinical and pathological studies.

Brackett, in summing up his observations upon Nature's methods of protecting the tuberculous vertebral body, states that the most remarkable is where the posterior part of the vertebræ becomes

*Read before the New York Academy of Medicine, December 21, 1911.

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fused together by a deposit of new bone. This, unfortunately, is apparently a very rare occurrence. The object of the operation herein reported was to secure, if possible, by operative means what Nature rarely happens to do by chance.

The bony union of the tips of the spinous processes would prevent in two mechanical ways

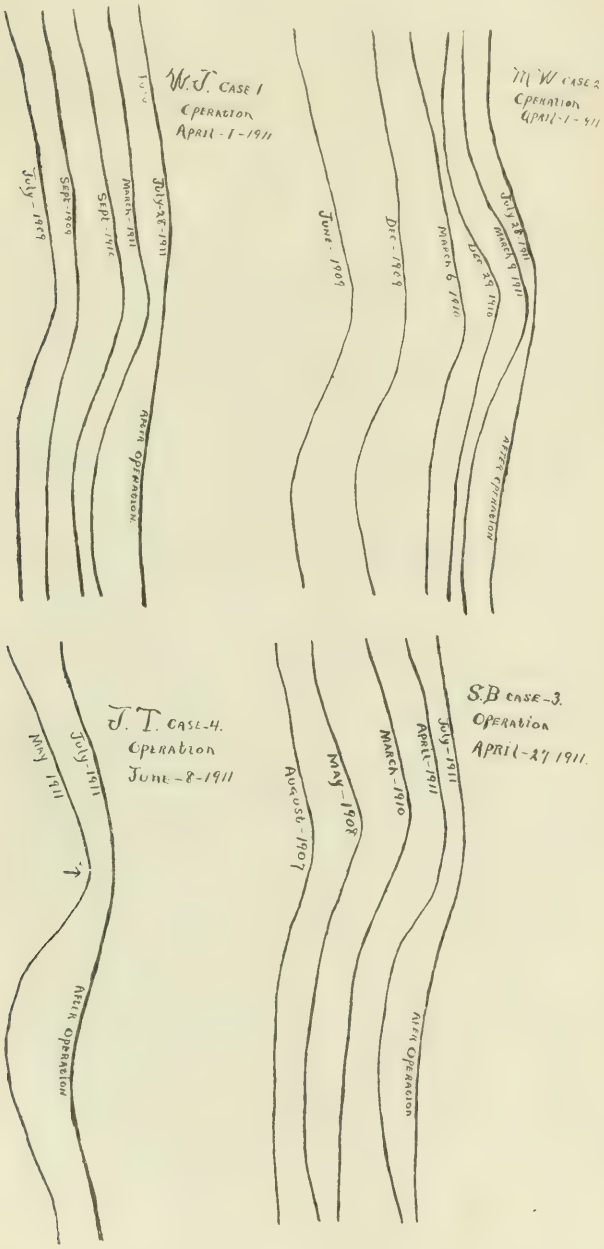


FIG. 1.—These tracings were taken of the spine by means of a flexible lead tape and show increase of deformity under ambulatory treatment as shown by all the tracings but the last in each case. The last tracing in each of the four cases was taken after the operation and indicates the marked recession of the deformity obtained.

the crushing of the vertebral bodies. With this in view, twenty patients have been operated on. In four of the cases, three or four spinous processes were split with a chisel or bone forceps for one to one and one third inch from their tips, into halves, either through a plane approximately parallel with the long axis of the trunk or at right angles to it. The tip of the lower half of the superior vertebra was then brought into approximation with the tip of the superior half of the next lower vertebra, after green stick fractures of each, and fastened with heavy kangaroo tendon. Chips of bone from the spinous processes were then placed between so as to insure further bony union between these vertebræ.

This osteoplastic procedure, if successful, furnishes: First, a bony internal splint acting directly on the portion of the spine involved; second, as each vertebra acts as a lever with the fulcrum at the lateral facets, the body being the anterior arm of the lever, and the spinous process the posterior arm, if the spinous processes are held together by a bony bridge, it will necessarily prevent approximation and crushing of the bodies.

These assumptions are based on bony union of vertebra to vertebra as well as union of the green stick fracture of the vertebral halves. This union has been satisfactory so far as can be ascertained, but on account of its uncertainty, due to constant respiratory motion in the dorsal region, and the large amount of cartilage in the vertebræ of small children, with its slowness of union and early lack of support, and the extreme atrophy and rarefaction of the spinous processes of tuberculous vertebræ, it has seemed best to devise a procedure which would be, possibly, more reliable and also give support from the beginning. These requirements can be fulfilled in no other way than by a strong bone graft. Therefore, in the last sixteen cases bone grafting has been resorted to with the most gratifying results.

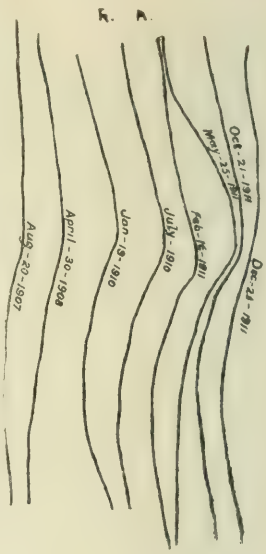


FIG. 2.—Tracings of K. A.

According to German investigators, the exact fate of a plate of live transplanted bone is still a subject for further investigation. Frangenheim has demonstrated that living bone, even if deprived of its periosteum, acts as a powerful stimulant to the proliferation of the periosteum of the bone into which it has been ingrafted. The x ray study of many of the cases reported herein confirms these findings, and it is believed that this stimulated callus formation on the part of the traumatized and split spinous processes alone, in conjunction with the supporting action of the bone plate, is sufficient to span the interspinous spaces. Especially in view of the fact that Nature occasionally accomplishes the same result unaided (Brackett).

In reference to a bone insert, Steida has emphasized the importance of the transplantation of a firm, periosteum covered bone plate, in order to furnish a support for the development of a new and strong bone. This same author states that autotransplantation is better than hetero- or dead bone transplantation.

Whole knee joints have been transplanted suc-



FIG. 3.—This is a skiagraph of one of the more recent cases, showing the crushing of the bodies of the second and third lumbar vertebræ into a space less than the thickness of one. The bone graft is shown imbedded in the five spinous processes.

cessfully by Lexer, Enderlen, Konigsbery, and others, and the bone involved has either lived as such, or in any event has acted as a support, until sufficient bone proliferation from its periosteum has occurred to take on skeletal support. It will be readily granted that the environment of our spine inserts is infinitely more propitious in every way than in the foregoing. "The vegetative capacity of the bone cell is at least as great as that of the epithelial cell. Diaphyseal bone grafts live and proliferate actively in their new surroundings. Each osseous graft proliferate from its centre, the whole fusing together into one mass" (Macewen).

Several German investigators have emphasized the importance of including bone marrow, and contend that the power of bone growth and life is thus retained in the transferred bone itself. Care has been exercised in our later cases to include marrow when taking the implant for Pott's disease.

The different sources from which to secure a strong bone graft for an internal splint which would give immediate support to the spine were considered, and the crest of the tibia was selected as by far the most desirable and accessible.

CASE I. W. J., two and one half years of age, admitted to Sea Breeze Hospital, June 26, 1909. Duration of spinal symptoms, six months. Family history, negative. Examination: Boy in good condition; kyphosis marked, from eleventh dorsal vetebra to first lumbar (see tracing). Marked spasm of erector spinæ muscles and limitation of motion. No sign of abscesses.

September 6, 1909, treatment, Calot jacket with military collar. Symptoms could not be controlled by ambulatory treatment.

December 24, 1909. Much abdominal pain and night cries.

March 20, 1910. Still occasional night cries. Calot jacket applied.

March 24, 1910. Removed to Kingston Avenue Contagious Hospital, with scarlet fever.

July, 1910, returned to Sea Breeze Hospital.

September, 1910, ordinary plaster of Paris jacket applied; walked a few steps with assistance.

December, 1910, returned to Bradford frame, on account of active spinal symptoms.

March, 1911, still on convex frame, so as to correct kyphosis before operation.

April 1, 1911, under ether, an incision, about two and three quarter inches in length, was made over the four prominent spinous processes. The erector spinæ muscles, with the periosteum from the sides of the processes, were dissected away laterally, the periosteum having been left on the superior and inferior surfaces. The four processes were then split with a bone forceps for about three quarters of an inch from their tips. Each half was then broken at its base, and the cut surface of the right half of the inferior process was brought into contact with the cut surface of the left half of the superior process in each case, and held by a ligature of No. 2 chromic catgut. The wound was closed with continuous catgut No. 1 suture, after bone chips had been placed as grafts between the spinous processes to aid in a firmer union.

April 6, 1911, wound healed by primary union. Child in satisfactory condition.

July 20, 1911, the convalescence was uneventful. Child was running about with ordinary plaster of Paris jacket. No active symptoms. This child was unable to walk without assistance before the operation. At present all apparatus was removed. Child was in excellent condition, with no symptoms.

CASE II. M. W., three years of age, admitted to Sea Breeze Hospital, June 24, 1909. Diagnosis, tuberculous spine. Previous history negative. Family history, father died of tuberculous pneumonia. Examination: Child in good condition. Marked kyphosis. Apex at ninth dorsal vertebra. Back quite flexible, no muscular spasm, no sign of abscess. Treatment, grand Calot plaster of Paris jacket.



FIG. 4.—This is an [illegible] posterior view of the same case as Fig. 3. It shows the bone graft in place on an [illegible] plane.

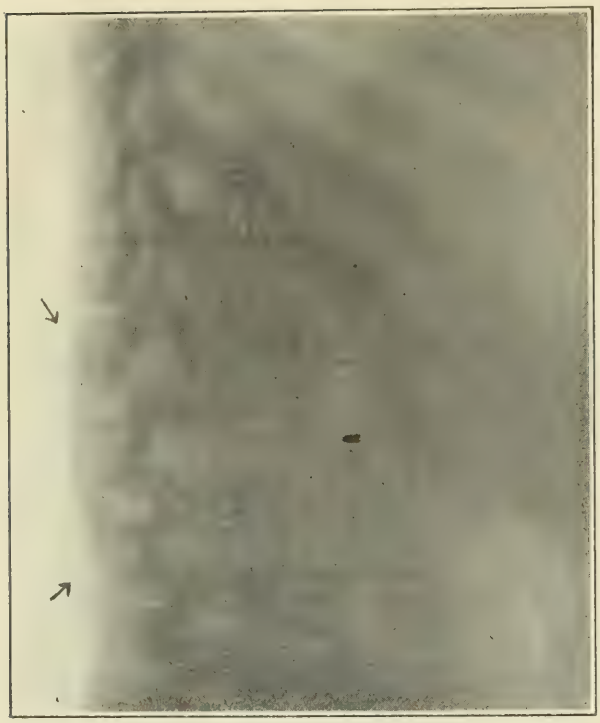


Fig. 5.—This is a skiagram of a child operated upon at the Post-graduate Hospital, six months ago, and shows the bone graft as dense if not denser than when it was implanted. The bone structure is continuous from the bone insert into the spinous processes of the twelfth dorsal and first and second lumbar vertebræ. The child gained nine pounds in a little over two months after the operation, and is now running about without apparatus, and without symptoms; no evidence of disease can be detected.

July 5, 1909, grand Calot applied.

July 6, 1909, on account of difficult respiration, the jacket had to be cut down in the neck. Grand Calot jacket continued from July, 1909, to June, 1910.

March 6, 1910, examination showed deformity had steadily increased.

December 29, 1910, child had been on Bradford frame for several months on account of active symptoms. Now an ordinary plaster of Paris jacket was applied.

February 25, 1911, jacket failed to support child; removed and the child put on a Bradford frame.

April 1, 1911, under ether, an incision, about two and one half inches in length, was made over the four prominent spinous processes. The erector spinæ muscles with the periosteum from the sides of the spinous processes were dissected away laterally, the periosteum having been left on the superior and inferior surfaces of spinous processes. The four processes were then split with bone forceps into upper and lower halves, for about three quarters of an inch from their tips. Each half was then broken at its base, and the upper half of the inferior process was brought into contact at its tip with the lower half of the superior process at its tip, and held by a ligature of No. 2 chromic catgut passed through them. Pieces of bone chipped from the processes were also placed between the processes for purpose of better bone union. Wound was closed with continuous sutures of plain catgut No. 1.

April 6, 1911, wound healed by primary union. Child well.

July 13, 1911, convalescence most satisfactory. Child was now up and playing with other children, without active symptoms.

Although it was found impossible to control the active symptoms by ambulatory treatment before operation, the child is now in excellent condition; has no apparatus and no symptoms.

Case III. S. B., two years of age, admitted to Sea Breeze Hospital, August 2, 1907, with a diagnosis of Pott's disease. Family history, negative. Child well up to previous year in November, when she began to have pain in pit of stomach and cried a good deal during day and night. Treated for stomach trouble for six months, when she was taken to Bellevue dispensary; there a diagnosis of Pott's disease was made by Doctor Sayre. One week before, mother noticed lump on child's back. Came to Bellevue for treatment, continually, until mother and child were admitted to Sea Breeze, August 1, 1907. Child was then on gas pipe frame and had a large excoriation over kyphosis from rubbing on frame. Child cried a great deal while under treatment, and did not improve until admitted to Sea Breeze Hospital.

August 22, 1907, patient had a marked kyphosis at seventh dorsal vertebra. No active symptoms. No sign of abscess. Treated on Bradford frame for ten months, from August, 1907, to June, 1908, when grand Calot jacket was applied and worn for two years.

April, 1910, upon examination, "deformity slightly increased" (Ely). Treatment by bed and Bradford frame on account of increase of deformity and active symptoms.

July 21, 1910, after examination, an ordinary plaster of Paris jacket was applied. Ordinary plaster of Paris jacket worn from July, 1910, until April, 1911. Active symptoms were still present, jacket not giving satisfactory support.

April 27, 1911, under ether, incision about four inches long made over five spinous processes composing kyphosis, muscles with periosteum of processes dissected from spinous processes and retracted laterally, spinous processes split longitudinally to long axis for about one inch, and superior and inferior halves approximated. Splinters of bone (from process) were placed along whole wound between each process. Wound closed in layers. Child placed on convex frame.

May 7, 1911, wound healed by primary union.

July 13, 1911, the convalescence had been extremely satisfactory. Child was now running about with ordinary plaster of Paris jacket without symptoms. At present child was wearing no apparatus and was in excellent condition.

Case IV. J. T., five years of age, admitted to Sea Breeze Hospital, June 21, 1910, with tuberculosis of tenth and eleventh dorsal vertebra. Admitted wearing plaster of Paris jacket with jury mast. Jacket was soft and not clean, and was replaced by a Calot military jacket (Ely). Duration of illness, eighteen months. Treated before ad-



Fig. 6.—This is a lateral view and shows the usual crushing of the bodies of the third and fourth lumbar vertebræ, also the bone graft in place.



Fig. 7.—This skiagram, eight weeks after operation, shows marked bone proliferation in and around the bone graft.

mission at the Ruptured and Crippled Hospital, New York.

March, 1911, child stood and walked awkwardly, resting hands on knees. Plaster of Paris jacket removed. Pressure, sore over kyphosis. To rest in bed on Bradford frame.

April 7, 1911, examination by Doctor Tindolph; to have tonsils and adenoids removed.

May 21st, tonsils and adenoids removed (Doctor Tindolph).

June 1st, to be on frame until operation.

June 8, 1911, under ether, an incision was made over and down to six of the spinous processes, comprising the kyphosis. Periosteum dissected from processes and left adherent to the erector spinæ muscles on each side. Muscles were then retracted laterally. About two thirds inch of the tips of the processes were then split into right and left halves and the right halves elevated. Their cut surface came in contact with cut surface of the left half of next superior process. Fascia was closed with No. 3 catgut sutures, skin with No. 2 plain catgut. Dressing. Placed on Bradford frame.

June 13, 1911, wound healed by primary union.

July 13, 1911, the convalescence was most satisfactory.

August 17, 1911, child's general condition excellent, child running about wearing plaster of Paris jacket, his posture good and no return of acute symptoms. At the present time the child is in excellent condition and is wearing no apparatus.

Case V (partially reported in *Journal of the American Medical Association*, for September 9, 1911). R. A., a child aged four years, referred to me by Dr. E. H. Johnston, of Waterbury, Conn., was admitted to the Postgraduate Hospital, June 7, 1911. The past history was negative up to the time the trouble with the spine began. Several months before, the child had begun to have night "cries and sweats" and coincidentally began to support herself with hands on her knees. The mother stated that there had been loss of weight and that the child was getting pale. There had been pain in the region of the stomach for the past two months. About three weeks before examination, the lump on the child's back was first noticed.

Examination was negative except for a considerable kyphosis at the first and second lumbar vertebræ. The child stooped to pick up things from the floor with difficulty. The spine was rigid to passive and active motion in the region of the kyphosis.

Operation. This patient was operated on June 9, 1911. Under ether, with the patient in ventral position, an incision was made directly over the tips of four spinous processes, with the kyphosis in the centre. Each process was then split longitudinally, for about one inch from its tip, into two portions with approximately one third of the process on the left and two thirds on the right (or just enough to one side of the centre so as to get a fracture of one portion only).

The soft tissues between the processes were then merely separated by blunt dissection or by a scalpel, parallel with the muscles. Green stick fractures were then produced at the base of the one third portions of each of the processes. A wedge shaped cavity was thus produced, ready to receive the bone graft. A compress of hot saline was then placed over the wound. The leg, which had been prepared for operation, was then flexed on the thigh, so that an incision over the crest of the tibia could be made, anteriorly. A prism shaped piece of the tibia from its anterior internal aspect was then removed by means of a chisel, with the periosteum intact on two of its surfaces. The graft taken was about four inches, by one inch, by one half inch. It was quickly removed and immediately placed in the interval between the portions of the spinous processes. The dense fascia over the tips of the processes was then approximated by interrupted sutures of No. 3 or No. 4 chromic catgut, thus holding the bone graft very firmly in place. The skin was closed by a continuous suture of No. 1 plain catgut. The leg wound was treated in a similar way. The time of operation was fifteen minutes. There was no shock. The child made a fine recovery from the anesthetic. The wounds healed by primary union. The child was discharged from the hospital July 17, 1911. The convalescence was extremely satisfactory. Muscular spasm and sensitiveness of the spine disappeared. The child's general condition was much improved. From being very pale and poorly nourished, the child has gained much in weight and is now running about without any supporting apparatus whatever.

Case VI. J. M. C., male, carpenter, twenty-eight years of age, had acute spinal symptoms for eight months, consisting of severe pain in back and right side. Night sweats and spasmodic pains. Had a right psoas abscess below Poupart's ligament for six months, which at time of operation had reached the size of a large fist. Physical examination revealed beside abscess, an acute tuberculous involvement of the eleventh and twelfth dorsal vertebræ, with a marked kyphosis.

Operation, June 27, 1911, at the Postgraduate Hospital. The operation differed in no way from that in the sixth case, except the increased size of bone graft which was approximately six inches, by one and one eighth inch, by one third inch.

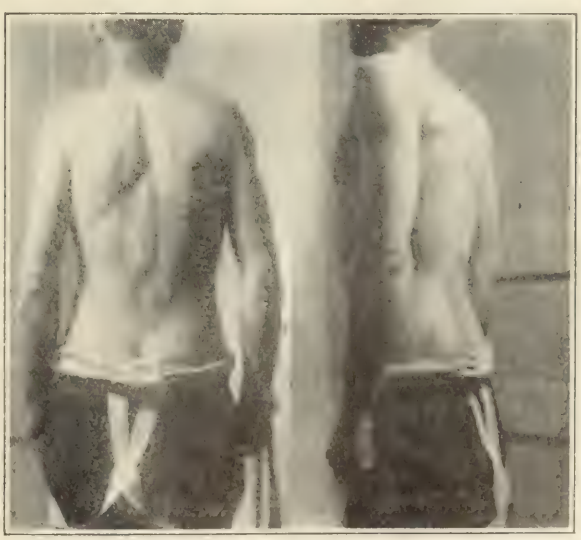


Fig. 8.—These are photographs taken of the sixth case or the second case when bone grafting was done. They were taken six months after the operation.

This patient went back to work five weeks after the operation, wearing a Taylor brace. He gained eighteen pounds in weight and the psoas abscess entirely disappeared. The rapid improvement in his general condition, after the operation, was very striking.

Case VII. W. D., male, four and one half years old; beginning of symptoms uncertain. Began to rest chin in hand eight months before. Symptoms acute. Lump noticed on back six months before. Physical examination revealed an acute Pott's disease of the spine, with a very large kyphosis, comprising the last cervical and first two dorsal vertebræ. Spine very sensitive to all attempts at passive motion. Muscular spasm was very marked.

Operation, July 14, 1911, at Postgraduate Hospital. On account of extreme angularity of the kyphosis the bone graft had to be moulded into the segment of a circle in order that the corners should not project posteriorly beyond the tip of the spinous processes. The convalescence was rapid. The wound healed by primary union and the child was soon about without apparatus or symptoms.

The details of the eighth case will be withheld for a future report on account of the short time since the operation. However, it should be said that every wound has healed by primary union and every bone graft has lived and become united to the vertebræ as far as can be determined. There has been no shock of consequence in any of the cases, and the convalescence of each case has been most satisfactory up to this time.

Of the first seven cases, four were in dorsal region and one each in the dorsal-lumbar, cervical, and lumbar regions. At the present time six of the patients have no symptoms and are wearing no apparatus. The sixth patient, as stated, is wearing a Taylor brace, but is at work as a carpenter and without symptoms. X ray examination of all the cases has failed thus far to show *any diminution* in the density of the bone graft. In some of the cases the reverse has been true, and a *proliferation* of bone has been noted. Emphasis should be placed, however, on the importance of supplemental orthopedic treatment after operation. The duration of this supporting treatment will vary with each individual case. In most cases I believe a few weeks or months will be sufficient. Three recent patients, one adult and two children, have been taken from fracture beds (upon which they had been placed after operation), at the end of five weeks, and are at present walking about without symptoms and without apparatus or mechanical treatment of any kind. We have at present several patients on convex gas pipe frames for the purpose of securing a recession of the kyphosis before operating, and feel confident of holding the correction by the bone graft.

A duplication of this operation on dogs, with a careful study of the same, is being carried on at the Loomis Laboratory, Cornell University. Medical College, of which a report will be made at a later date.

SUMMARY.

1. It is needless to discuss here the inefficiency of all known means of ambulatory treatment of dorsal Pott's disease. This is especially emphasized in the tracings of our first four cases, where the kyphosis continued to increase notwithstanding treatment, under the most favorable surroundings; namely, in a well regulated seaside hospital, where the children were under the constant observation of surgeons and nurses trained in this work, where they were in the most favorable environment that can be supplied for the cure of tuberculosis.

2. It has become, I believe, a recognized fact that whenever bony fixation of a tuberculous joint occurs the tuberculous process immediately subsides. Now, as the pathology and physiology of bone tissue is the same wherever it occurs, we are justified in expecting that if we get the same bony fixation in the spine the effect will be the same. This is best accomplished by a firm cortical bone graft, with union to the vertebræ involved and to the healthy ones on either side, which assures not only the prevention of further deformity in two mechanical ways (by leverage and splint action), as stated, but should also cause the disappearance of the tuberculous process.

The leverage action arises from the two lateral facets acting as a broad fulcrum in case of each vertebra, and the bone graft furnishes a means of holding the long arms of the levers or the spinous processes together, thus separating or preventing the crushing of the tuberculous vertebræ bodies.

It should be noted that the nearer this bridge of bone is to the tips of the processes the greater the leverage. The spinous processes are split as near their centre as possible, and in such a way as not to result in a green stick fracture of the larger portion. The recent objection, therefore, that the operation is asymmetrical does not hold.

3. The bone grafting procedure described is believed to be preferable to any, where breaking or cutting of the processes destroys entirely the natural as well as the acquired support and leverage of the spinous processes, or until union takes place. Again, it furnishes a continuous bridge of bone with endosteum and periosteum spanning the entire number of vertebræ which are desired to be immobilized and, therefore, should be under the influence of Wolff's law, and should become stronger under the influence of undue stress. In other words, it is in imitation of Nature's success, as pointed out by Brackett, whereas it was feared that these same conditions of stress and respiratory motion would prevent bony union and favor a fibrous union or pseudarthrosis in the case of the osteoplasty described. The splitting of the spinous processes should stimulate, on their part, a callus formation, which, it is believed, will span of itself the interspinous space, especially when aided by the implanted bridge of bone with proliferating endosteum on one side and periosteum on the other.

4. If bony union of graft to spinous process should not occur, the same mechanical effect of leverage in a large degree would still be obtained from the union of the imbedded bone splint to the surrounding dense ligamentous structures, at the tips of the spinous processes as well as the splint support.

5. Perfect immobilization and support of the few involved vertebræ in the respiratory area of the spine is secured, which is an impossibility by any external mechanical device or treatment, the recumbent treatment on a Bradford frame not being excepted, on account of the constant respiratory movement of the ribs and attached vertebræ.

6. Fortunately, on account of the anatomy of

the part, it is not necessary to enter the focus of disease; therefore, primary union of soft tissues with immediate bone union can be expected.

7. The normal supports of the spine are not interfered with, as the ligaments and muscles are not cut or separated from the vertebræ.

8. The operation is by no means a formidable one. The technique is very simple. In one case the total operating time was but fourteen minutes.

9. When possible, a recession of a kyphosis by long recumbency on a convex gas pipe frame should be secured. This method offers great promise of holding the correction obtained, whereas, without this support, there is a great tendency of a relapse into deformity when ambulatory treatment is resumed, on account of the inhibition of the tuberculous bacillus to the rapid new formation of bone.

10. A bone graft is far superior to an internal metal splint, because, by following Wolff's law, it will become thicker and stronger if necessary to hold weight or strain brought to bear on it; whereas, in the case of an internal metal splint, suture or screw applied to the bone, no dependence can be placed on them to hold continued weight or strain, because of the bone atrophy and absorption which take place directly around the metal. This occurs even when no strain is present. Silver wire and screws, which were placed through bone only a few months before, have been found in the soft tissues where they had fallen through or out of the bone, without being influenced by strain. For this reason, and the always present danger of sepsis about buried metal, it would seem to the author, as stated by him in the *Journal of the American Medical Association* for September 9, 1911, that bone grafting will prove preferable to the internal metal spinal splint of Lange.

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125 WEST FIFTY-EIGHTH STREET.

MODERATELY CONTRACTED PELVIS AND INDUCTION OF LABOR.

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The value of induction of labor in contracted pelves is much debated among obstetricians. Those who practise it are enthusiastic and those who are not familiar with its use condemn it. The chief criticism directed against the manœuvre is that the size of the child is so difficult to estimate that often induction is done and a very premature child is born to die from malnutrition and marasmus. If this objection is overcome, there seems to be no other good argument to advance against this excellent method of treating contracted pelves of moderate degree. By waiting until the last moment when the fetus can safely pass through the natural outlet, it is possible to save the mother from Cæsarean section and have the child born viable and in good condition. By keeping watch over the size of the child's head by external measurements, it is possible to determine the proper moment for intervention.

Obstetricians who condemn induction unite in saying that delivery is spontaneous in a very large percentage of contracted pelves. They then advise other methods of operative delivery. These statements to me are conflicting, for, if a large percentage of contracted pelves of moderate degree have spontaneous delivery, the ones who are not so delivered have trouble because the child is too large. Thus, if the size of the child can be estimated and its relation to the size of the pelvis be tested before induction, there will be a much better chance of obtaining living children in women with contracted pelves of this type. It must be recognized that the size of the child and the duration of pregnancy vary within wide limits and the relation of the size of the baby, particularly of the size of the baby's head, must always be taken into consideration when the course of procedure in any pelvis of moderate contraction is debated. A child weighing six and a half pounds, with a soft head to correspond to its weight, will pass through a pelvis which would not allow exit to a child of eight pounds with its large firm head. The probability of delivery in large series of cases is therefore of interest.

SPONTANEOUS DELIVERY IN CONTRACTED PELVES.

All statistics unite in showing that, in contracted pelves, there is a very large proportion of births without operative assistance. Bürger, in 1,840 cases of contracted pelves with a true conjugate between ten and 9.6 cm., reported eighty-nine per cent. of spontaneous delivery; in 2,486 cases with a true conjugate between 9.5 and 8.6 cm., eighty per cent., and, in 840 cases with a true conjugate between 8.5 and 7.6 cm., there was fifty-four per cent. of spontaneous deliveries. Kronig and Zweifel report eighty-four per cent. of spontaneous deliveries in pelves between 8.5 and seven cm. true conjugate. Scipiades in 949 cases of contracted pelvis had seventy-six per cent. delivered spontaneously. The truth of these reports may be attested by other series of cases too many for enumeration here. Suffice to say that, in contracted pelves with a true conjugate of eight cm. or more, approximately two thirds or more of the babies are born without interference or aid and by the natural forces. The reason of this is that these children are small enough to get through the pelvis and our effort must be directed to the saving of the other third by keeping these children also small enough to pass through the moderately contracted pelvis and large enough so that they will not suffer from prematurity. This involves a knowledge of the size of the pelvis and an idea at least approximate of the size of the child. If the size of the child can be approximately measured, then labor may be induced at the most auspicious moment in order to get the

largest possible child which will pass through that particular pelvis.

TYPE OF PELVIS AND SPONTANEOUS DELIVERIES.

In the consideration of the size of the pelves, the true conjugate will be taken in all cases as the basis of measurement and of indication for treatment. Also no distinction is made in this article as to the probabilities of delivery in flat and generally contracted pelves, because it is believed that, if the true conjugate is taken as the criterion for classification, there is little difference between the probabilities of delivery in pelves of the moderate degree of contraction (eight cm. and over) under discussion. In a collection of such cases, there was found to be three per cent. more spontaneous deliveries in generally contracted than in flat pelves of eight cm., or greater, true conjugate. It is true that in pelves of greater contraction, 7.5 to 6.5 cm., there are more spontaneous deliveries in the flat type of pelvis; but in the medium degrees there is very little difference. Greater than eight cm., there are, if anything, more spontaneous deliveries in generally contracted pelves, and this is believed to be due to the facts that generally contracted pelves have, as a rule, smaller babies. But there is little difference in prognosis in the various types of moderatly contracted pelvis.

THE OBSTETRIC PROBLEM.

Any degree of pelvic contraction is only relative to the size of the fetus and a pelvis should be judged to be large or small as to whether or not it will admit the passage of the head. The ever present obstetric problem is whether a fetal head of unknown dimensions can be delivered through a pelvis whose measurements can be ascertained. Thus "obstetric judgment" is only gained through much experience of difficult cases and any methods of measurement of the fetus within the uterus and before the date of labor are welcome additions to the present inadequate and unsatisfactory manœuvres. Exact pelvis measurement is a work of supererogation and futile unless some attempt be made to estimate the size of the fetal head as well.

A knowledge of the size of the fetal head and body offers a sure basis for prognosis in the moderate degrees of pelvic contraction.

In this class of pelves, therefore, it is advisable to make some attempt to estimate the size of the child before term in order to have an exact basis for treatment and to fix the time for induction of labor.

SIZE OF CHILD AND ITS LIMITS.

The size of babies naturally varies in different cases: The average weight in this country is in the neighborhood of 3,300 grammes. The smaller the child at birth below a certain limit, the less chance it has of survival and the greater danger of death from prematurity and malnutrition. In general in prematurely born children 2,000 grammes is the minimum weight with which a reasonable percentage of surviving children may be obtained. Ostreil, in a study of 1,542 prematurely born children, found that above this weight they showed only slightly less resisting power than children born at term. Maygrier, in a report from the Charité in Paris, states that, of 548 children between 2,000 and 2,500 grammes, only thirty-two (5.8 per cent.) died before leaving the hospital. Among those weighing less than 2,000 grammes (four and a half pounds) the death rate was higher. He also traced them several years after leaving the hospital and did not find an increased death rate.

Thus with reasonable care, there should not be an excessive death rate in children born after induction of labor for moderately contracted pelvis. The three great dangers which confront them are chilling, defective feeding, and infections. If infections can be warded off and the child fed with breast milk, even if this is drawn and fed with a spoon a drop at a time, it is likely to grow strong and healthy after it has been tided over the stage of extra helplessness.

A weight of 2,000 grammes is smaller than is required as, for successful delivery in a pelvis of eight cm. true conjugate a child weighing 2,500 grammes (five and three quarter pounds) is not too great. This is the average size at thirty-six weeks and has an average biparietal diameter of eight cm. A useful way to remember the average weight at any required time of pregnancy is Tuttle's rule: The number of lunar months minus 2, squared and divided by 2 gives the weight in hundreds of grammes. Thus, at nine lunar months, or four weeks before term, the weight will be

$$(9-2)^2 \div 2;$$
$$(7)^2 \div 2;$$
$$49 \div 2 = 2450 \text{ grammes.}$$

This size, 2,500 grammes (five and three quarter pounds), is about the lowest weight of the child at which constantly good results may be obtained and, as may be seen, it exists in average measurements four weeks before term. At this time also the biparietal diameter of the fetal head is eight cm. The biparietal diameter is the most important, because it comes in direct relation in contracted pelves with the true conjugate or anteroposterior measurement of the pelvis. If the biparietal is greater than the true conjugate, the fetus cannot be successfully born, even with the help of moulding. When the two measurements are the same and in children with small soft heads where moulding is great, spontaneous delivery is possible. For this reason, in the attempt to prophesy the course of labor in contracted pelves, the two important measurements are the true conjugate and the biparietal diameter of the head.

RESULTS OF INDUCTION.

A true conjugate of eight cm. is the lowest limit of contraction in which induction of labor should be advised and then only with a proper sized child; the larger the pelvis, the better the results. In a collection from European clinics, 941 cases of induction for contracted pelvis were done, with the result that eighty-eight per cent. of all the children left the clinic alive and one mother died (0.1 per cent.). This also in spite of the fact that von Herff extends the limit for induction to a conjugate of 7.5 cm. and Kroemer to seven cm. This compares favorably with the mortality in 3,000 Cæsarean operations, collected from the literature in the past twenty years, with seven per cent. maternal deaths and four per cent. immediate fetal deaths, not to mention those children dying in the puerperium, or

with Davis's large personal series of 104 Cæsarean sections in the New York Lying-in Hospital with 14.43 per cent. mortality in mothers and 17.92 per cent. mortality in babies, counting deaths of children in the puerperium.

These remarkable results of induction show that when it is intelligently performed, it is in pelves of moderate contraction the operation of choice. It may be said that in large babies with moderate contraction, Cæsarean section is necessary. The average weight of Cæsarean babies is probably not above normal. In 100 cases collected at random, it was 7.125 pounds (3,200 grammes), a trifle under average weight.

The results of induction, however, depend upon its intelligent performance, upon an accurate measurement of the pelvis, and upon an estimate of the size of the child before birth and while within the uterus. Without a knowledge of the size of the child and its relation to the size of the pelvis, no intelligent prognosis can be made. It is impossible to guess at the weight of the child from inspection and palpation alone. It is most difficult even to guess the weight of a newborn child after birth. I have for years made trial of this by asking nurses and doctors to guess the weight of a newborn baby and have found that wide error was common and a correct guess the exception. How much more difficult is it for an estimate to be made of the size of the child within the uterus by inspection alone. It is for this reason that accurate methods are necessary to eliminate the personal factor of error. After the pelvis has been measured, a knowledge is required of the duration of the pregnancy, the size of the child, the size of the child's head, and the relation of the child's head to the size of the pelvis.

THE DURATION OF PREGNANCY AND SIZE OF THE CHILD.

Unfortunately for the students of obstetrics, the duration of pregnancy is not a fixed term, but varies in length with 280 days as the average. Normal pregnancy may be prolonged to more than 300 days. In addition, there may be an error of three weeks or more in estimation from the last menstruation, due to the time of conception. Estimations, based upon single intercourse, show, however, that the average duration is about 280 days. A complete review of the subject of the duration of pregnancy will be found in my paper on the subject. Cows, with almost the same length of gestation as the human animal, have an average duration of 285 days; but their pregnancy may vary from 240 to 321 days. This is suggestive of a similar variation in the length of pregnancy in women.

Prolongation of pregnancy beyond the average time is associated with increase in weight of the child. In Winckel's series, the average prolongation of pregnancy in children weighing 4,000 grammes (eight pounds, fourteen ounces), was 8.22 days, and of these children, one eighth had a gestation period of longer than 302 days, the legally determined duration of pregnancy in Germany. In thirty-one babies of an average weight of 4,276 grammes (9.5 pounds), the prolongation of pregnancy was an average of thirty-one days. Of babies weighing 4,000 grammes, 71.8 per cent. had a gestation period of more than 280 days. Blau and Christofoletti also, in 1,778 children weighing more than 4,000 grammes, found pregnancy lasted more than 300 days in 150 cases and more than 302 in 135 cases. Ciula, in an exhaustive study, showed that gestation was prolonged beyond 300 days in 4.5 per cent., beyond 310 in 1.9 per cent. and beyond 320 days in 0.5 per cent. of cases. Issmer, after a study of a large collection of cases, says that the larger the child the longer the pregnancy, and that the increase in length of gestation bears a definite ratio to the increase in the size of the child.

So it may be seen that pregnancy is not a fixed term and that it may be extended over average limits usually when the children are heavy. For this reason, in the induction of labor, if dependence is placed upon the patient's history of her last menstrual period, there may be an error in the estimation of the size and a small child be born to die from prematurity, or a child allowed to become too large for the pelvis.

It is, therefore, better to attempt to measure the actual size of the fetus within the uterus and so to check the menstrual history. One helpful aid is to adapt to this purpose my rule for the estimation of the duration of pregnancy. This rule is based upon the average size of the fetus at full term, 3,300 grammes, and depends upon the more or less regular growth of the uterus of 3.5 cm. each lunar month after five months. The measurement is dependent upon the height of the fundus which is due to the occipitococcygeal measurement of the child, and this varies with the weight and length of the child.

RULE TO ESTIMATE DURATION OF PREGNANCY.

The rule is as follows: The duration of pregnancy in lunar months is equal to the height of the uterus in centimetres divided by 3.5. It depends upon the more or less regular growth of the uterus of 3.5 cm. each month of four weeks, and is very exact after the fifth month. The measurement is taken

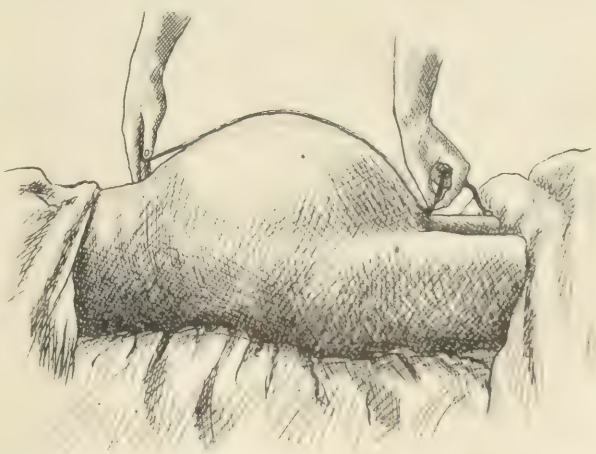


FIG. 1.—Author's rule for the duration of pregnancy. The height of the fundus of the uterus in centimetres, divided by 3.5, equals the duration of pregnancy in lunar months.

with the patient lying flat (see Fig. 1) and one end of the tape is placed at the upper border of the symphysis, while the other is held by the thumb into the palm of the hand. The fingers of the upper hand are held at right angles to the fundus of the

uterus, and the tape follows the contour of the uterus save at the last dip, as is shown in the illustration. Multiparæ with lax abdominal walls and thin uteri should be supported at the side so as to bring the occipitococcygeal axis of the child into the long axis of the mother's body.

This method gives satisfactory results and is the most exact means of estimation of the duration of pregnancy. It is strictly an estimation of the size of the fetus; for when the uterus arrives at the height of 35 cm., or full term ($35 \div 3.5 = 10$) lunar months, the fetus is of a weight of 3,300 grammes, or average size, as is shown by the measurements in my former paper. Thus, an average sized baby usually comes at the average period of pregnancy—hence the rule.

The rule depends upon the fixed point of 35 cm. fundal height, indicating an average sized child of 3,300 grammes (7.33 pounds). From this, for the purposes of induction, deduction may be made of 200 grammes for every centimetre below 35 cm. In this way an approximate estimate of the weight of the fetus may be made. For example, if the fundus measures 31 cm., the weight of the child would be 2,500 grammes, which would correspond with the average weight at nine lunar months as shown by Tuttle's rule. The so called sinking of the uterus does not enter as a factor, as it is but seldom present in the recumbent position; if it is present, the head has entered the pelvic strait and other measurements are useless. All we want to know is that the head can enter and, if it is already in, the child can pass.

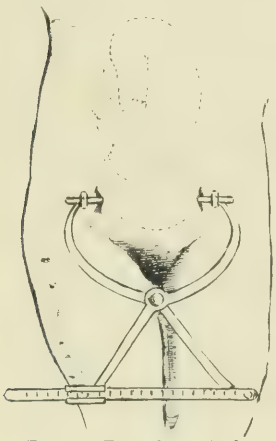


Fig. 2.—Perret's method.

This method of estimating the weight of the child should be used in conjunction with other methods of estimating the size of the fetus. It will be seen from the table, hereafter appended, that the weight of the child bears a fairly regular relation to the size and diameters of the fetal head.

MEASUREMENT OF THE FETAL HEAD WITHIN THE UTERUS BEFORE LABOR.

Actual measurement of the fetal head through the abdominal walls has been practised by the French obstetricians for many years. Pinard, Tarnier, and Perret have reported fairly good results with the method and Perret has devised a special cephalometer by which he was able to measure the head with some accuracy. The occipitofrontal diameter of the head is measured and in order to get the important diameter, the biparietal, he advised a deduction of 2.5 cm. from the occipitofrontal. His cephalometer gives good results; its only drawback is its expense and that, when the head lies in the L. O. A. or R. O. P. position, the sinciput being deeper and farther from the abdominal wall, the flat cephalometer is too rigid to get a very accurate measurement. Also his fixed deduction of 2.5 cm. does not give exact result, as the difference between the occipitofrontal and biparietal increases with the size of the occipitofrontal diameter, the one that can be measured.

Stone has based his method of measurement upon a somewhat similar procedure. The occipital and frontal poles of the fetal head are grasped, and an assistant pushes the ends of an ordinary pelvimeter in between the fingers. This method requires an assistant with more or less skill in the manœuvre and the extent to which the tips are thrust in is difficult to control.

THE AUTHOR'S METHOD.

I have sought to modify these methods in order to obtain one which, with a common instrument, will give equally good results in all hands. With this idea, an ordinary pelvimeter of simple construction (Fig. 3) was taken and two rings of adhesive plaster, about one cm. in width, fastened to each tip. These rings are faced inside with adhesive plaster, back inward, and are made sufficiently large readily to admit the middle and index fingers. The knob-like tips of the pelvimeter should project about 1 cm. beyond the palpating fingers.

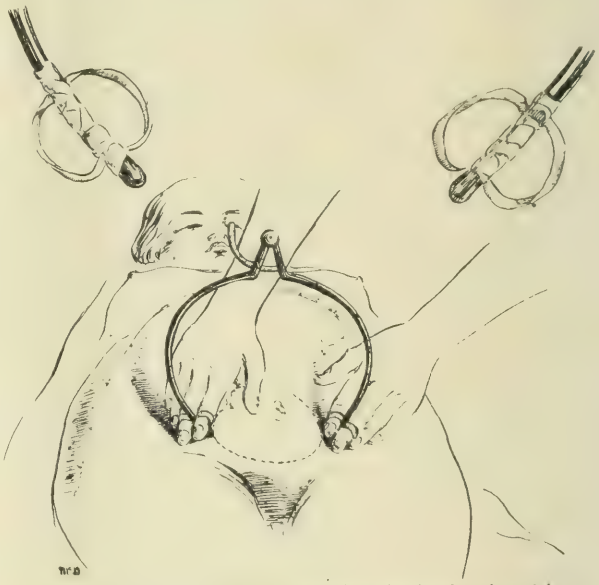


Fig. 3.—Author's method of measuring the head before labor.

The patient is laid on her back and the operator stands as if to palpate for the position of the head. An accurate diagnosis of the fetal position, not only in regard to the occiput, but as to the amount of flexion of the head is essential to success. The bladder must be empty. The occiput and sinciput are located; then the fingers are thrust into the rings and the knobs of the instrument approximated to these points as closely as possible. The weight of the hinge side of the pelvimeter is supported by the finger of an assistant, or may be held up by a string attached to the operator's arm or buttonhole. It is necessary that the hinge side should have free play of movement in order that one or other tip may be depressed, if occasion requires. The tips are held firmly against the cephalic poles and the scale is read. This gives the occipito-

frontal diameter. No deduction is required. This fact is not satisfactorily explained. The abdominal walls of a pregnant woman are very thin (usually less than one cm. measured at Cæsarean section), and it may be that the exact prominences of the cephalic poles are not reached.

All heads above the brim, or which may be thrust above the brim, can be measured, although the greatest ease is found in thin women with flat pelves which push the head forward. Small heads with much liquor amnii are difficult to fix; breech cases offer no special difficulty. However, heads lying above the pelvic brim and firmly placed thereon give the best conditions, e. g., in contracted pelves.

The measurement obtained by this means is the occipitofrontal diameter, and from this is obtained the important diameter, the biparietal.

The amount to be subtracted varies with the size of the occipitofrontal. With an occipitofrontal diameter of 11.25 cm., two cm. are deducted to obtain the biparietal, from 11.5 cm. occipitofrontal 2.25 cm., and from 12 cm. occipitofrontal 2.50 cm. This amount deducted is based upon the following table of 100 heads measured by me:

Table of Measurements of 100 Newborn Babies.[1]

No. of cases.	O. F. diameter.	Average difference.	Average weight. Grammes.
1	10	1.00	2,600
4	10.50	1.5[illegible]	2,716
8	10.75	1.81	2,075
17	11	1.91	3,160
21	11.25	2.07	3,150
19	11.50	2.26	3,247
9	11.75	2.50	3,313
13	12	2.30	3,514
5	12.25	2.35	4,100
1	12.50	2.50	4,100
2	12.75	3.12	4,350
100		2.33	

[1]Part of this table was published with my permission in Stone's article. The relation of the weight to the size of the head was not noted, so the weights were not published. Stone's method, discovered independently, is apparently similar to that of Budin as described by Dardel in 1898.

(To be concluded.)

THE NEGLECTED COLD.*

By John B. Huber, A. M., M. D.,
New York,
Professor of Pulmonary Diseases, Fordham University Medical School; Visiting Physician, St. Joseph's Hospital for Consumptives; Lecturer, The New York State Department of Health.

The wholesome enthusiasm which ever actuates the medical profession is manifest, for example, in the physician devoted to the subject of aural diseases; for him the entire realm of medicine and surgery centres in the ear. The physician whose strong point is gout will maintain that earth, moon, planets, and stars, the whole cosmos, in fact, revolve about the big toe; and so it does, for the time being at least, for the patient who is having the attack of gout. In like manner a claim may here be made for the neglected cold as the most serious, as indeed the most tragic phenomenon in all existence; and a little reflection upon the facts I am about to add to those given this evening should carry the conviction that such would be a well established claim. "Could the sum total of suffering, inconvenience, sequelæ, and economic loss resulting from common colds be obtained, it would at once promote this affection from the trivial into the rank of the serious diseases."

But it is the sequelæ, that is, the affections of which the common cold is the forerunner, which are of so dreadful import. Consider only two of these, the two which claim half of all the human mortality in the civilized world—the diseases pneumonia and tuberculosis.

Beginning with low temperature weathers, and well into the spring, pneumonia, the most seasonable of all important diseases, takes its greatest toll. The death rate oftentimes equals, and at some times and in some communities has even exceeded, that of tuberculosis. For the present let me note, to emphasize later, that merely cold weather does not yield a large number of pneumonia cases; but the changeable weather, the alternating cold and warm day, the swift meteorological changes, and the germ harboring dust are not only the ideal conditions for the development of the common cold, but also those most provocative of pneumonia.

Nevertheless the record of greatest disaster lies not with pneumonia (dreadful though the record be), but with tuberculosis, which John Bunyan well termed the "Captain of the Men of Death." Pneumonia counts its victims in all life periods—infancy and childhood and old age, when it becomes a terminal affection; on the other hand tuberculosis destroys preeminently the youth, the wage earner in the prime of life, the mother—men and women who are doing the world's work. Think of it; from adolescence up to the forty-fifth year tuberculosis or consumption has from time immemorial up to our day and generation been claiming every third or fourth adult white life, and for several centuries past every other negro adult life. Is this then a slight, a negligible thing to which the common cold so frequently leads?

And how does the neglected cold, the common cold, of which people so lightly say that, "it's nothing but a cold," how does this lead to consumption? Here, for example, is a case from life; it is indeed as instructive as it is typical:

A young girl had caught cold. You all know the symptoms. They begin with the nose and go down until the cold "settles on the chest." Sneezing, nasal obstruction, headache, coryza, at first dryness in the throat, with difficulty in swallowing and in speaking, cough, chills, and feverish sensations, pains in the chest and in the bones and joints (from the infection or toxemia in the blood).

Now this poor girl paid little attention to these symptoms; she considered that she could not afford to, because she had to work for her living. She would not, or she could not, in the cruel economic conditions which environed her, stay at home and nurse her cold until her health could be fully restored. She neglected this really serious condition, until its seriousness became converted into a tragic phase.

Instead of resting at home she kept on working in a shop where she was employed, next another girl who had consumption. Now, this other girl,

*This paper was prepared at the request of and read at the New York Academy of Medicine on February 21, 1912, under the auspices of the Public Health Education Committee of the Medical Society of the County of New York.

who was ignorant or untrained in the prophylaxis of consumption, coughed into the air about her working place, and was careless as to the disposition of her sputum. The germ of her disease (the bacillus of tuberculosis) became thus disseminated; so that any predisposed person working near by her, day after day, would certainly become subject to the tuberculous infection. And this pitiable result is precisely what came to pass. The poor young woman first referred to had become run down (or predisposed, as the doctors say) by reason of her neglected cold; and her tissues now provided an ideal soil for the implantation of the tubercle bacilli.

So then, her lassitude increased day by day, she felt none of her former eagerness for work, she had none of her former ability to concentrate her energies upon her task, for in truth she had but little energy left in reserve; she was easily becoming exhausted; she was losing flesh; and was becoming pale except for an unwonted pink flush; she felt her heart beat rapidly, and that she was beginning to breathe with difficulty on exertion. Chills became very marked, also fever; she perspired all too easily, and her cough, which she with pathetic optimism called a stomach cough and attributed to indigestion, was becoming so persistent that she got no rest by reason of it, despite the syrups and patent medicines she was using. Finally she noted a streak of blood in her sputum, and, then in a dreadful fright she did what she should have done months before; she sought a physician who had then, all too late, to tell her the truth.

Now this poor girl was of a family of six. She died. Her father was a drunkard, which habit easily predisposed him; he contracted consumption from his daughter, and died. The mother also succumbed; and died. And a son of eighteen years suffered the same fate—death from consumption. There was finally left in that family a little boy of six years, who had a tuberculous knee joint, from which he fortunately recovered.

Such is the history of a neglected cold, and it is one the like of which every doctor comes upon with really appalling frequency.

Colds seem to be the exclusive privilege of civilization. The human race, in all likelihood, did not snuffle much until it began to build houses and to wear clothes. The next stage was when houses began to be heated. Then, instead of a wholesome coping with the elemental forces of nature, people crowded into these superheated houses; and then they began to realize what colds were. Fresh air, indeed, abounds all over the surface of God's earth, except in the houses which man has built. Not fresh air, but the want of it, is the cause of many diseases; this (with sunshine) is Nature's disinfectant, and none better was ever invented.

House air that is breathed over and over again soon becomes poisonous; and cold air by the way, is not necessarily pure, simply because it is cold—it needs changing just as warm air does. "The stove is a mesmerist that plays no small part in the reduction of human beings to a state of idiocy. The mephitic vapors in the atmosphere of a crowded room contribute in no small degree to bring about a gradual deterioration of intelligences, the brain that gives off the largest quantity of nitrogen asphyxiates the others, in the long run." This, you perceive, is a quotation. From one of the up to date books on hygiene? you ask. Not at all; it was written in one of his novels by de Balzac, seventy years before our modern systems of sanitation were even dreamed of. Yet it is as true as any statement that has just appeared in print.

While staying in these comfortable and enervating houses as long as they could, people were constantly rebreathing their own poisonous exhalations, mingled with those of the family, the boarders, and such animal friends as they could not bear to see suffer in the raging elements without. Next, in fear of night air, the sleeping rooms were kept hermetically sealed.

More pernicious than all, as civilization advanced, people came more and more to contract infectious diseases; their clothing would harbor germs, and these would be brought to the house.

A very essential element in the catching of colds has been the disturbance of equilibrium in the body through constantly passing from the superheated home into low temperatures without the house.

The common cold is a catarrh. Sometimes there is a nervous element in such sufferings. People who have neurasthenia—nerve fatigue—are apt to get a catarrh with the chilling of the air and not to get rid of it until the spring is well on. People may have a nervous catarrh merely from the apprehension of catching cold. In very windy seasons catarrhs are got from breathing dust of various kinds. Hay fever is oftentimes of purely nervous origin.

But most colds are the result of specific bacterial infection, and a variety of germs have been isolated in examining catarrhal exudates under the microscope. As in the case of all infections, people differ greatly in susceptibility.

Many are absolutely immune, hardly know what a cold means, do not catch cold however much they are exposed to microbes. Others again are constantly occupied from November on with sneezing. Most unhappy mortals they are.

Habitual mouth breathers, those who have adenoids and otherwise unhealthy throats, are very liable to colds, as are those also who, for a great number of reasons, are run down. Here, as in all infections, the predisposition is most important of consideration.

Food has a great deal to do with catarrhs. Eating indigestible food—fruits, or shellfish, or Welsh rabbits—overeating and not eating enough, these things engender the catarrhal habit, which thus comes about in many cases through the absorption of poisons—toxines—from undigested or indigestible material in the alimentary tract.

Many a man has got a bad cold just from a too generous meal, helped on with potions in goodly proportion; thus there is stimulation, followed by reaction, with perspiration, all conducive to catarrhs. Again, Dr. Harry Campbell has found in London that practically all the very young children of the poor have more or less catarrh; which would probably not be the case if the starches and the sweets were cut out of the dietary. It is not so much that they are starved as that their food is improper for them.

Bad teeth are an enormous factor in the develop-

ment of catarrhs. Many a chronic catarrh is kept up for this reason alone.

It is in every one's experience that there are epidemics of catarrh. From one case alone practically the whole force of an office, a workshop, or factory will presently be suffering, and that acutely, too. If a worker comes into the office sneezing, sniveling, his speech unintelligible, better send him home until he is recovered, no matter at what sacrifice; it will be found to pay.

An enthusiastic Darwinite believes that in process of time natural selection will render the race increasingly resistant to colds; for those most resistant to the minor maladies of life, among which are catarrhs, are the most likely to leave progeny to whom they have transmitted their superior resisting powers. Be that as it may, we had better in the meantime, since it generally takes a few million years for these evolutionary changes to come about, do all we can in the way of prophylaxis to forestall colds and catarrhs.

How such prevention is to be accomplished, as also the bacterial nature of most colds, has been set forth by another writer in this series.

40 East Forty-first Street.

MORAL PROBLEMS OF COLLEGE LIFE.*

By Seneca Egbert, M. D.,
Philadelphia.

The title of my part of the discussion to-night is, as printed on the programme, slightly misleading, for I should go far aside from the general purpose of this meeting if I were to attempt to consider, even though briefly, all the moral problems which the college man of to-day must face and endeavor to solve. Many of these are purely subjective and have to do with the development of character and the determination of the aims and purposes of the man that is in the making. Like every one else, he must make the decision as to whether his life is to be devoted to self aggrandizement or to the service of others, but what he sees and hears within the college walls often presents the question in a new light and not infrequently leads to fierce conflicts in his soul. Such problems are deeply personal and have at the time little to do with his social relationships.

On the other hand, his association with fellow students and his own physical nature supply moral problems in the guise of temptations which must be met, and which likewise largely condition character formation and, perchance, the real determination of his entire future. Probably the chief of these will be comprised by the terms gambling, drinking, and sexual immorality.

On the first of these I shall say but little, except to remark that, because of increased college work and duties, and of restrictions of various kinds, this evil is probably not so important now as formerly, and that in most institutions excesses in this line are the exception rather than the rule. Perhaps the greater harm of this nature at present lies in the frequent wagering upon college games and other sporting events. Some look upon large wagers as a means of evidencing college loyalty or good sportsmanship. Hence wrong ideals are created, money is risked that cannot be afforded and that has cost much parental sacrifice, and at times actual and serious dishonesty is the result. Whether much, if anything, can be done to check this at present, I think that all must admit that the greater evil of card playing and gambling for high stakes is not so prevalent nor so readily condoned in college circles as in days gone by.

As for the drinking habit, it is, among other reasons, to be deplored in college life because of the immaturity both of the body and judgment of those who accustom themselves to it. Immature bodies are more readily harmed by alcohol than are those of adults, and immature judgment prevents a true appreciation of the dangers of the habit and proper mental balance and sense of proportion and values. While alcohol may occasionally whip a clever brain to the accomplishment of some brilliant feat that elicits admiration, the results of its use are far more frequently disastrous, and the acquisition of the habit almost always tends to render the student unfit for sustained and creditable work.

Moreover, the use of alcohol by young men is also to be deprecated because it renders them easy victims of the unscrupulous, and especially because it lessens or amends the power of resisting temptation, particularly as regards sexual indulgence and transgression—the gravest of the moral problems of this character and the chief theme of our discussion to-night. Other phases of the relationships of college students and the alcohol habit will occur to many, but I think that most of you will admit that were it not for the physical excitation and the obtunding of the moral sense and conscience due to alcohol, other temptation would be lessened in force and power, and be more easily and frequently resisted. Temperance and continence are twin virtues which strengthen each other and brook severance with poor grace.

Doubtless no one who has given serious thought to the matter will gainsay the assertion that sexual immorality is the gravest of this class of student problems, both on account of the physical risks involved and because of its influence upon the character and ideals of the individual concerned. As for the first, Doctor Morrow has already told you this evening of the prevalence and frequency of transmission of venereal disease, and I can assure you that he speaks as one having much authority for his statements and statistics. Any physician who professionally has had much to do with student bodies will confirm his assertions as to the actual danger of infection. Consequently, I need not take time to consider this phase of the question, except to say that I believe that every student should have, early in his course, full and authoritative information as to the physical risks to himself, as to the nature of venereal diseases, and as to their results, both to the immediate victims and to their associates and families. Since we know that so little authentic instruction is given before students enter college, we should assume that every one of them is ignorant, at least in part, of the truth concerning these matters. The case would be different if all

*Prepared at the request of and read under the auspices of the Public Health Education Committee of the Medical Society of the County of New York at the New York Academy of Medicine, Feb ruary 7, 1912.

boys could and did have the parental guidance and help that Doctor Wile will outline and advise when he addresses you, but since they do not as yet get this at home, except in comparatively few instances, they should be taught fairly, honestly, and thoroughly as soon as possible after going out from home influences into the freer and more unrestrained life of the college world.

And while the inculcation of fear should not be looked upon as the most important factor, and the chief effort should be rather to awaken the moral nature and develop high ideals, there should be left no opportunity for a future claim that transgression and infection occurred in ignorance of the possible results—no chance for even one to say "I did not know that this evil could happen to me and mine, or be so great. Why did you not tell me in time?" Some will say that the average boy is already informed and even sophisticated in regard to these matters by the time he enters college, but I feel sure that many physicians here believe with me, that such knowledge as the boy has is more likely to be misleading and unsafe, and that even the average adult needs to know more of the truth concerning these maladies and their dangers.

This is also the time in the young man's life to eradicate, if it is already planted in his mind, the fallacious and dangerous doctrine that sexual continence is incompatible with good health upon the part of men—a doctrine which has received the condemnation by resolution of the American Medical Association at more than one of its annual meetings, and of other representative medical societies. Further, every student should be impressed in this respect by the honesty and candor of his teacher, who should be a physician of ability and integrity. Nor should we forget that many students who will not themselves yield to temptation of this kind will, because of the instruction thus received, become teachers of others and influential advisers when they go out into the world.

The other phase of the subject—its influence upon the character, ideals, and moral life of the student—should be fully and even more seriously considered. We must admit, I think, that many, if not most, young men have hazy if not inconsequential ideas upon the moral questions involved in sex relationships. They know that the physiological function concerned is a normal and natural one, pertaining to almost all forms of animal life as well as to man; they experience the promptings of strong appetite and desire; they find temptations of a most seductive nature on every hand, and many have been taught and believe that guarded indulgence is not physically harmful but even salutary. And if they read the current literature of the day, they find that there are apparently many moot questions as to what is really to be considered immoral in affairs involving the sexual instincts. Wherefore, then, the moral wrong, provided one does not get caught, become infected, or bring open shame upon a woman?

Here is where the teacher must be especially clear, earnest, and honest, and where he may do his greatest good in the way of instruction. The ethical and moral sense of the student may, and, I think, should be appealed to and impressed along two lines; first, by emphasizing the importance and influence both physically and morally of one's present actions upon one's later life and especially with respect to one's future family relations, and secondly, by demonstrating the inevitable and positive influence for evil which is inflicted upon the participating woman.

The feeling and instinct of prospective paternity is latent in most young men and sometimes strong, unless it has been dissipated or destroyed by vicious living; it may be as strong and influential, though as yet unrecognized, as the instinct for maternity in women. So, many a man who might freely and recklessly seek adventure, excitement, or gratification, and risk harm to himself, will pause and take thought of his actions if he knows that they may bring irreparable damage to his future wife or children. He may be altogether wanting in fear for himself, yet may, if the picture be made sufficiently clear, be dreadfully afraid for those others, even though they are as yet to him indefinite or unknown. Doctor Morrow has drawn the picture most graphically for you who are here to-night.

But can we not go further? Can we not make him see that though he should escape any physical infection and harm in wrong doing and thus carry no taint to the bodies of his wife and children, he still undergoes a moral hurt in illicit sexual indulgence that will be a blot or bar upon his later marital happiness and make him less capable of enjoying the full measures of husbandship and fatherhood? Ideals and concepts are lowered and grossly stained, regret for what is irretrievably lost is keen, and medical men know what marital wretchedness may result from past misdeeds and excesses even in the entire absence of infection and physical taint. The psycopathy of sexual life affords a wide range of phenomena that are not pleasing to contemplate, and yet many young men, through ignorance, invite evils of this nature to afflict their after life while "sowing their wild oats." Take even a simpler circumstance. Perhaps the ease with which a man overcomes the scruples of some girl may later cause him to doubt the honor, constancy, and purity of his wife and serve to feed the fires of uncontrollable jealousy in his bosom.

Lastly, we may make what is perhaps our strongest appeal to the young man—the college student—by noting the effect upon the feminine copartner in his transgressions. In his college course he is bound to receive some training and experience in ethics, whether he gets it in the classroom or on the campus. Constant appeals are being made to his manhood and his better self. Bad is he indeed, if matters pertaining to his moral nature and development can make no demand upon him, especially when clearly and forcibly presented.

The worst of college men would not countenance in a sister, or one dear to him, what he pretends to condone in another girl with whom he is intimate. Certainly it should not be difficult to convince a right minded individual that no woman, no matter what her caste or social position, can transgress the moral law in this respect without positive harm to her spiritual self, and that her copartner in transgression must be in part, if not altogether, responsible for that harm. He himself cannot respect her and he has taken away her self respect. Nor can he or she tell how much of spiritual damage has

been inflicted upon her—how much acceleration of velocity upon a downward path has been transmitted to her by his influence. All this is apart from any thought of accidental conception and pregnancy, or from loss of social status through discovery of wrong doing. Can any man justify himself, when moral harm to another is the consequence of his acts? If the college man has any advantage over others, surely this argument should be most effective with him.

The foregoing remarks by no means exhaust the possibilities of discussion concerning this very important subject. Something might be said, for example, of the means for physical exercise and recreation which the college or university should provide, whereby the exuberant energies of adolescence may be diverted and the insistence of the functional desires lessened. It is not that gymnasia, athletic fields, etc., are lacking. They are plentiful enough, but comparatively few in almost any institution secure the full benefits of what they can supply. What is needed is that their use should be made universal for and by the whole student body, and that the individual members of the latter should be made to appreciate that they have in congenial physical work and contest a means of averting or diminishing the obsessions and temptations of this peculiar nature.

However, I have trespassed sufficiently upon your time and patience, and must give way to the next speaker. As I have already intimated, if the advice and counsel that he will give you to-night could be put in force in the homes and by the fathers of the land, this greatest of moral problems in college life would soon lose much of its magnitude and importance, and similar problems that our young men outside of college walls must face, would likewise be the easier of solution. As it is, the help that we older brothers can give them must come mainly through honest and conscientious popular education, and such meetings as this one that we are holding to-night are admirable agencies in achieving that purpose. I thank you for the privilege of participating in it, and for your kind attention.

WHAT A FATHER SHOULD TELL HIS SON.*

By Ira S. Wile, M. S., M. D.,
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While many encroachments upon family responsibilities are daily occurring, in the last analysis the parents are held accountable for the physical, mental, and moral development of their children. Parents are held responsible for failure to provide adequate food, clothing, or shelter; they are compelled to give their children an education; the social and moral conduct of their children arises in large measure from parental training.

Despite the general increase in the average of school education, the particular aspects of hygiene that are most essential for the advancement of the race welfare are neglected. Physical education is receiving considerable attention in public school systems, but the stress is too often placed upon non-educational phases. In all the teaching of hygiene that at present is found described in published curricula it is difficult to seize upon any references to sex hygiene in the elementary schools. As this very important phase of education occupies no place in the schools, one would suppose that there is adequate treatment of the subject in the homes and that the parents are efficient teachers. The facts are to the contrary. There is little or no teaching of sex hygiene by parents. The entire subject is for the most part tabooed in the average home because of ignorance of its importance, traditional timidity, and lack of sufficient information as to the best time and methods for imparting the necessary information to the children.

The present sources of sex education for boys are to be found, not in the sanctified atmosphere of the home, but in the vicious literature that is distributed by the advertising quack, and in the mouth to ear transmission of the unfortunate sex lore through the medium of the active gang. History, English, Bible study, theatre, novel reading, and reference to the dictionary form subordinate methods for filling the boys' minds with erroneous conceptions about sex and its hygiene. Lamentable ignorance results, though at an early age the boys believe that they are most wise concerning sex problems.

Fathers and mothers are equally responsible for the education of their children. During the early years of a boy's life the influence of the mother is paramount, because of the greater time spent in association with her. The responsibility of the father is in no way lessened, however, on this account. From the boy's infancy the father must assume his place as a teacher.

It is beyond doubt that the father can better appreciate the sex difficulties of his son. His sex knowledge, experience, and sex sympathies enable him to approach the boy's mind more intelligently than the mother, if he would only make the effort. When the distinctively masculine problems arise the father should become the special guide and friend of his son.

Sane fatherhood merely requires parental honesty, available information, and a willingness to serve as an intelligent supervisor of the developing mind of the evergrowing child from infancy to maturity.

Honesty to the child is requisite, even during the early years of infancy and childhood. As the boy acquires his knowledge by asking questions from his parents, there must be no line drawn when the boy makes inquiry as to the origin of life or as to the physical differences between the sexes. The reason that so many parents have recourse to senseless fabrication is due to the fact that the child's question is interpreted as a very serious one by the adult consciousness instead of appreciating that it is merely the simple query of an undeveloped and seeking mind. Once the father realizes that the child mind is pure, and may be kept clean by answering the questions honestly himself, rather than by driving the child away to others for the infor-

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mation that is desired, the more quickly will he cast off his false modesty, or timidity, or shall I say cowardice, and answer the child in honesty and truth. The question will be settled for the time being at the period of life that finds the child inquiring.

Certain constructive features of education must be carried on all the time in an unostentatious manner with a view to gradually inculcating the basic principles that in themselves constitute prominent factors in sex hygiene. The training is to cover a lifetime, and is only to be accentuated as a special part of the boy's education when some particular occasion arises that appears to warrant a direct discussion of some phase of the subject for the purpose of correcting an erroneous idea, or for the purpose of protecting the boy from an apparently impending indiscretion.

The necessity of cleanliness in the care of the genitalia must be early inculcated. The source of much of the irritation leading to masturbation arises from the neglect of genital hygiene.

At an opportune moment it is desirable to show that all life has its origin in parents. Numerous illustrations may be selected from the animal and vegetable kingdoms. The life history of a flower, a tree, a chicken, a fish, a dog affords numerous stories that may be told to a child from three to ten years of age to show the biological truths that are essential to the appreciation of the wonders of the origin of life. Mere stories based upon such natural phenomena give ample play for the youthful imagination without being in the least salacious.

The hygiene of sleeping deserves more than passing attention. In a cool room, sleeping on the back, with hands outside of the covers, gives the greatest protection from self abuse. The child should be thoroughly tired before going to bed so that he will immediately go to sleep. Rising should quickly follow awakening. The night clothes should be loosely fitting and not of an irritating material. The bed covering should be warm, but not too heavy.

Politeness and courtesy to the female sex are of value in developing the sense of protection that every boy should have with reference to his female friends as well as his sisters. At a later period it is even desirable to give the boys some definite ideas regarding the occurrence of a periodic variation in the physiological functions of the female sex. It is far better to have this sort of information come in a natural manner from the father, than to have it acquired from the street, or from pornographic literature. An understanding of the physiology of the opposite sex will be of immense value in protecting the girls at a time when they most need it. Needless to say information of this character may be reserved until boys have assumed some part of their sex characteristics.

In the prepuberal period the father must begin to assume, if he has not already done so, some of the nature of a boy's friend in addition to his parental relations. To keep the confidence of his boy he must be an equal rather than a superior in matters pertaining to sex hygiene. It is at this time that gang life begins to get a hold on the boy and the precarious mode of sex education is taking place. Here again frankness and honesty are absolutely essential. Spontaneous questions are to be answered freely. If necessary it is often wise to elicit questions by judicious conversation when in play with the boy or on a jaunt with him.

The natural development of life from the seed or the egg may be further developed through more detailed talks about the transfer of pollen or the fertilization of the eggs of the lower animals. Examples may be shown in actual life or from book illustrations as the opportunity allows.

Instruction in the care of the genital organs can readily be expanded to cover in part the necessity for this care. In other words the functions of the sex organs may be alluded to in the course of friendly parental conversation as the boy approaches puberty. It is also a piece of wisdom for the father to forestall outside influences as much as possible by encouraging his son to bring all his questions to him rather than to have him imbibe the stream of filthy information that is available in other channels.

To inculcate a desire for healthful exercise at this period is of the greatest value, not only for the purpose of fatiguing the youngster, but for the reason that a boy engaged in vigorous outdoor exercise is less likely to suffer from sexual excitement.

The period of puberty is one of the most important for the guiding influence of the father. The boy begins to take on the physical features of manhood. His emotional life is increasing by leaps and bounds. The numerous struggles against sexual crises may finally result in his undoing. It is in a sense the critical period in his sex development. Emotionalism and sex feelings crowd his will into deep and dangerous places. The traditions of the gang bid him shake off the ties of apron strings and be a man, implying that sex experience is essential to his health. Masturbation is almost an universal habit at this age. The continuance of this practice depends upon the strength of the boy's will and his understanding that self abuse is a potent factor in destroying his physical, mental, and moral comfort. To pass from self abuse to the abuse of one of the feminine sex is a short step when the pressure of the gang is behind the boy and there is no guiding hand to restrain him. It is regrettable that there are fathers who at this serious time of indecision feel impelled to tell the boy that sexual intercourse is necessary to his well being. Such advice is as pernicious as untrue. The father who counsels his son to worship at the shrine of Venus is assuming a tremendous responsibility for the physical welfare of his boy. He is a greater source of danger to his son and to the community than the timid parent who does not dare to broach the subject to his, to him, most innocent child. Oh, the blindness of fathers who do not recall their own boyhood and the extent of their sex information after the age of thirteen years! As a caution to such men, let it be remembered that ignorance and innocence are not equivalents. The boys of the cities are for the most part wise in their ignorance before puberty is well under way.

During the period of puberty, it is a duty of the father to instruct his son in the real purposes of his sex organs. A wise counsellor and friend will give all the necessary facts to protect his son from

yielding to impulses the consequences of which have not yet sunk into his consciousness. The boy must be frankly told the functions of his testicles and his penis in terms that are free from the unpleasant suggestions that cluster about the careless terminology of the street and the brothel. The subject of the interrelation of personal cleanliness and the family health may advisably be dwelt upon. The father may, with a sense of a duty to perform, explain the harmlessness of the seminal emissions that are prone to occur at this age. This caution is especially required in the face of the tremendous amount of quack literature that assails his eyes in pamphlet form or through the outraged columns of the public press. The boy should be taught that night emissions are normal, and simply indicate that Nature is relieving his body in a natural manner of a surplus of seminal fluid. It is well to suggest that as long as his bed bears the evidence of this normal secretion at infrequent intervals his father will know that his son is strong and sexually healthy. It is wise to call attention to the fact that when athletes desire to train for their feats a strict adherence to a life of sexual purity is imperatively required.

Because of the development of the emotional side of the boy's character, the period of puberty is warm and love is young and restless within him. It is quite noticeable, however, that there is an unusual appreciation of the family ties at this time. To call upon the love for mother and for sisters, as well as the respect for the female relatives, by making the son's standard of conduct toward other girls the same as he would exact from other boys toward the girls in his own family is a powerful incentive to self control and sexual restraint. In fact the playing of amorous games and the greenness of Love's springtime lead to poisoned wells of joy for the impulsive, untaught youth with red blood pulsating through every artery.

By the time that a boy has thought of shaving as an imminent necessity, he has heard another false piece of sex lore to the effect that gonorrhea is nothing worse than a slight cold. Of all damnable doctrine this is the most serious and indefensible. In order to counteract the influence of this pernicious lie, the father should tell his son of the nature and dangers of the venereal diseases. Not alone should stress be placed upon the personal results of the venereal diseases, but more particularly should the boy learn that these diseases, so difficult to cure, are a possible source of infection of his mother and sisters and of the portion of the community in which he lives.

A final bit of tradition that needs to have particular attention, is the statement that sexual intercourse is essenial to masculine health. This is false, save possibly for a few men with undeveloped wills and overdeveloped sexual organization. This latter type is so unusual as to be negligible. The needs of the man who has freely indulged in sexual life are not to be considered. I repeat that there is no more necessity for a boy to indulge in a sensual life than there is occasion for him to practise masturbation. Sex purity is not alone compatible with health, but health is far more likely to result from adherence to sexual abstinence than from submission to those impulses that lead to internal medication or injections. No matter what the personal experience of the father may have been, he has a duty to his boy to protect him from disease. Therefore, he must give his son the advantage of his knowledge. If, after the warning words have been given, the boy elects to travel along the road toward impotence, sterility, or disease, at least he will never be able to cry out "Why didn't my father tell me?" After puberty has fully developed and adolesence is fully under way, there will be frequent admonitions, or at least the necessity for warnings against the siren call that sexual indulgence is an essential characteristic of manliness and is requisite for health and vigor.

If a father has maintained the confidence of his son there will be no difficulty of discussing freely with the maturing young man the importance of the single standard of morals for the community, and that standard the one now exacted by men of the opposite sex. Honest discussion of the problems of prostitution, the white slave problem, the immediate and remote effects of the venereal diseases upon the individual affected and the community, are fruitful in building up in a man-boy's mind an intelligent conception of the hygiene of sex, particularly on the prophylactic side. Recourse to anatomical museums may be of inestimable value in training some young men, by impressing upon their minds, through the vision, the horrible nature and extent of the physical personal ravages of the venereal diseases.

The necessity of a man entering wedlock free from physical disease, demands ever increasing thought, and this will be given in time by all fathers as the demand for certificates of health previous to marriage becomes more general throughout the country. At the time of mental projection, when the young son begins to picture his own home surrounding him with all the joys of a wife and children, the father has the natural opportunity to impress his son with the obligation that devolves upon him to bring to that fancied home a full measure of health and vitality. The story of preventable blindness may be told; the dangers of infection of the wife by the dissolute husband may be recounted; the unhappiness resulting from masculine sterility warrants full comment. In brief, the boy should receive from his father the true statement of facts to which he is entitled as part of his education for life. It is not demanded that fathers be eugenists, or wiseacres on sex topics and their correlated phenomena, but it is only fair that they should not dodge their responsibilities, or make mystery, or foster darkness where there is no mystery and light abounds.

Parental advice is not always followed in any walk of boyish endeavor, but fathers do not refrain from offering counsel on this account. The best protecting influence that a boy can have is the wise father who is not afraid to impart knowledge regarding sex hygiene as far as his own limitations permit.

Unless a father makes the attempt adequately to prepare his son for a life that is fraught with temptations, and honestly endeavors to strengthen the will of his son, parental obligation has failed to

establish fatherhood on the highest standard; and the father is in every way partially responsible for every sexual fault or indiscretion of his son. It represents an unconscious alliance of fatherhood with disease and dissipation. The policy of silence regarding sex hygiene must cease, and fathers must give positive constructive information to their sons at the times that such information will be of maximum benefit. That really means that the education of children in sex hygiene will be supervised by the parents from infancy to maturity.

Permit children, particularly the boys, to secure an honest, clean, and scientific interpretation of the phenomena relating to, and associated with sex characteristics, the origin of life, and the actual facts regarding the hygiene of the genital organs. Banish the toilet placards, the vulgar tales, the charlatans' advertising booklets, the sexual leader of the gang, the lewd companions, the prostitute as the fonts of sex information. To supplant all evil influences is impossible. It is feasible to introduce the father to the son as a companion, and friend with whom there may be every confidence and conversation. It is possible and desirable to induce fathers to live up to their obligations as fathers. The way of the transgressor is hard, but far harder should it be for a father to sit quietly by and realize that, but for his silence the transgression and its train of evil and suffering might not have occurred. In self defence fathers should build up a physical structure for their sons that will not crush them in their falling. Fathers should be the steel work in the concrete building of sex equilibrium.

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WHAT A MOTHER SHOULD TELL HER CHILD.*

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There is one very simple and definite answer to the question of any mother worthy of that name, who puts the query "What shall I tell my child?" either to her own conscience or to some respected adviser. That answer consists in two words: *The Truth.*

Please notice I have not said "the whole truth," because sometimes the whole truth is unwholesome and will cause undesirable results; but neither have I said "the partial truth," "the half truth," nor used any other qualifying adjective, because partial truths, half truths, and all their kin, are most liable to be followed by bad results.

Tell the children the truth at all times, under all circumstances. Tell it to them simply, directly, unashamedly. In all the world there is no better example of faith than is to be found in the implicit trust with which a child accepts and believes what we say and what we do. But there is the difficulty. Many of us are not wise enough to follow our own preaching, but the children are keen enough to observe our inconsistencies, and quick enough to puzzle over them and to search for some explanation which is usually not forthcoming from their own limited experience.

I am confident that you all agree with me, theoretically at least, in this answer to the problem, and I am conscious that many of you, if not all, are thinking "Yes, but what is the truth in sex hygiene and how much is it possible to tell the child?"

When I was asked to prepare and read this paper I was given to understand that that was the question I was expected to answer, so without further preamble I will endeavor to do so as best I can.

To begin, let us take the little child who can barely talk in connected sentences; that is, the child of two or three years, who, like as not, will lisp the question: "Mother, where did baby come from?" Don't put the child off with the old time tale "from the ash can," or "the milkman," or "the stork," or any other lie. Speak the truth as simply as you can and usually your best answer will be "from a seed like the flowers" or "from an egg like the birds," depending upon the natural interests of the individual child. Many wise mothers begin at this early age to outline the great problem of evolution from germ to matured infant and make the revelation in the form of a continued story of bedtime tales or of twilight and fireside confidences, to which the child acquires the habit of looking forward with eagerness, and which it quickly understands are sacred "hours for secrets between mother and baby." During these little talks the growing child pours forth the secrets which it has stored up all day to tell Mother, and the wise mother respects that special quality of these confidences and keeps them as religiously secret as she desires the little one to treat the story with which the hour closes. These sweet stories are developed usually about some picture, frequently of animal or plant life, which the mother can show as a means of leading the little mind to observe and think about natural phenomena. Attention is called to the baby plant which grows from the seed and the development of that seed in the ovary of the flower, its fertilization by the pollen, and the subsequent sleep in the warm earth are all unfolded to the child and paralleled later by the baby fish, the baby bird, the kitten, or puppy, or other infant animals, leading so, through gradual, simple, and familiar ideas, to the natural parallel of the baby child and its relation to the parents who gave it life and being.

It would be impossible for me in the time at my disposal to take you step by step over all the subjects for these twilight talks. Many of them should rightly concern other topics than the problems of reproduction, in order to avoid any possibility of leading the little mind into the danger of too constant thought upon one general subject. I would suggest to you, however, that most accurate information for the sex talks and very suggestive methods for them also, may be obtained by any mother who desires to handle this subject at this age, or any subsequent age of the child through a careful reading and digesting of the four little volumes, written by Dr. Isabelle Thompson Smart and published by the Bodmer Company of New York. These books

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are called The Mysteries of Life Series and are 1, *What a Mother Should Tell Her Little Girl;* 2, *What a Father Should Tell His Little Boy;* 3, *What a Mother Should Tell Her Daughter;* 4, *What a Father Should Tell His Son.* There are other books on the subject, many and varied in name and nature, and many of the publications of the American Society of Sanitary and Moral Prophylaxis should be of great assistance to the parent, but I personally know of no books which so thoroughly cover the whole problem as Doctor Smart's.

Let me suggest to the mother who is really earnest in this matter—and what true mother is not in desperate earnest in safeguarding the purity of her child—that a study on her part of some of the following books, or others similar thereto, may make easier the explanation of analogies in the sex history of different orders of organic life: *Mother Nature's Children,* by Allen W. Gould; *The Fairy Land of Living Things,* by Richard Kearton; *Lit-the Flower People,* by Gertrude E. Hale; *Plants and Their Children,* by Mrs. William S. Dana; *Life Histories of American Insects,* by Clarence M. Weed; *How to Know the Ferns,* by Frances Theodora Parsons; *The Bee People,* by Margaret W. Morley; and *The Stories Mother Nature Told Her Children,* by Jane Andrews.

Having made some suggestions for the baby's instruction, let me pass on to the older child. First a word of advice to all mothers, "Don't shirk!" second, the original suggestion, "Tell the truth," and third, "Tell it openly, without shame, and directly."

Now for the first point. If you don't know the true answer to the child's question, it is not always necessary to say so. Temporize with some such statement as this: "Mother must think carefully before she can answer your question exactly, come back at such an hour and I will tell you," or "The answer will take longer than Mother has time for just now, but she will tell you at such and such a time." Then, Mother, get busy; find out the answer and keep your word on time. Go to books if you can, or to some doctor, or to some other accurate source of information. Be sure you are correct in your data and keep your promise! Don't shirk!

Secondly: Tell the truth. The human organism is a very complex and delicately balanced mechanism, each part of which is minutely adjusted to work in harmony with all other parts. The least abuse or faulty action on the part of any one organ has its influence on all others and frequently shows its most marked evidence of being "out of gear" by some symptoms occurring in organs very remote from the scene of the real trouble. The symptoms are known as reflex symptoms and usually are the result of activity by that part of the human machine known as the sympathetic nerve. Some examples of this may serve to illustrate my point. Many of you are familiar with the headache which is apt to accompany constipation; some of you may know from experience the sense of nausea, or of goneness in the region of the stomach, which occurs (in some people) on looking down from a great height; a few of you may know that many cases of seasickness are caused by the habit of watching the horizon rise and fall with the roll of the ship, and that closing the eyes or turning the back to the sea will prevent such seasickness. All of these conditions are reflex effects, remote from their direct cause, and are, more or less, due to the close and intimate connection of the parts concerned by the sympathetic nerve.

Perhaps no section of the human body is more generously supplied with connections with the sympathetic nerve than the sex organs, and this fact may account for the great number of ills which "flesh is heir to" which express themselves in various and more or less remote parts of the body, but which are directly due to some unnatural condition, activity or inactivity, of the sex organs. This sympathetic nerve connection may also serve to explain to you why slight disorders, such as a light cold, wet feet, or some other more or less insignificant thing, may have a most marked influence in upsetting the regularity of the sexual functions.

Let us consider for a moment the human body and the organs it contains. We must remember that the trunk has two compartments, the upper or chest separated from the lower or abdomen by a thin spreading sheet of muscle, called the diaphragm, which forms at once the roof of the abdomen and the floor of the chest. In the upper compartment we have the lungs on either side, the heart, and great vessels in the middle below, and a gland, called the thymus gland, in the middle above. Just where the chest really narrows into the neck we find another gland, the thyroid. Science was very slow to appreciate the influence and significance of such glands as the thymus and the thyroid, but now we know them as two of a very important class of glands of which I will speak again in a few minutes.

Below the diaphragm in the abdomen are the liver and the stomach and, back of and below them, the kidneys, the pancreas, and the spleen, and the long coils of intestine, usually about thirty feet of it in all. Packed in snugly at the bottom of the abdominal cavity in the woman, and protected all around—at the sides by the bony structure of the hips or pelvis, and above by the intestine—and lying between the bladder in front and the end of the intestine or the rectum, behind, is that cradle of the human race, called the womb or uterus, with its various appendages of which I will speak more at length.

The liver, the pancreas, and the kidneys are glands, but of a different sort from those we spoke of in the chest cavity. The liver and that class of gland manufacture a substance which is passed along a duct, or tube, and used for the digestion of food in some other organ of the body or for excretion of waste products. The thyroid, and that sort of gland have no duct, but they manufacture a substance which is absorbed into the blood and so carried to some distant parts of the body, where it helps in the preservation of health and in bodily nutrition, or, to use a technical word, in metabolism. To this class of ductless glands belong, not only the thyroid and thymus of the chest cavity, but also the spleen, and two little glands, one above each kidney, called the adrenals, and the two little organs which lie at either side of the uterus, called the ovaries.

All glands manufacture some substance for body use; those substances manufactured by the glands having ducts are called external secretions; those manufactured by the ductless glands are called internal secretions and are very important for us to remember to-day.

All these organs which I have thus enumerated have important and closely interrelated functions, some of which you doubtless are familiar with, but I have not time to give you a lesson in general physiology, even if you desired it, and so must come to a definite section of this complex whole, namely, the cradle of the human race, the uterus and its appendages.

Let us consider for a few minutes that lower portion of the trunk of the body called the pelvis and imagine two views of that. One view would show the relative positions of the pelvic bone in front, the bladder close behind, then the uterus, the rectum, and back of all again pelvic bone. From this you will understand why it is important to empty the bladder and prevent it from pushing the uterus backward, and also why it is important to keep the rectum empty, by moving the bowel, and so prevent the uterus from being pushed forward. Then, too, you can imagine what must happen to that little cradle if both bladder and rectum are full; because, as you see, the whole human trunk is packed very closely and all the coils of intestines lie above it. On our other imaginary view, you must imaging the front part of the pelvic bone removed and behind you would see the muscular and bony structure at the sides, the bladder in the centre and foreground, and the two ovaries and two armlike projections called Fallopian tubes jutting out from the uterus, which lies in the centre behind the bladder.

In both of these views you should have noticed a canal leading down from the uterus, which is called the vagina, or birth canal, and which is the exit through which the baby must come into the world after being carried for nine months, or 280 days, in the uterine cradle. These organs form what are known as the internal sex organs of woman. The uterus, a hollow, muscular organ, not as big as my fist, is so planned that it will stretch and stretch until it holds a seven or even eight pound baby comfortably, and then will contract again to nearly, if not quite, its original size. The ovaries are small (about the size and shape of an almond), and every twenty-eight days, from the beginning of a woman's sex functional life until the end of menopause, each ovary brings to maturity a small ovule which contains the germinal ovum (the egg or seed), and this, if impregnated, will become a child. In order to nourish properly the impregnated seed, when the time for such nourishment arrives, Nature begins a woman's functional life by establishing a habit on the part of the circulation of sending, every twenty-eight days, an increased blood supply to that part of the body to hasten the maturity of the ovule. If not required for the further nourishment of the ovum some of that extra blood supply is thrown off in order to assist in carrying away the little excreted germ, and thus we have what we know as the monthly menstrual flow. Nature is always lavish in her provision for life and especially for reproduction, and she furnishes every month from puberty to menopause a seed for possible impregnation, and when you realize that the majority of women, nowadays, only have at most four or five children, you will appreciate how much value Nature attaches to the ova that come to full fruition. The seed, which must reach the interior of the uterus through the Fallopian tube and pass out through the vagina, is so small it could not be seen by the naked eye, and yet as soon as impregnated it contains all the potentialities or latent possibilities of character, of temperament, and of physique, which the future human being will possess.

While still contained within the ovary, or, some authorities assert, within the uterus, this minute ovum is susceptible to influence through the action of the maternal sympathetic nerve, and, accordingly, may develop desirable or undesirable potentialities for the future child. Does this suggest to you how careful the young girl, as well as the mature woman, should be not to jar that sympathetic influence by bad hygiene in other parts of the body, or by careless or thoughtless abuse of any part, or parts, of the complex human mechanism? Beside maturing the ovum each month, the ovaries, as ductless glands, produce an internal secretion which has a very important influence in maintaining the healthy function of the whole body; and it is wise for us all to realize that these two little bodies have this dual function; one of which pertains directly to reproduction, the other to the maintenance of the general health.

This information which I have so hastily sketched in part of what your child—boy or girl—is entitled to learn from you as the real truth about sex. Now let us turn to another part.

Unlike the sex organs of the girl which we have just reviewed, the sex organs of the boy are carried largely outside of the trunk of the body, but they have a very close resemblance, in functions, up to a certain point.

The boy has two glands similar to the ovaries which are called the testicles, and which, like the ovaries, have a dual function, i. e., they have an internal secretion which helps to maintain the general health, and they produce a germinal seed, called the spermatozoon, which must unite with the ovum before the child can be conceived and grow in the maternal organism. These two testicles are suspended in a baglike body, called the scrotum, which when necessary to force the spermatozoa out of the testicle, can, with the aid of other structures, accomplish this result. The boy also has organs, which we may compare to the uterus and Fallopian tubes, and which are contained within the pelvic cavity; they are called the prostate gland and the seminal vesicles, and in them the semen, in which the spermatozoa may live and are expelled from the body, is made and stored for a short time prior to expulsion. In the male the seminal vesicles and prostate gland are in much the same situation as the uterus in the female, that is, they may be compressed between an overdistended bladder and an overfilled rectum, unless the emptying of these organs is habitually and properly attended to, and therefore neglect of these duties will have equally bad results in boy and in girl. Corresponding to

the female vagina is the male penis, an organ composed, as is the vagina, largely of erectile tissue and having a canal through which the semen and spermatozoa are expelled. Like the scrotum and unlike the vagina, this penis is outside the body. It also has a dual function because its canal is the duct by which the bladder is emptied.

Now let us turn to another side of the information your child is entitled to receive from you. The data which I have just outlined are not necessary to give to the baby, they are a section of that part of the "whole truth" which would be unwholesome, but the boy or girl of eight, nine, and ten years is entitled to the bulk of those data. In the baby these organs are immature, nascent, and therefore inactive in large measure; this is why there is no need to give the information at this early age and cause the child to have mental indigestion by thinking about unnecessary things. However, at eight, nine, or ten years, these organs are no longer nascent and inactive, though still immature, but have already begun to grow rapidly and to assume gradually their ultimate function, and this organic activity causes, in girl and in boy alike, many new sensations, unusual and therefore alarming emotions, and the child is puzzled and begins to become introspective, and, later, possibly, morbid, unless carefully instructed and wisely forearmed by being truthfully forewarned. Therefore, in your bedtime or twilight talks with your eight or nine year old child, begin to enlarge your information and make it definite and personal on human anatomy and human physiology. Do not let it appear so much in the form of a story as the earlier talks, but in the nature of information which you wish the boy or girl to have and to respect as accurate, truthful, positive, personal, and sacred. Tell your children that, because these organs are preparing for their real function, certain strange sensations and unfamiliar thoughts may come to each child, but that they need feel no alarm, but tell Mother or tell Father when they do notice them and the cause can then be easily explained. Warn them that other children have not always received the instruction along such lines, which it has been their privilege to have and your privilege to give them. Tell them that these less fortunate companions of theirs have puzzled over these things alone, or have gone to bad people, or to bad literature, for answers to their questions and been lied to, and, more puzzled or more frightened than they were originally, have got into false ways of thinking and of acting. Instruct them that if these same unfortunate companions begin to talk on such sacred topics you have three desires of your children: First, if possible, to prevent the boys or girls from continuing their talk; second, if that seems impossible, to leave, or refuse to listen to such talk, and, third, to tell Mother or Father at once whatever they hear at any time from any one on these topics, in order that they may learn from an accurate source the real truth and not be themselves misled or puzzled by the false tales they may otherwise hear elsewhere.

Fill your child's mind with the truth, which is pure and sacred; and of which neither you nor the child need be ashamed. Obtain and retain the confidence, the faith of your baby, and of your growing boy and girl, and you will not need to tell them before they are mature many of the sad details of the evils which may assail them. Fortified by a knowledge of the real truth, and confident that they may come to you always for further accurate information, they will come to you for such instruction, or for guidance, whenever a new or an unusual situation arises. You will thus be able to handle each temptation as it comes until the child arrives at the age of sixteen or seventeen years, when most full instruction should be given either by you, yourselves, or by some one better informed in all the wide particulars of the sex problems than you, perhaps, can be. If you have laid the foundation conscientiously and rightly, the task of teaching at the age of sixteen or seventeen years will be materially lightened and facilitated.

Your boy and your girl may, even as babies, be guarded against masturbation, by being taught that it is very wrong to rub unnecessarily any part of the body, because it may produce trouble. They soon learn not to stick their fingers in their eyes or to rub the eye if dust or any other particle gets into it, and it is as simple to teach one thing of the kind as another. It is for you to see 1, that their clothes are not so ill fitting or tight as to cause friction, and, 2, that no lack of proper bathing and cleanliness give rise to other forms of mechanical irritation, and, 3, that pernicious habits are not established by unprincipled servants—and I assure you that the average servant will bear watching.

But all instruction along these lines of simple cleanliness, breeding, and hygiene, should be given as simply and in as matter of fact a manner as are your directions about washing the hands, brushing the teeth, or those about eating, drinking, and living in a ladylike or gentlemanly manner, or those other simple hygienic measures of diet, breathing, exercise, and bathing which you naturally give and enforce.

As the age of puberty approaches, that is, in this climate, usually between twelve and sixteen years of age, your boy and your girl are entitled to further specific warnings along sex lines.

The reason for the menstrual flow should be carefully set before the girl, its true meaning wisely explained; and its influence on general personal health and possible future health of unborn children should be emphasized until the girl herself appreciates, without any external prohibitive "Thou shalt not," the inadvisability of undue exercise immediately prior to and during the menstrual period, the dangers of shock from wet feet, or from cold baths at this special period, or the ill effects resulting from overexcitement due to emotional causes, etc.

Both boy and girl are to be warned against solitary brooding on sex matters; and the boy especially against the evil literature, so freely circulated among young boys and men; against the secret dread of loss of manhood by nocturnal emissions, and this natural phenomenon of nocturnal emissions should be as thoughtfully explained to him as is the menstrual flow to the girl. In fact, it is only another analogy between the sexes; another evidence of the wise preparation Nature is making to establish good reproductive habits, prior to the time

of their real requirement. The boy should be especially instructed in the dual function of the testicle and especially in the value of its internal secretion in the maintenance of general health. He should be told that nocturnal emissions will come to him as an outlet for superfluous and unnecessary secretions just as the monthly menstrual flow will come to the girl as an outlet for the similarly superfluous and unnecessary production of ova, mucus, and menstrual blood, that both functions are natural and therefore harmless, up to a certain point, but both are, like all natural phenomena, subject to excesses, if abused, or if the organs are diseased, in either of which cases the family, or the personal doctor of medicine is the proper person to appeal to for assistance and relief, and the young boy or girl should not turn to advertising quacks or to charlatans, nor accept the unskilled advice of their lay friends and tamper with Nature.

Explain to your boy and girl the emotional connection of these sex organs, through that same sympathetic nerve of which I spoke earlier to-night, and tell them the value of emotion in the conception, rearing, and caring of children. Explain how much happier and more efficient is the child of true love, conceived, born, and reared in an environment of confidence, fidelity, and affection, than is the unfortunate who misses those blessings, which should be the birthright of every child.

This brings me to my third suggestion of a while ago, i. e., "Tell the truth openly, without shame, and directly." In giving your bedtime or twilight talks to your children make no secret of them. Let the household, your family, and friends generally, know that you have that sacred hour of confidence with your children, and with which nothing, but life or death illness, can or may interfere; the hour is early devoted by you to your children, as a duty which becomes a pleasure; and no claim of others, no social nor commercial obligations, can ever be permitted to intrude thereon. The children will quickly appreciate this openness, and will respond to it by an eagerness which will amaze as well as delight you.

Tell them the truth without shame! Remember, it is your own false ideas which cause you to shun the topics of sex! There is nothing inherently wrong or evil in sex, nor in the sex organs, when rightly and properly used; it is the abuse of them which is evil, vulgar, and shameful. When you come right down to hard facts, abuse of digestion, abuse of the nervous system, or abuse of any part of the body, is as vulgar and as wicked and should be as shameful! The whole body is God's temple. The power of reproduction may be considered as analogous to the sacred inner shrine, but the true believer will protect from abuse every part of the temple and the outer courts will be kept as religiously clean and as pure as the inner shrine.

Your child, if you have taught and guarded it aright, knows nothing of the false shame and the mock modesty with which the past has barricaded the subject of sex; but all children are keen observers and will quickly reflect and feel such shame, if you, when imparting pure truth on sex topics, allow yourself to think or to feel it impure. Disabuse your own mind of such prudery, and your children will be spared the painful task of eradicating it from their minds later in life.

Tell the truth directly. Avoid insinuations, hints, or half measures. Leave no possible room for false constructions, because of the child's lack of information, as well as his inexperience, when he begins later to think over what you have said to him on these or any other subjects. Give the instruction in a matter of fact manner, and, as I have tried to suggest by my own method here to-night, let it seem a part of a larger whole, and not an isolated and therefore a peculiar thing.

In closing, let me call attention to a few more points. Remember that your child, even the baby, thinks; that is why he or she asks questions. Remember that your child did not ask to be born, but is here because of your volition, and therefore is inherently entitled to your protection, instruction, and care. Remember that the child, because he thinks, will seek for information and is entitled to accurate, definite, and unsullied truth from you. Remember that as you are responsible for the child's existence you are also responsible for his environment, hygienic, physical, and mental. In short, remember that you are really responsible for his future character and life, since one third of what we (every one of us) are to-day is due to inherited biological characteristics or traits; and one third, or more, of what we are is due to our inherited past and present environment; and the remaining, smallest portion of what we are, is due to our personal reaction, to present and to past environment, as influenced by our biological inheritance and our will.

101 West Eightieth Street.

A STUDY OF THE BACTERIA OF THE CONJUNCTIVA.*

By Kenneth M. Lynch, M. D.,
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To determine the frequency and kinds of bacteria present in the conjunctival sac normally, and in both acute and chronic inflammatory conditions, a study of 200 spreads was made in the Philadelphia General Hospital in the summer of 1911.

Spreads were made from the lower conjunctival surface, back near the fornix, with small cotton tipped wooden applicators, previously sterilized, and upon slides cleaned with alcohol.

Those made from apparently normal conjunctiva were stained with Loeffler's alkaline methylene blue, and those from both acute and chronic conjunctivitis were stained by Gram's method.

Spreads from normal conjunctivæ were taken from the medical wards, the men's almshouse, and from the resident physicians.

Out of 130 of these, fifty-two contained no bacteria.

In seventy-five the xerosis bacillus was found, varying in numbers from a few bacilli to the spread to many in a single field.

*Read before the Philadelphia Pathological Society, December 28, 1911.

In twenty-six the pneumococcus was demonstrated, but never more than eight or ten pairs to the spread, and rarely more than two or three.

Five spreads showed the diplobacillus of Morax-Axenfeld in considerable numbers.

In five staphylococci were seen usually in large numbers.

Twelve spreads showed an encapsulated diplobacillus, usually about twice the length of a pneumococcus and of about the same thickness, but occasionally of three or four times that length and with rounded ends, which we judged to be the pneumobacillus of Friedlander.

A bacillus of about twice the length of a tubercle bacillus but slightly thinner, occasionally slightly curved, with rounded ends, and staining faintly occurred rather abundantly in ten spreads.

In three spreads were found large numbers of minute thin bacilli in clumps, which resembled the bacillus of influenza.

Yeast fungi were found in four cases.

One or two of the spreads contained all of the differently named microorganisms, while many of them showed two or three different kinds. The xerosis bacillus, while often associated with one or more other bacteria, was the only one occurring in pure culture.

In these spreads from normal conjunctiva, no leucocytes were seen and only an occasional epithelial cell.

Forty-six spreads were taken from cases of acute conjunctivitis in various stages, and in nine no bacteria were demonstrable.

Fourteen spreads showed a pure culture of the gonococcus, and when the spreads were studied until it disappeared, it was always followed by the appearance of the xerosis bacillus.

One spread contained Friedlander's bacillus in pure culture; one contained both staphylococci and the xerosis bacillus; four, the pneumococcus in pure culture; and in fifteen the xerosis bacillus appeared alone in large numbers.

Three spreads showed large numbers of a minute, Gram negative micrococcus, occurring in large groups with no definite arrangement, usually extracellular, but a few intracellular, and the condition usually cleared up in a few days with or without treatment.

In all of these spreads from cases of acute conjunctivitis were great numbers of pus cells.

Twenty-four spreads were taken from cases of chronic conjunctivitis of long standing, and of these three contained no bacteria.

Twenty spreads showed the xerosis bacillus in fairly large numbers; three, the pneumobacillus of Friedlander; three, staphylocci; while in three the long, thin bacillus, described in the spreads from normal conjunctiva, was found and demonstrated to be Gram negative.

The xerosis bacillus was found in all of the spreads which contained any bacteria at all save one, which contained staphylococci in pure culture.

These spreads from chronic conjunctivitis all contained a few leucocytes and epithelial cells.

A summary of the study shows 57.6 per cent. of normal conjunctivæ to harbor the xerosis bacillus, 20 per cent. the pneumococcus, 3.8 per cent. the diplobacillus of Morax-Axenfeld, 3.8 per cent. staphylococci, 9.2 per cent. Friedlander's bacillus, 3 per cent. yeast fungi, a few contained unrecognized bacteria, while in only 40 per cent. could no bacteria be found.

In the acute cases it was demonstrated that practically always the conjunctival sac contained the xerosis bacillus immediately after a gonococcic infection, while the pneumococcus, pneumobacillus, and staphylococcus were each present in a few in pure culture.

In the chronic cases the xerosis bacillus was demonstrated in nearly a hundred per cent., while mixed with it in a few cases were the diplobacillus of Morax-Axenfeld, the pneumobacillus, and staphylococci.

McMANE'S LABORATORY OF PATHOLOGY.

THE TRACE OF URINARY ALBUMIN.

From a Study of 1,000 Urine Samples.

BY B. G. R. WILLIAMS, M. D.,
Paris, Illinois.

It is my desire, in this short communication, to indicate the more practical points rather than to go into details of technique. In every case, only clear or filtered samples are concerned.

First of all, it is well to note that practically every urine contains a minute trace of serum albumin, or, in other words, a certain degree of albuminuria appears to be a normal and entirely physiological process. But a word of caution is necessary. Such positive reactions are obtained, not when the ordinary laboratory reagents are employed, but when certain special methods are used.

Upon the other hand, it is safe to emphasize that the trace of albumin, as demonstrated by those clinical tests which I am about to recommend, indicates the presence of a pathological process. Certain it is that this trace, taken by itself, does not usually locate the actual lesion, but when taken in connection with certain other laboratory findings or certain symptoms and signs, may render a correct diagnosis possible. With glucose or acetone persistently accompanying, it signifies diabetes mellitus. Taken in connection with certain casts, especially the granular and hyaline varieties, and a low specific gravity, there is every reason to conclude that an inflammation of the interstitial kidney tissue exists. Add the epithelial and blood casts, and we are dealing with a parenchymatous nephritis. In connection with a highly acid urine, indicanuria, and hyaline casts, it is probable that ecpremia is present. And thus we might proceed to point out its significance in connection with symptoms and signs, in valvular lesions, arteriosclerosis, diseases of the blood, hyperthyroidea, epilepsy, and other conditions strictly pathological.

SELECTION OF A TEST.

Here we are forced to choose from dozens of more or less simple laboratory procedures, each with apparent advantages, but unfortunately presenting certain limitations in technique and interpretation. In a colloquium with authorities, we find many active debates leading through the history of medicine. My opinions have been based upon

diagnostic study of several hundred cases, whereas some of these men have examined several thousand urine samples. My aim has been to select a few especially reliable tests for routine diagnostic work, and only in case of question call the remainder to my aid. Many of the latter are intensely instructive, but fall short when applied to practical application and interpretation. A good classification, I believe, would be:

1. The color reactions.
2. The highly sensitive precipitation tests.
3. The clinical precipitation tests.

In medical work we cannot give very serious consideration to the detection of pathological urinary serum albumin by the color reactions. The reasons for this omission I shall not detail, since these tests are rarely or never proposed as clinical tests. But it might be recalled that they test only for the proteins in general and for certain chemical constituents of the protein molecule, etc. In precipitates of a questioned nature, as in those cases where calcium phosphate interferes with the reaction, I frequently have applied in a modified form the old suggestion of Winternitz with very great success. Here the precipitate in question is removed from the urine, to which a clinical precipitation test has been applied, by filtration, and thoroughly washed with hot distilled water. When the filtrate ceases to give a marked cloudiness with silver nitrate, it is probable that all urine has been removed. Now pour upon this washed precipitate in the filter several drops of boiling Millon's reagent. A red coloration shows the protein nature of the precipitate.

Albumin in exceedingly small amounts may be demonstrated by means of certain reagents in practically every specimen of urine. Among these tests are those proposed by Glaesgen (*Münchener medizinische Wochenschrift*, May 23, 1911) and the Jolles modification of the Spiegler test given in the later texts.

There are many good clinical precipitation tests. While experience has taught me that there is possibly no *best* test, I have found that, for practical purposes, I can confine myself to two or three. The heat test is possibly of less value than is usually supposed, even though the acids be added later. Calcium phosphate in considerable quantity seems to cause most of this trouble. By treating with one c.c. of potassium oxalate (twenty per cent.) and filtering the urine before heating it, this source of error may be reduced somewhat, but still remains if the amount of oxalate is in excess or deficient. Even then, nitric or acetic acid should be added. The acetic acid and ferrocyanide phosphotungstic acid, potassium mercuric iodide, mercuric chloride, silver nitrate, alcohol, lead acetate and sulphosalicylic acid tests, I have rarely employed as routine procedures, though I shall concede that they are used successfully by many clinicians.

Though not the most delicate, I am a bit partial to the Boston as the principal test for serum albumin. The technique I shall omit, since it is well described in most texts. I hesitate to conclude that serum albumin occurs in pathological amounts when this test is persistently negative. In fact, I firmly believe that pathological albuminuria may be defined as that condition of the urine where, upon repeated examination, Boston's test remains positive.

During the past few months, I have also added picric acid as a permanent reagent to this department of my laboratory. True, an interpretation of a positive result is subject to certain limitations, but these are not serious when kept in mind. Let me state, parenthetically, that while I should hesitate to recommend this test alone when diagnosticating pathological albuminuria, when taken in connection with the Boston test, its positive reaction, providing these by factors can be eliminated, speaks of the undoubted presence of disease processes. The picric acid test is not nearly so delicate as the Boston test, so that when both are positive, the mere pathological trace becomes a marked trace. I would especially recommend the following technique, one which I have devised after trying those usually described:

Equal parts of the filtered urine and a filtered, concentrated, aqueous solution of pure picric acid are mixed in a test tube and set aside. After an interval of fifteen to forty minutes, the tube is examined beside a control with a sample known to be normal. If a sediment is present in the bottom of the tube, the test is probably positive. Shake well and hold in the direct rays of the sun, comparing the control specimen. The milky appearance may be due to the serum albumin, but albumoses, peptones, and nucleoalbumins may likewise contribute. Now heat the sample. If the contents "clear," no true serum albumin is present. If the patient has been taking santal oil or copaiba, add an excess, twice the volume, of ether, shaking well to dissolve the resinous acids.

To conclude, in a study of 1,000 urinary specimens, I have learned that I may depend upon the Boston and picric acid tests when collecting reliable deductions in regard to pathological albuminuria. Keeping constantly in mind the several limitations, these will prove not overwhelming, but comparatively reliable when contrasted to those met in other tests.

109 East Court Street.

STRANGULATION OF INTESTINE BENEATH A PERSISTENT INGUINAL GENITAL LIGAMENT.*

By Charles H. Wallace, M. D.,
St. Joseph, Mo.

The rarity of the condition has prompted the writer to report the following case:

Case. Male, aged fifty years, no serious previous illness except in 1891; at that time he was stricken with a sudden sharp pain in lower right abdominal quadrant, the symptoms resembling those of strangulated hernia without the tumor. The pain subsided in a few days under rest. A hernia was suspected and a truss worn thereafter. On December 28, 1910, while stepping out of a bath tub, his right foot slipped on the rim of the tub and a sudden violent sharp pain was experienced in right lower abdomen. The pain increased in intensity and in two hours a neighborhood physican was called and one half grain

*Read before the Western Surgical Association, December 19, 1911.

of morphine was given without relief. The symptoms progressing, the patient was seen by the writer six hours after onset, when examination revealed unmistakable physical signs of strangulation of the bowel. He was immediately removed to the hospital. Operation was begun nine hours after onset of the attack. Owing to the fact that hernia had been suspected for years and a truss worn, it was thought that possibly a small knuckle of gut had become strangulated at the internal ring, although no definite tumor was present; hence, the customary herniotomy incision was employed. Careful search failed to reveal the presence of either spermatic cord or hernial sac, but there was present in the canal a thin connective tissue band. A bulging, dark colored process of peritoneum was seen at the internal ring. This was incised and a considerable quantity of serosanguinous exudate escaped. Highly congested bowel could be seen in the abdominal cavity. The absence of the right testicle had been noticed just previously, yet not discovered before the operation. The inguinal wound was quickly closed and the abdomen opened through the right rectus. Considerable serosanguinous exudate was present in peritoneal cavity. The upper portion of the small gut was greatly distended, the large bowel collapsed. After some difficulty it was discovered that a fairly long loop of small gut (ileum) was strangulated beneath a strong band which extended from a point at the internal ring upward to a structure situated below the right kidney. The strangulated loop belonged to the lower one fourth of ileum. The band which was tense, nonelastic, and one fourth inch in breadth was severed and the gut liberated. The structure above became movable after the band was cut and proved to be the right testicle which had never descended from its early fetal position below the right kidney. The band was attached to the epididymis and testicle. The latter was fairly well developed and freely movable. It was not removed, owing to patient's condition. The gut was rather badly damaged, but revived sufficiently to warrant replacing. The wound was closed with a small cigarette drain in the lower angle. The patient rallied fairly well but died on the fourth day with symptoms of a violent intestinal toxemia.

The case presents the unusual features of cryptorchidism with a well organized embryonic inguinogenital ligament, underneath which a loop of small gut became strangulated while the patient was in the act of lifting his leg. The development of a free band extending from the retained testes to the internal abdominal ring brought forth some controversy, inasmuch as the settlement of considerable accident insurance was involved in the case. It was held on the one hand that the inguinogenital ligament, which later became the gubernaculum, exists as a retroperitoneal structure similar in peritoneal relations to the ureter; hence the impossibility of intestine being caught beneath it. This view appeared to be reasonable until further study was made of the development and descent of the testes. In order to clear up the question satisfactorily, a personal letter was addressed to Dr. George S. Huntington, professor of anatomy, Columbia University, New York, explaining the findings at operation. His letter of reply will be freely and literally quoted in what follows:

According to Professor Huntington, "there was unquestionably in this case the exceptional condition of cryptorchidism in which the testes remains after reduction of the Wolffian body proper, in relation to the caudal pole of the permanent kidney instead of descending, as it usually does, to the inguinal ring at some point within the inguinal canal." The constricting band was undoubtedly the inguinogenital ligament of the embryonic testes which normally becomes the gubernaculum. That it existed as a free band capable of strangulating bowel is not remarkable. "All abnormally persistent embryonic structures which raise the cœloma lining into folds tend, if they persist in the adult, to become free structures traversing the peritoneal cavity. This is accomplished by absorbing the thin layered sheet of cœloma lining which forms the foundation of the original fold of embryonic peritoneum developed by the growth of the related structure." An example may be found occasionally in the persistence of a free band extending from some point along the terminal portion of the ileum to the umbilicus. This is a fibrous cord representing the persistent omphalomesenteric artery. Very rare is the condition of a persistent band representing the inguinogenital ligament. If persistent, however, the same law of absorption of mesentery has been followed. Originally the mesentery folds performed a blood carrying function. "In the case of a descendent and rudimentary structure persistent in the adult, this primitive mesenteric fold loses its original significance as a blood carrying membrane. The structure to which it originally brought vessels degenerates into a fibrous cord, with very slight vascular relations, and the mesenteric peritoneal fold, by means of which it was originally suspended within the peritoneal cavity, begins to be absorbed in certain regions, producing lucunæ or perforations. Confluence of these areas of absorption tends to the formation of larger fenestræ between the parietal peritoneum and the band, and finally by a continuation of this process the band, whatever its original significance and purpose may have been, traverses the abdominal cavity of the adult in the direction of its original embryonic relation, and may act as a constricting or strangulating agent if intestinal coils are caught beneath it, or between it and the abdominal walls." Professor Huntington states further that "a structure like the gubernaculum, composed of connective tissue, and particularly of muscular elements, will if carried into the adult organization furnish the basis for a very strong tissue ligament. An opening formed by absorption over a considerable area in the primitive mesorchial fold, connecting it to the parietal peritoneum, will offer an opportunity for the passage of intestinal coils beneath the band and for their strangulation under appropriate physical and mechanical conditions."

Another rather interesting feature in the history of the case was the apparent relaxation of the band while the patient was in the act of lifting the leg, thus permitting a long loop of intestine to slip beneath it.

Use of Alcohol in Tropics.—The following observations are taken from a useful little work on health in tropical countries: Total abstinence is not to be recommended in the tropics. Alcohol, in *moderation* (Italics are the author's), because of its stimulating and restorative qualities, is decidedly beneficial and at times strongly indicated. It should never be taken until the sun is low, when the restorative effects are more marked after the depressing influences and fatigue of the day. This last recommendation is also good for the temperate zone. The great danger of alcohol is in attempts to assuage therewith the suffering of the subsequent morning.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXIX.—What drugs, if any, in your experience have you found it advisable to withhold during the menstrual period, and why? (Closed February 15, 1912.)

CXX.—What are your views on the various substitutes, commercial and other, for mother's milk? (Answers due not later than March 15, 1912.)

CXXI.—What does hematuria signify to you and how do you treat it? (Answers due not later than April 15th.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short, if practicable no one answer to contain more than six hundred words; and our friends are urged to write on one side of the paper only.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to Question CXVIII was awarded to Dr. William Brady, of Elmira, whose article appeared on page 388.

PRIZE QUESTION CXVIII.

TREATMENT OF THE MOTHER AFTER CHILDBIRTH WITHOUT AN ASSISTANT.

(Concluded from page 442.)

Dr. Alfred Costales, of Brooklyn, remarks:

We proceed to bandage the patient for comfort's sake. We may use a vaginal douche of compound cresol, one ounce to the quart of fairly warm water and continue it daily for some days for cleanliness. As there is always more or less tearing of the fourchette or perineum during childbirth, especially in a primipara, I make the necessary examination and if required pass a catgut suture or two and repair it at once. Of all complications coming immediately after labor hemorrhage is the one which gives us the most concern and the one in which we must act quickly and successfully in behalf of the mother. Without any delay, begin treatment at once by giving the patient a hypodermic injection of some good preparation of ergot, and administer a hot intrauterine douche of boiled water cooled to 112° F., or somewhat hotter, until the water comes out clear and the uterus contracts, assisting Nature by making firm pressure on the uterus. If this does not stop it, push a piece of ice into the uterus, which generally succeeds; but if bleeding still continues, make compression on the abdominal aorta through the uterus, vagina, or abdominal wall, preferably the latter, and pack the vagina with sterile absorbent cotton in long strips and remove it in twelve to eighteen hours. A hot normal saline enema is also given, as it helps wonderfully to restore the patient.

Having remained with the patient at least half or one whole hour after seeing that the pulse is quiet, and below 95 beats, I believe that I am entitled to go home and rest.

Dr. William Delpuech, of Knoxville, Tenn., observes:

If possible, my patients are placed on a stout cot or single bed for their delivery. When labor is completed I hold the uterus for a half hour or more to insure good uterine contraction. Then the woman's parts are bathed with boiled water, containing either carbolic acid, one drachm to the quart, or bichloride of mercury, one to 1,000. Then I examine for lacerations. Again the woman's parts are bathed and dried as before, and a pad of sterile gauze folded over absorbent cotton is placed over the vulva, and retained by a T bandage. Her gown is changed and she is placed in her bed. Light diet is ordered until the flow of milk is established, then regular diet. Before leaving my patient, I examine externally to be sure there is good uterine contraction, and always leave a dose of ergot prepared, to be given if the discharges are too free. I visit my patients each day for three or four days and only as needed thereafter. If any stitches have been required these are examined and removed by the sixth or seventh day; and, if doing well, the woman is allowed to begin sitting up on the tenth or twelfth day. When the woman begins to sit up she is ordered a dose of ergot, two or three time a day for one or two weeks, as it seems to me to assist involution of the womb.

Dr. J. C. Josephson, of Baltimore, states that—

Invariably, after the placenta is delivered, I give the patient a teaspoonful of ergot. I put my hand over the fundus, and if it is firmly contracted and there is no hemorrhage I remove the pad together with the discharges from under the patient, and clean the patient's legs and buttocks with cotton or boiled rags and soap and water, while disturbing the patient as little as possible. Then I clean the vulva with cotton, soaked in bichloride solution, always taking the precaution to sterilize my hands afresh before doing it. If the perineum is not torn, and if the precaution has been taken to roll up the nightgown behind so as to prevent its soaking, I apply a pad of cotton soaked in bichloride solution or of sterilized gauze to the vulva, and have the patient extend her legs and be covered up comfortably. If the nightgown and bedclothes have been soaked, I remove them and put on clean ones without permitting any active movement on the part of the patient.

I continue watching the uterus for about half or three quarters of an hour.

If the removal of the placenta is followed by a rather profuse discharge, it seldom occurs that tickling and kneading the uterus does not stop it before it has proceeded to any extent. If it does not, and if I have the fountain syringe, boiled and filled up with boiled water at about 115° F., at hand—as I generally have, if time has been given me—I make an injection. If the hemorrhage does not stop then, I pack the uterus with sterilized iodoform gauze with the help of a dressing forceps with or without a volsellum. If the appearance of the placenta and membranes gives me reason to suspect that the hemorrhage is due to retained débris, I in-

sert my hand in the uterus and remove it. If there is a profuse flow while the uterus is firmly contracted, it generally comes from a tear in the cervix, vagina, or perineum, and then either the hot injection or a pad of iodoform gauze in the vagina generally stops it even before sutures are applied. I have never had occasion to use either Monsell's solution or vinegar or ice or the procedure of compressing the uterus bimanually. I generally give the ergot hypodermatically in these cases.

If there has been a profuse hemorrhage and the patient has been left in a state of collapse—with air hunger, restlessness, nausea, a small, rapid pulse, etc.—I give a hypodermic injection of morphine with atropine and strychnine; I raise the foot of the bed and remove the pillows from under the head of the patient; I give a rectal injection of normal salt solution, a large one—from a pint to a quart—or, in extreme cases, I give it hypodermically. I have also given enemas of strong coffee. I apply hot water bottles to the extremities, and I give fluids—water, or hot coffee or tea—either in small, frequent sips, if there is nausea, or in large quantities, if the patient's stomach can stand them. I generally remain with the patient till the pulse is picking up and the alarming symptoms are over, and I do not leave her even then for long. Before leaving I enjoin the patient to keep perfectly quiet.

If the perineum is torn and if the patient's condition permits it, I generally sew it up before leaving the patient. I put the patient across the bed with her buttocks over the edge and her feet on two chairs. I sterilize my hands and cleanse the parts with pads of sterilized gauze or with pledgets of cotton soaked in bichloride solution. If the view is obscured by blood I insert a pad just above the tear. I use silkworm gut, which I boil for an hour and then put in a hot bichloride solution, one to 500. I make a wide semicircular sweep with the needle so as to be sure to include all the muscles, and I am careful to bring out the needle near the bottom of the wound, so as not to leave any pocket. I clamp perforated shot over the ends of the sutures so as to prevent pain and discomfort from sticking.

In all cases, before leaving, I enjoin perfect rest and quiet, make sure that the pulse is not too rapid, or, if it is a bit rapid, say eighty or ninety, that it is evidently due to nervousness, or perhaps to a preceding anesthetic; also that the uterus is firmly contracted and that the discharge is not profuse. I order a light diet—milk, weak tea, etc., and I generally see the patient again in from six to twelve hours.

I must add that in case there is no female attendant to be had immediately, as happens in emergency cases, especially at night, I set dignity aside and *do* some things in place of having them done. I would never leave the patient in a pool of blood and liquor amnii, with soiled bedclothes and linen, chilly and uncomfortable.

Dr. Wallace W. Robinson, of Portland, Maine, writes:

I believe my methods differ from others that I know of in the following points:

1. Shaving the vulva at commencement of labor. (This simplifies local aseptic conduct throughout the puerperium.)

2. Touching tincture of iodine to all abrasions at the nipple or upon the breast.

3. Written direction for after care between professional visits.

4. The promotion of pulmonary, skin, kidney, and intestinal drainage throughout the puerperium instead of relying largely on catharsis alone, as is so often done.

I do not use abdominal binders until after the tenth day, because of possible displacement of the uterus. I leave one half ounce of fluid extract of ergot with instructions how to use it if needed for delayed hemorrhage while I am absent.

I seldom use morphine for afterpains, depending on complete evacuation of the uterus of all clots or foreign contents.

Intestinal and skin drainage are accomplished by active laxatives and sponge baths after the second day.

Deep respiration and good ventilation are encouraged as offering the best method of removal of effete material from the pulmonary area; also the frequent use of good drinking water to flush the kidneys. The change to solid diet is made about the sixth day. I object to douches as a routine.

Therapeutical Notes.

Laryngeal Cough.—If the cough is due to a simple irritation of the larynx Robin advises (*Bulletin général de thérapeutique,* January 15, 1912) steam inhalations medicated with eucalyptol or an atomized infusion of coca, as suggested by Renaut:

I.

℞ Foliarum cocæ erythroxylon, ... 5.00 grammes.
Floris liliæ, ... 2.00 grammes;
Aquæ bullientis, ... 100.00 cubic centimetres.
M.

Infuse for twenty minutes. Three grammes of sodium carbonate and four drops of spirit of peppermint are added to the infusion which is sprayed into the open mouth by means of an ordinary atomizer.

II.

Compresses wet with very hot water may be applied to the anterior portion of the neck.

III.

Although the amount of the medicament is very small, the following mixture will prove beneficial and may be added to the foregoing:

℞ Tincturæ aconiti radicis, ... guttas xx;
Tincturæ belladonnæ, }
Tincturæ benzoini, } . . . . . aa guttas xv;
Potassii bromidi, ... 6.00 grammes;
Aquæ liliæ destillatæ, ... 150.00 cubic centimetres.
M. Sig.: A tablespoonful on appearance of the laryngeal cough.

Ruby Light in Treatment of Pleural Effusion.—Kuttner and Laqueur (*Therapeutische Monatshefte,* January, 1912) induce deep hyperemia, to promote the absorption of pleural effusion, by applications of light from an arc or incandescent lamp, filtered through ruby glass to exclude the chemical rays. The ruby light exposure is for twenty to thirty minutes a day; at the close of the sitting the exposed skin is the seat of marked hyperemia. This method is employed as an adjuvant to the measures ordinarily used in the treatment of pleurisy with effusion.

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HEART COUGH.

One of the early lessons in diagnosis which the writer received from his preceptor made an indelible impression. The patient had suffered for several years, intermittently, from a chronic cough, unattended with expectoration, but associated with considerable discomfort in the throat. She had been under the care of general physicians and throat specialists, so called, and had been treated with sedative medicaments of various kinds, inhalations, gargles, and even galvanocaustic applications—all without avail. Inspection of the pharynx showed a general, diffuse, dusky redness, with prominent follicles of deeper hue, sufficient to make a first year student, when asked for his opinion of the case, confident that in calling it chronic pharyngitis he could make no error. He was then asked to examine the larynx, which showed the same dull, diffuse redness, and modified his diagnosis accordingly to one of laryngopharyngitis. He was then told to examine the pulse and heart. The pulse was somewhat rapid and feeble. No murmur was detected on cardiac auscultation, but the sounds were weak, and it was demonstrated to him by percussion that the area of dullness was enlarged. The throat symptoms, he was then told, were secondary and would disappear without any local treatment when the weak and dilated heart was restored to proper function by rest, regulation of diet, and the use, if necessary, for a short time, of a few drops of tincture of digitalis daily.

Since then, an experience of thirty years has brought many other such cases under observation. Sometimes there is only muscular weakness, sometimes dilatation, sometimes valvular lesion, sometimes muscular degeneration. In some cases there are congestions in other regions—in the stomach, for example, giving rise to symptoms termed "indigestion" and liable to be mistaken for chronic gastritis; sometimes affecting the liver; sometimes affecting the kidneys. In not a few cases, however, the only congestion evidenced by symptoms or found upon examination is that of the air passages; thus there may be engorgement, not only of the throat, but also of the turbinate bodies, which last might likewise be falsely interpreted as a local affection.

To return to the case which furnishes the text for this brief sermon, the words in which the distinguished physician emphasized for his pupil on that occasion, the broad general lesson to be drawn—beyond the mere diagnosis of laryngopharyngeal congestion secondary to cardiac enfeeblement as a cause of cough and similar symptoms—may be repeated as a lesson to other young men beginning the study or the practice of medicine: "Be a general physician or a specialist, as you may prefer, but whatever work you choose, do not be a one eyed man."

SOLOMON SOLIS-COHEN.

KARL SUDHOFF ON THE ORIGIN OF SYPHILIS.

The fable of the American origin of syphilis was first given currency in the Little Lucubration (*Lucubratiuncula*) of Leonhard Schmaus (1518), in which it is stated that, on the authority of sea captains of the period, the disease was brought from the West Indies by Columbus's sailors. This idea probably had its origin in the fact that the West Indian drugs, guaiac and sarsaparilla, were the earliest remedies for lues and it was part of the belief of the time that a poison and its antidote, a disease and its remedy, belonged together and were to be found in the same place. Syphilis first broke out in pandemic form at the siege of Naples in 1494 and is supposed to have been communicated to the French invaders by the Spanish garrison, who, it is assumed, got it from the American navigators. Hence its early name *mal franzoso* (*morbus gallicus*), which was speedily changed to *mala napoletana* or the Spanish, Polish, German, or Turkish "pocks," as the different nations began to shift the

blame on one another. In favor of the West Indian hypothesis there is the memorable argument of Sir Jonathan Hutchinson that if epidemic syphilis had been known in Europe before 1494, we should have heard of it in Chaucer and Boccaccio, while it was undoubtedly found in Hayti and Santo Domingo after Columbus's second voyage; also the fact that the pre-Columbian pottery of Peru includes figurations of what seem the undeniable hallmarks of luetic infection. The *caries sicca* of prehistoric and pre-Columbian skulls was thought by Virchow to be not syphilitic, but either identical with the arthritis deformans of old cave bears or else caused by plants and insects, otherwise it might be necessary to admit that prehistoric syphilis was possible in Europe also. Out of these very rough materials and on such a slender foundation, Ivan Bloch and other German writers have proceeded to build a surprising structure of argument to the effect that syphilis is, beyond all dispute, a *morbus americanus.* Wickersheimer and other overweening but supersensitive writers, who have rallied to Bloch's standard, uphold the American origin of syphilis with dogmatic fervor, and while they reluctantly admit the possibility of an endemic syphilis in the past (*Altertumssyphilis*), it is noticeable that they protest with equal fervor that the plague of Baal Peor and other tokens of the wiles of the Moabitish and Midianitish women were *not* syphilis. But syphilis is no respecter of persons and, like the tower of Siloam, is as likely to fall upon one race or place as another. Its ultimate origin is lost in a series of dissolving views concerning which Osler has well said that "Inquiries of this kind lead, as a rule, by way of increasingly inaccurate data, to a labyrinth of confusion for which incomplete medical information, insufficient medical equipment, and fantastic medical hypotheses are responsible. That such is also the end of effort in the case of syphilis is, then, a pronouncement which, although made with all the seriousness of disappointed Teutonic industry, is in no way striking." A prominent feature of Bloch's book is his tendency to regard the early instances of *mal franzoso* as fabrications or forgeries and the well known stories of King Wenzel, the chorister of Mainz (1472), and the letter of Peter Martyr (1488) he has (or asserts that he has) disposed of in this way.

Dr. Karl Sudhoff, the learned editor of the *Archiv für Geschichte der Medizin,* has recently attacked the West Indian legend from a new standpoint.[1] He reopens the subject by announcing his discovery of an old Italian receipt book in manuscript, the neat handwriting of which, he says, can be immediately assigned to the first quarter of the fifteenth century, while certain marginal notes in paler ink are in a cursive script that belongs to the middle of the century, the date of acquisition, as given in this handwriting, being 1465. He has submitted photographic copies of this manuscript to the ablest modern connoisseurs of old Italian manuscripts, the directors of the State Archives in the Uffizi at Florence, and these experts confirm his hypothesis in every respect, the script of the receipt book bearing a close family likeness to that of an old Italian State paper of 1429. Now Sudhoff's manuscript contains two receipts for electuaries which read (16) *Electuario optimo al mal franzoso* and (77) *Per fare siropi da male franzoso,* and the ingredients of these receipts are identical with those employed in the vegetable electuaries (*Kräuterlatwergen*) prescribed by the early German and Italian writers on syphilis. From such evidence Sudhoff maintains that an endemic spirochetosis undoubtedly existed in Italy before 1493, although it may have differed notably from pandemic lues. The ornate and elaborate edifice of the "American origin of syphilis" which, he declares, has always been in a state of "anxiously labile equilibrium," is, in his judgment, likely to totter at any moment under pressure of data of this kind. In connection with Sudhoff's supposition, it is interesting to note that Sydenham thought that European syphilis originally came from the West African coast as yaws, that Hutchinson believed that yaws was the parent of syphilis (as in the case of the *frambœsia cromwelliana,* of Scotland), that the spirochete of yaws (Castellani's *Spirochæta pertenuis*) is practically indistinguishable from that of syphilis, and that, for the former, Ehrlich's "606" is a true *therapia sterilisans.*

[1] *Münchener medizinische Wochenschrift,* lviii, p. 2413, 1911.

SANITARY CONDITIONS IN BAKERIES.

The increasing popular and professional interest in matters of public health and sanitation needs to be drawn especially to the conditions in bakeries in New York city. The daily press has had much to say during the past year and much good has been accomplished, but unless the medical profession realizes more fully the importance of this matter and its own responsibility, conditions in bakeries will not improve, nor will existing evils be remedied.

In a report on the sanitary conditions in bakeries, Commissioner of Accounts Fosdick[1] reveals some startling facts. Supervision of New York city bakeries is lodged with the State Department of Labor instead of with the board of health, where it should be. It has been customary for the board of health to inspect only the food actually offered

[1] Report to Mayor Gaynor, April 18, 1911, by Raymond B. [illegible]

for sale, and to turn over to the department of labor the supervision of sanitation in bakeries. The inadequacy of the law and the small force available to the department of labor are responsible for the conditions found.

There are about 4,000 bakeries in the city, of which 145, including all grades, were visited by the commissioner's inspectors. Outside of the 100 or so factory bakeries, the great majority were found in cellars or basements, and the sanitary conditions invariably became poorer as the location was lower with reference to sources of ventilation and light. This absence of ventilation and natural light has much to do with the unhygienic conditions in cellar bake shops.

Over one half the bakeries inspected had broken, dirty floors and filthy sidewalls and ceilings. In some places foodstuffs were stored under leaky skylights of area ways or under leaky coal holes. One half had no provision for the clothing removed by employees on entering, which was found lying indiscriminately about the rooms, shoes in mixing vats, coats and trousers on mixing boards, and even on the rising dough. In most, the toilets were separated from the bakeroom as provided by law, but in nine places the toilets were so close as to be extremely offensive, and in one the toilet, with an earthen floor, was in a vault off the bakeroom with no door between.

Baking utensils, such as mixing vats, bread boards, and baking tins, were often found most unclean, and in seventeen places so filthy as to be nauseating. One baker admitted that he never cleaned his tins, and another was found wiping them out with dirty sacking. Two bakers were asleep on their mixing boards. Animals were found in over one third of the cellar bakeries. For cats there is some excuse, but even that does not justify their presence on the mixing boards, in the vats, and asleep in barrels of flour and on unbaked dough! In one room was a dog with three puppies—four of the litter had died. Chickens and rabbits enjoyed the freedom of other bakerooms.

The law forbidding sleeping quarters in bakerooms was very commonly violated, and the use of tobacco by bakers while working, as well as the employment of bakers who had evident signs of disease, was noted. Personal uncleanliness was excessive. One baker was seen to lift the dough from the vat and, with the mass held close to his sweaty undershirt, transfer it across the room to the boards.

Conditions in the factory bakeries are very much better; good ventilation, natural light, cleanliness in dress, and light, clean clothing are the rule.

The commissioner concludes that existing conditions in New York bakeries are a menace to health, and should not be allowed to continue, and recommends such amendment of the sanitary code as to give the Department of Health specific jurisdiction over bakeries. On the basis of similar ordinances in other cities he suggests the following:

1. All bakeries to be licensed by the board of health.

2. No rooms less than nine feet between floor and ceiling, and no rooms with floors over four feet six inches below the sidewalk level, to be licensed as bakeries.

3. A specific sanitary standard to be observed in all bakeries.

4. Bakeries to be carefully and regularly inspected, both before and after the license is obtained.

5. The board of health to have power to close and seal any bakery not conforming to its orders after forty-eight hours' notice.

CEREBROSPINAL MENINGITIS IN TEXAS.

Dr. R. H. von Ezdorf, who was also active during the last cholera scare in our Eastern ports in 1911, gives an interesting report of the cerebrospinal meningitis epidemic in Texas, in the *Public Health Reports* for February 23, 1912. There were reported in the State of Texas from October, 1911, to January 27, 1912, 550 cases with 210 deaths in forty-nine different localities in Texas. The history begins with the case reported in Dallas in October, where nine cases followed in November, seventy-three in December, and in January 156 cases, with a total of 107 deaths. No age was secure from attack, and the extreme ages were eight weeks and eighty years. The weather conditions are said to have been unusual. During the past three years a drought had occurred so that drinking water had to be shipped into Dallas, and during the present winter season continuous rains had occurred and severe cold weather also prevailed. It was also reported that an epizootic of "blind staggers" had prevailed among horses about the time this epidemic started. The occurrence of more than one case in a family was comparatively rare. Although the disease prevailed chiefly among the poorer classes living under unsanitary conditions, others were also affected, and the occurrence of more than one case in a family was unusual. The microscopical examinations of swabs taken from the nose and throat showed numerous diplococci having the morphological appearance of the meningococcus and distinguished from *Micrococcus catarrhalis* by staining with Loeffler's methylene blue. The cultures showed positive results in 53.75 per cent. It was concluded, therefore, by the health

department that persons showing the diplococci as well as *Micrococcus catarrhalis* were to be considered as carriers until proved otherwise on culture examination, and a house quarantine on the honor system was instituted.

ADENOIDS FIFTY YEARS AGO.

More than once we have referred to the curious adumbrations of scientific truth that may be noted here and there in writers of bygone times. Thousands of physicians must have read the following passage from Dickens's *Uncommercial Traveller* (Charles Dickens edition, page 14), but it was not till many years later that the writer's accuracy of observation was verified and an operation devised by Meyer, of Copenhagen, trifling in its technique, but marvellous in its far reaching results, to relieve the condition alluded to. A more recent writer would have used the word degenerate for Refractory.

> The Refractories were picking oakum, in a small room giving on a yard. They sat in line on a form, with their backs to a window; before them, a table, and their work. The oldest Refractory was, say twenty; youngest Refractory, say sixteen. I have never yet ascertained in the course of my uncommercial travels, why a Refractory habit should affect the tonsils and uvula; but, I have always observed that Refractories of both sexes and every grade, between a Ragged School and the Old Bailey, have one voice, in which the tonsils and uvula gain a diseased ascendancy.

After the manner of his time, Dickens attempted to appeal to the moral sense of these unfortunates and the replies he received are at once pathetic and amusing in the light they throw upon the scientific ignorance of that day and the general hopelessness of both the victims and their guardians. There is still too much belief in sermons and lay homilies while physical conditions await the scalpel.

THE PATHOGENESIS OF HEPATIC COLIC IN CERTAIN FORMS OF NON-CALCULOUS CHOLECYSTITIDES.

The term of hepatic colic at once gives the idea of a calculous affection of the gallbladder. Clinically, this conception, which has become current, is too exclusive, for there certainly are instances in which pain, similar to the violent neuralgia of lithiasis, occurs, although it does not have as a direct cause the migration of a calculus or biliary pigment. It has been conclusively shown that the typical pain of hepatic colic is simply produced by the efforts of the inflamed gallbladder to contract at the time of expulsion either of bile, mucus, or pus contained in its cavity. The same characteristic pain may also be set up by the presence of a hemorrhagic content in the gallbladder. As pointed out by Solieri (*Deutsche medizinische Wochenschrift*, June 25, 1911), the etiology of these intracystic hemorrhages is ulceration of the vesicular mucosa, due to infection of the biliary tract, usually typhoid.

Cases are on record in which the gallbladder was filled with clotted blood and enormously distended, the colic being due to the efforts made by the organ to expel its contents. As Eberth's bacillus frequently becomes located in the biliary apparatus during typhoid, the fact of an hepatic colic arising in the patient should clearly lead to suspicion not only of a cholecystitis with lithiasis, but also of an ulcerating hemorrhagic cholecystitis.

AMERICAN SURGEONS IN EUROPEAN LITERATURE.

In reference to our editorial comments in our issue for January 20th, on the absence of references to American literature in the European discussion of Edebohls's operation for decapsulation of the kidney, a note from the editor of *Semaine médicale* informs us that in the volume for 1907 of that journal, page 109, a previous article on Edebohls referred accurately to the communications of that surgeon to our journal and other American publications. We are glad to acknowledge that *Semaine médicale* is usually careful to give credit under such circumstances; in fact it was the exception to their rule that attracted our attention. We understand now that having already given the references once, our distinguished contemporary did not consider it necessary to repeat them; our own writers, however, are accustomed to give references with each communication, or else to indicate where a full list may be found.

A HANDBOOK OF MEDICAL EUROPE.

D. James Henry Honan, of Chicago, has published (P. Blakiston's Son & Co.) a very practical handbook on medical Europe, to which we wish to call the attention of those of our colleagues who intend to take a postgraduate course, or even merely to travel in Europe. It gives all the information expected from such a book, maps, bureaus of information, instruction in foreign languages, the clinics and lectures held by the teachers of medicine, location of clinics, hotels, and boarding houses, etc. In short, the manual combines science with practice, and is therefore a combination of *Minerva* and *Baedeker*.

Obituary.

LEONARD WEBER, M. D.,

of New York.

On March first, died in New York Leonard Weber, one of the best known German-American physicians in this city. Born on May 22, 1837, in Bavaria, he studied medicine at the University of Erlangen, where he graduated in 1860. Three years later he came to New York, where he had since practised. He was emeritus professor of medicine at the Postgraduate Medical School and for a long time connected with the St. Mark's Hospital, of which institution he was for a number of years the president. Doctor Weber took active part in the medical societies of New York and was for a long time president of the Deutsche medizinische Gesellschaft. He has contributed several essays to medical literature, a number of which appeared in this Journal.

Medical Law.

I. THE RIGHT TO PRACTICE MEDICINE AND SURGERY.

The medical act of Colorado contains the provisions that "Nothing in this act shall be construed to prohibit . . . nor shall it apply to . . . the practice of osteopathy, when not prescribing medicine or administering drugs."

In the case of Jones vs. People, 120 Pacific Rep. 125, it was conceded that the defendant was without a license to practise medicine in the State of Colorado, but was a graduate of a reputable institution for the teaching of osteopathy, and held a diploma vesting in him the degree of Doctor of Osteopathy; that he held a certificate from the Colorado Osteopathic Association; that he held himself out to the public as being engaged in the diagnosis and treatment of diseases and injuries of human beings; that he attached to his name the title "Doctor" and the abbreviation "Dr." but only in connection with the word "osteopathy" or "osteopathic physician"; and that he was engaged in the practice of osteopathy without prescribing medicine or administering drugs.

Upon this statement of facts the trial court found the defendant guilty and fined him $50.

Upon an appeal the Supreme Court declared that the defendant was clearly within the exception and reversed the judgment of the lower court.

VIII. CIVIL MALPRACTICE.

In the case of Sawyer v. Berthold, 134 N. W., Rep. 120, a physician was sued for malpractice in improperly reducing a Colles's fracture.

The evidence showed that the plaintiff, a woman forty-six years of age, fell on June 16, 1909, and sustained the injury mentioned. The defendant correctly diagnosticated the case and applied splints and bandages which he removed about six weeks later, and determining that a union had taken place, ceased treating the patient. At the time of trial the patient's hand was in a deformed position, and she had little or no use of the hand or fingers, and continued to suffer pain. The defendant had admitted that "it was a bad job and he had made a mistake." An expert produced by the plaintiff testified that such deformity following a fracture of the wrist such as plaintiff sustained would generally indicate improper treatment, though he qualified this testimony by the statement that there are some cases in which such a result cannot be avoided.

An expert introduced by the defendant, while testifying that defendant's treatment was proper, admitted that if when the bandages were removed, the hand was in the same position as it was at the trial, there was something wrong, and it would not be good treatment for the attending physician to quit the case. He also testified that, if the hand had been properly set, it ought to have been practically straight at the end of six weeks. Upon this testimony the jury rendered a verdict against the defendant for $2,000.

The Supreme Court in reviewing the trial, held that while negligence could not be inferred from the poor result of the treatment alone, yet with the opinions of the expert, which it declared to have been properly received, together with the admission of the defendant and also of the defendant's expert there was sufficient evidence upon which to base the verdict of the jury.

XI. PRIVILEGED COMMUNICATIONS.

The scope given to the statute protecting information acquired by physicians from patients as applied by the courts to particular cases, is nearly always a question of much interest, and it is usually gratifying to observe that these statutes are so construed as to enforce the spirit and purpose of their existence, even though the matter sought to be elicited may apparently be beyond the express terms of the statute.

The Indiana statute creating the privilege reads as follows: "The following persons shall not be competent as witnesses: . . . Fourth. Physicians as to matter communicated to them as such by patients, in the course of their professional business, or advice given in such cases."

In a recent case, Hays vs. Hays, 97 N. E. Rep. 198, in which the administrator of a deceased patient sought to recover from her employer unpaid wages, the employer attempted to show by the deceased patient's physician that the wages recoverable were smaller than those claimed. The following question was put to the physician. "Doctor, you may state what conversation, if any, you had with Nellie Hays (the deceased patient) at your office, with reference to the compensation that she was receiving from Mrs. Hays (the employer) as one of the clerks in her store?" The question was objected to as calling for matter prohibited by the statute. It appeared from the matter brought out by the judge in the absence of the jury for the purpose of determining whether the question called for privileged matter, that in August, 1906, the decedent, Nellie Hays, had been his patient for about six months; that she usually came to his office every Sunday morning; that at the time in question, she was not well, and came to his office for treatment, that she was consulting him as her physician; that he advised her to get away from the store and take a vacation; that she said she was not able to pay the expenses, to which the doctor replied that he did not see why, that she replied. "I do not get as much probably, as you think I do"; that the doctor asked her how much she got; that he gave her some medicine and prescribed for her at the time the conversation took place; that he was instructing her about her health, and was advising her to go away; that he made the inquiry that he might know whether she could go or not, and that he made the inquiry of her as a patient; that the conversation occurred in the doctor's office, where she had gone for treatment, and when the deceased and the doctor were alone; that she hesitated about telling him her financial condition; and that he urged her, and the only reason he desired to know was to enable him to advise her, as his patient, to go away for her health.

The court held that the matter called for by the question was prohibited by the statute.

XII. MISCELLANEOUS REGULATIONS AND MATTERS.

By section 873 of the Code of Civil Procedure, of New York, it is among other things provided that: "In every action to recover damages for personal injuries, the court or judge, in granting an order for the examination of the plaintiff before trial may, if the defendant apply therefor, direct that the plaintiff submit to a physical examination by one or more physicians or surgeons, to be desig-

nated by the court or judge, and such examination shall be had and made under such restrictions and directions as to the court or judge shall deem proper. In any action brought to recover damages for personal injuries, where the defendant shall present to the court or judge satisfactory evidence that he is ignorant of the nature and extent of the injuries complained of, the court or judge shall order that such physical examination be made; and if the party to be examined shall be a female, she shall be entitled to have such examination before physicians or surgeons of her own sex."

In the case of Mizark v. Carborundum Co., 132 N. Y. Supp., 1104, the plaintiff applied to the court to amend the order providing for his examination so as to require the examining physicians to report in writing the result of the examination and to file such report in the County Clerk's office.

The court dismissed the application, holding that the act did not require the examining physician to reduce anything to writing or to make any report to the court, and no provision was made for a record of any such report; that the examination was to enable defendant to ascertain the physical conditions of plaintiff, but that plaintiff might, if he chose, put the examining physicians on the witness stand upon the trial of the case and require him to testify.

News Items.

Change of Address.—Dr. H. F. Page, to 315 South Sixteenth Street, Philadelphia.

Civil Service Examinations.—The New York State Civil Service Commission announces that among the positions for which examinations will be held on March 23d are the following: Medical superintendent of the Matteawan State Hospital for the Criminal Insane, at a salary of $3,000 to $4,500, and maintenance; woman physician, State hospitals and institutions, at a salary of $1,000 to $1,500, and maintenance.

A Consolidation of Medical Journals.—Dr. John W. Wainwright, of New York, has purchased the *American Practitioner and News*, of Louisville, and the *New England Medical Monthly*, of Boston, and has combined them into one journal. The title of the new journal will be *The American Practitioner, Incorporating the New England Medical Monthly*, and the first issue will be dated March, 1912. The publication offices are at 80 Washington Square, East, New York.

The Tri-State Medical Society, of Virginia, North Carolina, and South Carolina, held its annual meeting in Columbia, S. C., on February 21st, 22d, and 23d. Several hundred physicians from the three States attended the meeting, and an elaborate programme, including over one hundred papers and addresses, was presented. Norfolk, Va., was selected as the place for holding the next meeting of the society, and officers were elected as follows: President, Dr. A. E. Baker, of Charleston, S. C.; first vice-president, Dr. A. B. Knowlton, of Columbia, S. C.; second vice-president, Dr. A. J. Crowell, of Charlotte, N. C.; third vice-president, Dr. A. L. Gray, of Richmond, Va.; secretary and treasurer, Dr. Rolfe E. Hughes, of Laurens, S. C., reelected.

The Nursing Situation in New York Hospitals.—The Special Committee on Training of Nurses, recently appointed by the Hospital Conference of the City of New York, held a meeting at the Presbyterian Hospital on February 13th to discuss the difficulties which attend the administration of registered training schools in New York. It was the opinion of this committee that the enforcement of existing regulations of the State Education Department regarding the admission of probationers was impracticable, working a hardship on properly equipped hospital training schools, creating a dearth of pupils and hence of New York graduates. A resolution was adopted to the effect that the education department be urged to adopt such amendments to existing regulations as would give the authorities of properly organized registered training schools a freer hand in the selection of probationers.

An Examination for Assistant Surgeons in the Public Health and Marine Hospital Service.—A board of commissioned medical officers will be convened to meet at the Bureau of Public Health and Marine Hospital Service, Washington, D. C., on Monday, April 8, 1912, at 10:00 a. m., for the purpose of examining candidates for admission to the grade of assistant surgeon in the United States Public Health and Marine Hospital Service. For full information regarding this examination address the Surgeon General of the P. H. and M. H. Service, Washington, D. C.

Vital Statistics of New York.—During the week ending March 2, 1912, the total deaths from all causes reported to the Department of Health numbered 1,546, which corresponds to an annual death rate of 15.39 in a thousand of population, as compared with a rate of 17.41 for the corresponding period in 1911. The decrease was due in great measure to the lessened prevalence of influenza, from which only 8 deaths were reported, as against 27 last year. The only infectious disease which showed an increase was measles, 1,269 cases of this disease having been reported during the week, with 24 deaths. There was a total of 3,004 cases of infectious diseases reported, with 288 deaths.

Personal.—Dr. Thomas W. Salmon, of the United States Public Health and Marine Hospital Service, who was granted leave of absence for one year, without pay, to take up work on the New York State Board of Alienists, has resigned his position as chairman of that board, and has had his leave extended so as to permit him to make investigations regarding the care of the insane in the United States, which will be undertaken by the National Committee for Mental Hygiene.

Among the honorary degrees conferred by the University of Pennsylvania on Washington's Birthday, were the degree of doctorate of laws upon Dr. William J. Mayo, of Rochester, Minn., and the degree of doctorate of public hygiene upon Dr. A. C. Abbott, professor of hygiene in the university.

The New Dispensaries of the Medico-Chirurgical College and Hospital of Philadelphia were opened for public inspection on Thursday, March 7th. The building, which is situated on Cherry Street, immediately opposite the main building of the hospital, has a floor space of ten thousand square feet, an increase of more than two thirds over the former dispensary area. A unique feature of the building, which is one story in height, is that nearly all the rooms are lighted by skylights, thus ensuring privacy as well as an abundance of light. Another unique feature of the building is that there is no basement, all gas, water, and steam pipes, electric wires, etc., being carried in an attic space overhead. Excellent arrangements have been made for ventilation and heating, and provision is made for the maintenance of perfect sanitary conditions throughout the building. It is said that, all in all, the plan and construction of the building make it a model as a commodious, modern, and convenient dispensary.

Meetings of Local Medical Societies to be Held during the Coming Week:

MONDAY, *March 11th.*—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence; New York Ophthalmological Society; Williamsburg Medical Society, Brooklyn; New Rochelle Medical Society.

TUESDAY, *March 12th.*—New York Academy of Medicine (Section in Public Health); New York Obstetrical Society; Buffalo Academy of Medicine (Section in Medicine); Practitioners' Club of Jersey City.

WEDNESDAY, *March 13th.*—New York Pathological Society; New York Surgical Society; Medical Society of the Borough of the Bronx; Alumni Association of the City Hospital; Brooklyn Medical and Pharmaceutical Association; Alumni Association of the Norwegian Hospital, Brooklyn.

THURSDAY, *March 14th.*—New York Academy of Medicine (Section in Pediatrics); West Side Clinical Society; Brooklyn Pathological Society; Blackwell Medical Society of Rochester, N. Y.; Jenkins Medical Association, Yonkers; Jamestown Medical Society.

FRIDAY, *March 15th.*—New York Academy of Medicine (Section in Orthopedic Surgery); Clinical Society of the New York Postgraduate Medical School and Hospital; New York Microscopical Society; Brooklyn Medical Society.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

February 22, 1912.

1. Edward Reynolds: End Results of Surgery in Neurasthenics and on Neurasthenia.
2. Joseph H. Pratt: Class Method in the Home Treatment of Tuberculosis.
3. Guthrie McConnell: Primary Tumors of the Spleen.
4. Benjamin Tenney and Henry Melville Chase: Urinary Infection.
5. Care of Pregnant Women. Prenatal Care. A. B. Emmons: Prevention of Eclampsia.
6. George W. Morse: Chylous Ascites. Venous Peritoneal Anastomosis.

1. **End Results of Surgery in Neurasthenics and on Neurasthenia.**—Reynolds discusses the three propositions that neurasthenia is fundamental in the individual, that neurasthenia in itself is never an indication for surgical treatment, and that neurasthenia is not necessarily a contraindication to operation. The first proposition is a rather recent pathological conception which seems to be acceptable to the leading authorities of both the medical and surgical sides of the profession, and probably lies at the bottom of a sound conception of the subject. The importance of the second and third propositions has too often been overlooked. Neurasthenia is familiar to practitioners of every department of medicine and should be treated from an equally broad standpoint, but Reynolds confines himself in this paper to those neurasthenics who are afflicted with pelvic ailments and avers that the mere use of the generative organs may in some women precipitate a fatigue neurosis. "One often sees such cases, i. e., in a young woman who has gone through her girlhood, on the whole sufficiently well. She has never cared for the fatiguing sports, and has usually had more or less dysmenorrhea. She has often been pretty, attractive, and gay, but has always been tired and exhausted at the close of a social season of late hours; she has never been very well, always delicate, but has not been a neurasthenic. She marries and becomes pregnant; perhaps she overdoes her social duties during the early part of pregnancy. Pregnancy is succeeded by labor; the pains are inefficient and variable in frequency and force; she is attended after the good old fashioned method, and after eighteen or twenty-four hours of exhaustive labor has a good hard forceps case. She is tremendously exhausted. She gets up pale and feeble. She nurses for a time, but nursing is painful and the breasts give out. She worries over her baby and takes up her social duties again. One or two more babies come along. She gets up worse each time. In a few years the familiar medical history of the chronic neurasthenic intervenes. She wears out her family practitioner and begins her round of the specialists." The paper is based on the records of forty-nine cases and the points are made that imperfect generative development, which is not important during maidenhood, may be productive of symptoms after matrimony, and that a moderate autointoxication by the products of an inflammatory lesion may be the exciting cause of a neurasthenia. The difficulty of differentiating between an individual whose neurasthenia is really due to local suffering and another in whom it is of general origin, but whose attention has been concentrated upon an etiologically unimportant symptom, is admitted to be enough to strain to the utmost the resources of the best diagnosticians, but when it is due to a local trouble in the pelvic organs operative treatment is beneficial. In forty out of the forty-nine patients the patient or her physician stated that the general results of the operation were satisfactory, in the remaining nine the neurasthenia was not benefited, but the conservative operations were not followed by lasting ill effects.

4. **Urinary Infection.**—Tenney and Chase say that bacteria of various sorts appear in the circulating blood and pass through the kidneys; they may filter through and leave no trace, or they may damage the kidney in passing, or they may make a prolonged and destructive stay in the kidney. All causes producing obstruction to the flow of urine increase the chance of renal infection while they last, and the rest of the process depends on the appearance of certain bacteria at the favorable moment. Treatment based on this theory is to try to remove all causes of back pressure and to reduce the supply of bacteria in the circulating blood in all reasonable ways.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

February 24, 1912.

1. Harold J. Stiles: Pathology and Treatment of Tuberculosis of the Bones and Joints.
2. Leonard W. Ely: Three Rules of Treatment in Adult Joint Tuberculosis.
3. D. J. Davis: Antityphoid Vaccination.
4. W. Cabell Moore: Symptomatology and Diagnosis of Angina Pectoris.
5. C. W. Gould and G. L. Qualls: Convalescent Carriers of Typhoid.
6. W. H. Walters: Streptococcus Vaccines in Scarlet Fever Prophylaxis.
7. S. J. Hunter: Sand Fly and Pellagra.
8. I. L. Tuechter: Unequal Pupils as an Early Sign in Phthisis.
9. Simon J. Young: Tetanus with Recovery.
10. Herbert M. Rich: Treatment of Paroxysmal Tachycardia.
11. E. S. Evans: Nitroglycerin Poisoning.
12. O. F. Blankingship: Ovulation and Child Bearing without Menstruation.
13. G. Frank Lydston: Cocaine in Chancroid and Sluggish Ulcers.
14. Emil Krulish: Cerebrospinal Meningitis.
15. W. Ophüls: Relation of Research to Teaching in Medical Schools.

5. **A Study of the Convalescent Carriers of Typhoid.**—Gould and Qualls have made an extensive experimental study of the subject. They point out the great danger of these carriers to the general public, and refer to previous reports on typhoid carriers, opsonins, agglutinins, and leucocytes. A careful description of the technique employed in their bacteriological examinations is given in this article. The authors believe that a large percentage of typhoid convalescents leave the hospital as carriers. The bacilli excreted in the feces harbor mostly in the gallbladder, while those excreted into the urine probably dwell largely in the prostate gland. Typhoid bacilli may be expectorated. For the examination of the urine and the prostatic secretions Hesse's semisolid medium, as modified by Stokes and Hachtel, is perhaps the best. For the examination of the feces the solid color reaction mediums are better adapted, because of the great variety of motile organisms contained in the stools. The leucocyte count of tyhoid carriers usually averages 8,000. The authors found that the opsonic index and percentage of large uninuclear leucocytes were increased in these cases. The agglutination of typhoid bacilli on the part of the serum in typhoid convalescents or in the chronic carrier bears no relation to the carrier.

8. Unequal Pupils as an Early Sign in Phthisis.—Tuechter calls our attention to pupillary difference as an early sign of unilateral pulmonary tuberculosis. In a large majority of cases in which this sign is present the larger pupil is found on the side of the pulmonary involvement; in many cases the opposite is true. The cause of this pupillary enlargement, according to Leo Wolfer, is a stimulation of the sympathetic fibres by pressure of enlarged bronchial glands on the affected side.

11. Case of Nitroglycerin Poisoning.—Evans reports this unique case. The patient had been using blasting powder of the nitroglycerin variety for about two weeks. He wore cotton flannel gloves which became impregnated with dynamite, or nitroglycerin. After working one week he suffered from headache, dizziness, nausea, and vomiting, which symptoms ceased when he gave up his work. Later he undertook to remove some ashes from a cellar, wearing the gloves at work. During this work the throbbing headache, dizziness, and nausea returned. The poison was finally traced to the gloves and it was found by experiment that the degree of perspiration present on the hands while wearing the gloves determined the gravity of the symptoms.

MEDICAL RECORD

February 24, 1912.

1. HARLOW BROOKS: The Heart in Syphilis. (Based on Fifty Cases.)
2. G. A. FRIEDMAN: Quantitative Estimation of Trypsin and Amylase in the Feces and in Duodenal Contents.
3. REGINALD M. RAWLS: Colon Bacillus Infection of the Urinary Tract.
4. A. T. GAILLARD: Epithelia Found in Urine, and Their Differentiation as an Aid to Correct Diagnosis.
5. J. A. FULTON: Use of a Definite Temperature in Treating Disease, and the Destruction of the Gonococci.
6. GEORGE SANDERS: Bacterin Treatment in Pulmonary Tuberculosis.
7. DOUGLAS H. STEWART: A Small Quickly Made Sterilizer.

1. A Study of the Heart in Syphilis.—Brooks calls our attention to the almost universal occurrence of serious cardiac changes and aortic lesions in syphilis. He notes that these changes begin early in the infection and through their latter stages they have become permanent and unchangeable, and from the nature of these lesions and their visceral location they have a direct influence, not only on health, but on life itself. These changes in the vascular system in syphilis are very early in their onset and the cardiac lesions are secondary to these vascular lesions and are also early in their development. Changes in the pericardium were found in seventeen of the fifty cases studied by the author, but as they were in no way characteristic of syphilis, he differs from Billings in believing that there is little or no direct relationship between pericardial lesions and the parent disease. He does not consider the condition a very serious one in itself, but only as an index of the nature of the parent process. Changes in the epicardium were found in twenty-eight cases, most frequently seen in white, opalescent, oval, or circular patches of thickening, usually situated at points where active capillary anastomosis occurs. These changes in the epicardium are usually associated with marked endocardial effects, but are in most cases entirely independent of the pericardial changes, and seem to be entirely distinct from them even in the matter of mutual adhesions. While not exclusively limited to syphilis, it occurs most frequently with it, and is in some respects allied to leucoplakia of the mucous membranes. Myocardial changes were found in forty-four cases, although true gumma was present in but five cases. Fatty degeneration, brown atrophy, and pure fibroid change predominated. Disease of the coronaries was present in thirty-five cases to a relatively higher grade than the general arterial changes, showing the well known selective tendency of the syphilitic virus for these vessels. Endocarditis was found in thirty-seven instances, seventeen of which showed involvement of both aortic and mitral segments. No pure lesion of the mitral appeared, but seven of pure aortic disease were found, most of them showing active ulceration. In three instances diseases of the aortic, mitral, and tricuspid occurred, and disease of the mitral, tricuspid, and semilunar in one. In three cases a general sclerosing valvular endocarditis involved all the valves. In four cases a universal involvement of the endocardium was found, of definite specific character. Aortic disease was found in forty-four cases; in thirty-seven only did the disease extend to the abdominal artery and its chief branches. A predilection was shown for the upper portion of the vessel. An application of the Wassermann test is urged by the author in all doubtful or probable cases of aortic or cardiac disease. In the absence of a positive Wassermann reaction, the author advises that if the clinical picture indicates syphilitic infection, the treatment test should be invariably applied.

3. Colon Bacillus Infection of the Urinary Tract.—Rawls, in a study of eighteen cases, has found that the mode of entrance of the infection has been hematogenous rather than ascending. In a case of perinephritic abscess a possible exception to this occurred, as the abscess ruptured directly into the urinary tract, although there was some previous renal involvement.

4. Epithelia Found in Urine and Their Differentiation.—Gaillard believes that he has proved that all epithelia lining the genitourinary tract may be differentiated; that by microscopical examination of the urine, after methods which he describes, the clinician's diagnosis can always be confirmed; and, furthermore, that when the clinical symptoms are obscure or too vague to permit of a positive diagnosis, valuable aid can always be given by the microscope.

5. Definite Temperature in Treating Disease and the Destruction of the Gonococci.—Fulton, from a study of this question, has come to believe that heat or cold in treating disease should be of definite strength, and when properly applied that they penetrate living tissues. He finds that a bougie warmed to 120° F. when held in the urethra for a few minutes will raise the surface temperature of the skin out alongside from five to eight degrees. He has found experimentally that the benefit following the proper application of heat or cold is derived from the effect upon, the weakening of, or the entire destruction of the gonococci.

7. A Small, Quickly Made Sterilizer.—Stewart suggests the following portable, clean, and inexpensive sterilizer, which is moreover independent of temperature. Take a rather long, wide mouthed

bottle (a fruit jar with screw top), having a good cork, rubber or other, put on the bottom a heaping teaspoonful of borax, covered with two or three pieces of blotting paper. On this pour a teaspoonful of solution of formaldehyde and push down on this a layer of absorbent cotton to hold all in place. The articles to be sterilized are then introduced and the bottle is tightly corked.

BRITISH MEDICAL JOURNAL.

February 17, 1912.

1. B. G. Moynihan: Correlation of Symptoms and Signs in Abdominal Disease.
2. Leonard E. Hill: Compressed Air Illness.
3. Lauder Brunton: Artificial Respiration with Oxygen.
4. St. Clair Thomson: Intrinsic Cancer of the Larynx.
5. P. S. Hichens: Esophageal Dilatation.
6. W. Sanderson: Angioma of the Oropharynx.
7. J. Cropper: Early Excision of Boils.
8. Andrew Balfour: Vital Blood Staining of the "Infective Granule."

1. Correlation of Symptoms and Signs in Abdominal Disease.—Moynihan tears down some of the long cherished notions with regard to the pathological conditions actually present in some of those ailments in which diagnosis was deemed accurate. The term "gastric ulcer" has long been considered as covering a disease which could be recognized with confidence and certainty, for the symptoms were so well defined. Moynihan has observed that in well over one half of the perfectly typical cases, presenting all the signs, including hemorrhage, operation revealed no evidence of structural change in the stomach. He also emphasizes the fact that a true ulcer which has been the cause of prolonged and recurrent attacks always, with the rarest exceptions only, has involved all of the coats of the stomach and can be seen from the outside. Moynihan was unable to confirm the contention of Lane with regard to the presence of kink in the ileum, but finds that in those cases which do not show an ulcer (over fifty per cent. of all diagnosticated as ulcer) there is a lesion of the appendix, ulceration of the ileum or cecum, a prolapsed stomach, or a calculous cholecystitis. The occurrence of hematemesis in these cases is due to the absorption of some toxine from the infected part. He concludes, therefore, that in the majority of cases described as due to ulcer there is not a lesion in the stomach, but a persisting chronic infective lesion in some other abdominal organ, and that in this focus there arises, from time to time, a more acute infection, which causes the transient exacerbations which are seen more quietly throughout the entire course of the ailment. True gastric ulcer, he believes, can be diagnosticated fairly frequently, only if there is a history of details repeated from day to day with sustained regularity, careful physical examination, x ray examinations, and careful gastric analyses. But even then there will be a large proportion of errors. The firmly accepted belief that in ninety per cent. of the cases in which gallstones are present they existed in the gallbladder without causing any symptoms is, according to Moynihan's observations, absolutely wrong. He states most emphatically that they almost never exist without the production of quite characteristic symptoms, which allow of the making of an accurate diagnosis. It is likewise remarkable to note how frequently stones are found lodged in the common duct without the production of any sign of obstruction to the passage of the bile and hence without jaundice. Operative intervention, too, in these cases of chronic gallstones has become a safe procedure, for the junction of the gallbladder to some portion of the gastrointestinal tract has yielded surprisingly good results with an extremely low mortality. Even the drainage of bile into the stomach caused no ill effects in a case of his. The discussion Moynihan gives on the diagnosis of these and other conditions is too long to abstract, but the paper will amply reward any one who reads it.

2. Compressed Air Illness.—Hill, in a long and very interesting paper, analyzes the various observations on this subject which he has made upon animals, upon himself, and his associates. He finds that mere pressure has no effects upon the circulation until many more atmospheres are reached than can be survived, owing to the fact that oxygen becomes toxic to man at a comparatively low pressure. Animals can be subjected to several hundred atmospheres of pressure without harm. But life is destroyed by very high pressures of water through destruction of the chemical structure of the protoplasm. Through all this pressure there is no mechanical effect upon the circulation. Hill and his assistants have been subjected to six and seven atmospheres of air pressure in a chamber fitted for taking observations and communication with the outside, and suffered no harm or discomfort. The oppression of which divers complain is not due to the higher percentage of carbonic acid, but to an increase in its partial pressure, for it is not the percentage, but the absolute pressure which controls breathing. To obviate this discomfort, then, by keeping the partial pressure down, the air must be sent through the diving helmet in the same volume regardless of pressure, and this means the volume must increase with the increase of the pressure. Compressed air disease is caused, as is well known now, by the liberation of the dissolved nitrogen gas from the blood into vital structures. This occurs only when the decompression in the last stage progresses too rapidly. Hill suggests the breathing of oxygen for some minutes before the last lock is entered, thereby causing a vacuum for nitrogen and its more rapid excretion through the lungs. An excess of carbon dioxide is of advantage, also exercise, for both increase the respiratory exchange. If these, and some other precautions which he suggests, are observed there should be no danger from the exposure to the high pressures of caissons.

4. Cancer of the Larynx.—Thomson had ten cases all of which were in men, between forty-three and sixty-eight years old. He made a laryngofissure in all cases and lost no case from the operation. Only one of the patients is dead as a result of a local recurrence. Laryngofissure alone has given a lasting cure in eighty per cent. of the cases. The resort to a secondary excision of the larynx in the cases of local recurrence has raised the percentage to ninety. The diagnosis was possible in all of the cases. The hope of cure is passed if the cancer has been allowed to extend and involve the whole larynx, becoming an extrinsic growth. Early operation is the one successful measure.

7. Early Excision of Boils.—Cropper freezes the infected area with ethyl chloride, thus render-

ing it firm and easy to cut, as well as insensible. He then excises a circular area of the skin covering the central portion of the boil. For this purposes he uses a Graefe's cataract knife and holds it perpendicularly to the skin. The area to be excised varies from that of the size of a wheat seed to one quarter inch in diameter. It is seldom necessary to cut out more than this. The treatment after this is of minor importance; any sterile dressing may be used. This method has the advantages of prompt cure, very little scar, and immediate relief from the pain and throbbing.

LANCET.

February 17, 1912.

1. F. E. Batten: Experimental Poliomyelitis.
2. W. Hale White: Some Forms of Hemorrhage.
3. H. M. Davies: Malignant Disease of the Testicle.
4. T. P. Dunhill: Partial Thyroidectomy.
5. R. C. Elmslie: Tuberculous Disease of the Bones and Joints.
6. E. M. Corner: Tuberculosis of the Mesenteric Glands.
7. G. E. Waugh: Enterectomy under Spinal Anesthesia.
8. M. Yearsley: Vertigo Cured by Destruction of the Labyrinth.
9. C. Clarke: Removable Bladder Sutures.
10. William A. Brend: Medical Provisions of the National Insurance Act (Part II).

2. Hemorrhage.—White seeks to explain the occurrence of some of the forms of bleeding, which have no obvious causative factor, upon the basis of a specific local injury to the leaking vessels through the action upon them of a toxine developed in the body. He cites the fact that the menstrual flow is excited by a hormone developed in the ovary and that at present the old ideas of vicarious menstruation have died out, the belief now being that the process occurs from the uterus only. This harmonizes perfectly with his view that the cause of this and similar hemorrhages is the circulation in the blood stream of a toxine which exerts its influence upon certain vascular areas only. Purpura hemorrhagica, gastrotaxis, renal epistaxis, and many other ill explained local hemorrhagic conditions can all be ascribed to the formation of a specifically acting toxine, which, at times, is developed from some area of infection that can be discovered and be removed.

3. Malignant Disease of the Testicle.—Davies summarizes the diagnosis and treatment of this condition as follows: 1. All tumors of the testicle must be regarded as malignant. 2. A history of previous venereal disease, association of the swelling with an injury, and history of swelling dating from childhood, must not outweigh the clinical evidence. 3. When there is an oval, relatively painless, opaque swelling of the testicle a tumor is to be suspected. 4. When, in addition, the tumor is soft or elastic, and its surface is slightly lobulated, the suspicions are to be regarded as confirmed. 5. An increased pulsation of the cord, while in favor of a tumor, is not pathognomonic. 6. A solid tumor may be so elastic as to give the sensation of a fluid enlargement. 7. Aberrant clinical manifestations must be borne in mind. 8. If the diagnosis is uncertain and there is a possibility of a growth the tumor must be explored. 9. When the diagnosis of malignant disease is established a complete radical operation must be done with the removal of testicle, cord, lymphatics, surrounding fascia, and the lymphatic glands in the region of the aorta and vena cava, unless the lumbar glands are involved or there are evidences of metastases elsewhere.

4. Partial Thyroidectomy.—Dunhill has performed 380 operations of this nature, mostly under local anesthesia, 230 of which were for relief in exophthalmic goitre. He has lost but four patients in all. He does not believe that it is justifiable to consider the operative treatment of the disease as a measure of last resort, as has been the custom. The two chief dangers in the operation are encountered when it is done during an acute exacerbation of thyroid intoxication or during an attack of bronchitis. Dunhill cautions about the necessity of removing enough of the offending gland to cure the disease and of leaving enough, at the same time, to carry on its physiological functions. In younger patients, and those not very ill, the larger lobe, together with any middle lobe or isthmus, should be enough to take away; in older people, and those in whom the disease is very severe, this is insufficient and one must remove one lobe and half of the other to do any good. At times, when there is some doubt as to just how little can be removed with success, it has been necessary to perform a second or even a third operation. Dunhill thinks that there is very little fear of the patient becoming myxedematous, less so, even, than in the case of the untreated disease or when treated medically. He has never had a case of tetany and consequently does not fear the parathyroids in his operation. For the induction of local anesthesia he employs seven ounces of a two in a 1,000 solution of novocaine and thoroughly infiltrates the entire front of the neck. As regards the results of the operation, they depend in part upon the initial severity of the case, but in general they are strikingly good.

6. Tuberculosis of the Mesenteric Glands.—Corner expresses the opinion, based upon a large number of abdominal sections, that tuberculosis of the mesenteric glands in children is a very common condition. In fact, he has found it in practically every child submitted to an abdominal operation. He attributes this great frequency to the fact that the food stagnates in the ileocecal region while it undergoes absorption of a large part of its water. This pause is made in a warm, slightly alkaline medium and the contained microorganisms multiply very rapidly. This is shown by cultures from here and from other portions of the intestinal tract. Due to this great multiplication of bacteria and to the stagnation, it is from this region that the greater part of the infection with the tubercle, as well as all other bacilli, takes place. This tuberculous infection is not very fatal, as is seen by the extremely high percentage of all children in which it is found. It is, however, the very frequent cause of those vague, ill defined symptoms so often seen and blindly attributed to "indigestion." Open air treatment, after the removal of the hypertrophied and chronically inflamed appendix, is followed by a cure in nearly every case.

8. Vertigo.—Yearsley records a case of very severe vertigo of long standing which was very greatly benefited by destruction of the labyrinth. A peculiar symptom has resulted from this destruction, viz., a complete loss of the sense of space when in the dark. This has also been observed in another case of a similar nature.

PARIS MÉDICAL.

February 17, 1912.

Balthazard. Question of the *Status quo ante* in Industrial Accidents.
2. Oddo: Alcoholism and Industrial Accidents.
3. Roucayrol: Accidents from Compressed Air.
4. Duvergey: Diagnosis of Tumors of Bursæ.
5. Casse and Charpin: Strangulation in the Ileoappendicular Fossa.
6. Gougerot: Juvenile Seborrhea of the Face.

PRESSE MÉDICALE.

February 14, 1912.

Adolphe D'Espine: Infantile Paralysis, Duchenne-Erb Type.
2. P. Hartenberg: Muscular Headaches.
3. L. Sabrazès: Diagnosis of Malaria by Extemporaneous Colorations.

February 17, 1912.

4. L. C. Maillard: Natural Formation of Albuminoids.
5. J. Chalier and L. Nové-Josserand: Hemolysis and Pigmentary Cirrhosis in a Diabetic.
6. Mantoux: Endodermic Method in Tuberculinotherapeutics.

2. Muscular Headaches.—Hartenberg states that the points of induration often found in the muscles of the neck in certain obstinate headaches may be noticed elsewhere on careful inspection. They represent a sort of rust of the system, due to sedentary habits, and are absent in men who make a habit of vigorous exercise and massage.

SEMAINE MÉDICALE.

February 21, 1912.

L. Cheinisse: Pancreatitis from Parotiditis.

Pancreatitis Following Mumps. — Cheinisse avers that this condition has been known for many years, Cuche having noticed it among soldiers in 1897, Fabre in 1887, and Mondière in 1833. Pain is by far the most marked symptom; then nausea and uncontrollable vomiting. Diarrhea also occurs. Glycosuria and steatorrhea have been noticed. It is important, not only that pancreatitis may precede the parotiditis, but may exist alone. In one case the diagnosis would probably not have been made had not the pancreatitis, which occurred in a boy, immediately followed a typical attack of mumps in his sister.

BERLINER KLINISCHE WOCHENSCHRIFT

January 29, 1912.

Stadelmann and A. Magnus-Lévy: On the Cases of Poisoning which Occurred in Berlin during Christmas, 1911.
2. Felix Hirschfeld: Etiology of Diabetes.
3. Bortz: Angina with Swelling of the Liver.
4. Hans Aronson: Anaphylactoxine and Bacterial Toxine.
5. Albert Adamkiewicz: "Degeneration Reaction" of Sensible Nerves.
6. Otto Baer: Experiences with C. Spengler's I.-K.
7. W. Samson: Treatment of Phthisis by Artificial Pneumothorax.
8. Von Tobold: Technical Novelties.

February 5, 1912.

9. A. Fraenkel and W. Körte: Present Status of Pulmonary Surgery.
10. Julius Hirschberg: Methyl Whiskey Poisoning.
11. Hans Aronson: Anaphylactoxine and Bacterial Toxine.
12. Cesare Frugoni: Sokòdu (Rat Bite Fever).
13. Paul Manasse: Pylorospasm.
14. Herbert J. Wiener: Eosinophilia of the Mucus of the Intestines.
15. C. Bachem: Codeonal: A New Narcotic and Hypnotic.
16. W. Lublinski: Local Use of Menthol in the Nose and Its Danger in Infants.
17. Ernst Runge: Diagnosis and Treatment of Post Partum Hemorrhages.

1. On the Cases of Poisoning which Occurred in Berlin during Christmas, 1911.—Stadelmann and Magnus-Lévy review the cases of poisoning which occurred in the municipal asylum of Berlin at the close of the year 1911, but nothing new is added to what is already known.

6. Experiences with C. Spengler's I.-K.—Baer has tried Spengler's I.-K. on eleven patients. He cannot endorse Kirschenblatt's observation that this antitoxine is of great value. On the contrary, Baer found that I.-K. has a very poor effect upon the tuberculous patients, especially upon the reconvalescents.

10. Methyl Alcohol Whiskey Poisoning.—Hirschberg speaks about the danger which lurks in whiskey that contains methyl alcohol. He speaks of the experiments made with this alcohol and remarks that whiskey should never contain a trace of it.

4 and 11. Anaphylactoxine and Bacterial Toxine.—Aronson has studied for over a year the question whether it is possible to produce an anaphylactoxine from streptococci which, with our present knowledge, do not secrete a soluble toxine. He has not been able to produce such a typical anaphylactoxine and he thinks that the streptococcal anaphylaxis plays a very inferior rôle; but he comes to the very interesting conclusion that bacteria can form a toxine which has the identical effect as the anaphylactoxine, and which can be produced without assistance of an amboceptor or a complement.

12. Sokòdu.—Frugoni reports a case of poisoning by the bite of a rat. Sokòdu is the Japanese name for an infectious disease of protozoic nature found in China and Japan, produced by the bite of infected rats, called, also, by the English rat bite fever.

15. Codeonal.—Bachem has made experiments with codeonal, on rabbits as well as on man. He says that codeonal consists of 11.76 per cent. diethylbarbituric codeine and 88.24 per cent. diethylbarbituric sodium; the codeonal tablets contain of the former 0.02 gramme and of the latter, 0.15 gramme. He thinks that the preparation is a good narcotic and hypnotic. He has not seen any important lowering of the temperature. This would give the indication for the drug, which, besides, he has used in nervous insomnia and insomnia from coughing.

16. The Local Use of Menthol in the Nose and Its Danger in Infants.—Lublinski calls attention to the discussion which took place about ten years ago in the Société de pédiatrie de Paris on menthol, when it was shown that more or less severe cases of spasm of the glottis in infants could be attributed to the use of menthol. As there exists on the market many such menthol preparations, which can easily be bought without prescription, the laity should be warned against its use. (See our issue for March 2d, page 453.)

CENTRALBLATT FÜR ALLEGEMEINE PATHOLOGIE UND PATHOLOGISCHE ANATOMIE

January 15, 1912.

1. Kurt Stromeyer: Primary Carcinoma of the Liver Parenchyma.

January 31, 1912.

2. J. L. Burckhardt: Anatomical Lesions in a Case of Pure typhoid Fever Resembling Typhoid.
3. Miloslavich: Absence of the Appendix.
4. H. Ribbert: Reply to the Contribution of von Mille: Concerning the Histology of the Kidney in Hemoglobinuria.

1. Primary Carcinoma of the Liver.—Stromeyer reports the case on account of its differing from most others in certain important respects. The patient was a woman of sixty-seven years, dying of apoplexy. At the autopsy a tumor about the size of a fist was found attached to the left side of the liver by a thick fibrous pedicle which proved to be composed of very old connective tissue containing but few cells. The microscopical diagnosis lay be-

tween a carcinoma of the liver and a perithelial sarcoma. The final conclusion was that the mass was a carcinoma in as much as the shape and size of the cells, as well as the nuclear structure, indicated an hepatic origin, although no secretion of bile was evident. Stromeyer is of the opinion that the marked connective tissue change as seen in the pedicle was the primary condition and that within this localized cirrhotic area the tumor had its origin.

2. The Anatomical Lesions in a Case of Paratyphoid Fever.—Burckhardt briefly reviews some ten cases of paratyphoid fever in which autopsies have been done and the findings reported. He then gives in great detail an additional case, the physical examination, the protocol, and the results of both the microscopical and bacteriological examinations. The latter showed that the case was one of a pure infection by the paratyphoid bacillus. The conclusions drawn are that in the cases reported there is no characteristic pathological picture. The paratyphoid bacillus may resemble, both macroscopically and microscopically, true typhoid fever. A slight involvement of Peyer's patches and the localization of ulcers in the large intestine is not infrequent, and when found at autopsy are suggestive of a paratyphoid infection. The only certain methods of differentiation are by means of exact bacteriological and serological examinations.

3. Absence of the Appendix.—Miloslavich reports a case in which at autopsy no evidence of an appendix could be found. No abdominal scar was present, nor were there any indications of inflammatory processes in the ileocecal region.

PRAGER MEDIZINISCHE WOCHENSCHRIFT

February 8, 1912.

1. A. Schönfeld: Self Mutilation and Suicide in the Insane.
2. Friedrich Kanngiesser: Hippocrates: *Epidemics*, Liber iii. Chapters 2 to 5.

February 15, 1912.

3. Emmanuel Gross: Ovarian Sarcoma in a Girl Fourteen and a Half Years of Age.
4. Schönfeld: Self Mutilation and Suicide in the Insane.

2. The Attic Plague (430 to 425 B. C.).—Kanngiesser gives a translation of Hippocrates's (460-377 B. C.) third book of *Epidemics*, chapters two to five, and compares the description of the plague with that of the celebrated plague at Athens which devastated Attica from 430 to 425, and is so well described by Thucydides. Kanngiesser thinks that there is a possibility that the same plague raged also at Thasos, the home of Hippocrates, which island is very near Lesbos, where the disease, according to Thucydides, was also very severe.

WIENER KLINISCHE WOCHENSCHRIFT.

February 1, 1912.

Leopold Freund: Physiological and Therapeutical Studies of the Effect of Light upon the Skin.
B. Lipschütz: Microscopical Examination of Bullous Dermatoses.
3. A. Leopold Scherbak: Investigation of Internal Secretion of the Mammary Gland.
4. Emil Rochelt: Operative Treatment of Pulmonary Diseases.
5. M. Saidmann: Effect of Tryptic Fermentation Solutions upon Local Surgical Tuberculosis and the Antifermentative Treatment of Purulent Processes.

February 8, 1912.

6. Josef Schaffer: Viktor von Ebner to His Seventieth Birthday.
7. Ludwig Hecke: "Cancer" of Plants.
8. A. Botteri: Experimental Researches on the Possibility of Filtering the Virus of Blenorrhea and on the Resistance of the Virus of Trachoma.
9. Leopold Arzt: *Homo neutri generis.*
10. William W. Graves: Remarks on the Scaphoidal Scapula and Its Correlations.
Erich Baron Redwitz: Tuberculosis of the Mucous Membrane of the Mouth.

3. Investigation on the Internal Secretion of the Mammary Gland.—Scherbak has made, during the past three years, investigations on the internal secretion of the mammary gland. He remarks that while the internal secretory influence of the genitals upon the development and production of the mammary gland is well known, the problem of the influence of the mamma upon the uterus and ovaries has not been elucidated. He, therefore, made experiments on goats, and found that the mammary gland produces an internal secretion which influences the rutting.

5. The Effect of Tryptic Fermentation Solutions upon Local Surgical Tuberculosis and the Antifermentative Treatment of Purulent Processes.—Saidmann is of the opinion that his observations entitle him to the statement that the therapeutical effect of trypsin is much greater than that of iodoform glycerin, which possesses only a chemotactic influence upon the leucocytes.

7. Cancer of Plants.—Hecke refers to the publications and investigations of Irwin Smith, of Washington, on the crown gall of plants and quotes this American author who thought he found a similarity between the cancerous growth of the root of the turnip and cancer in man. This growth is produced through a *Bacterium tumefaciens*, and Smith concluded that we should be able, in the near future, to demonstrate the same in man.

9. Homo Neutri Generis.—Arzt reports the case of a young adult individual with a female name—age not given—of whom he was not able to determine the sex. He remarks that this case proves the theory of Halban, who stated that it is not necessary that the secondary sexual characteristics must be homologous to the sexual gland; they can be, in a given case, heterologous.

10. Remarks on the Scaphoidal Scapula and Its Correlations.—Graves demonstrates through his clinical and comparative clinical studies that syphilis of the parents or even of the ancestors is one of the causes of the scaphoidal scapula. But, he adds, that so far he has not been able to find the other causes. This scapula is not only found in children of syphilitic parents, with normal scapulæ, but also in nonsyphilitic and syphilitic parents with abnormal scapulæ. The scaphoidal scapula can therefore be a congenital, hereditary, or a congenital and hereditary abnormity.

ZENTRALBLATT FÜR CHIRURGIE.

February 17, 1912.

1. N. F. Bogojawlensky: Endocranial Route to the Hypophysis Cerebri through Anterior Fossa of the Skull.
2. V. Chlumsky: New Contribution to the Etiology of Scoliosis.
3. Kurt Frankenstein: Incision in the Operation for Appendicitis.
4. Carl Bayer: Plastic Operation for the Formation of an Anus after Extirpation of the Rectum.

1. Endocranial Route to the Hypophysis through the Anterior Fossa.—Bogojawlensky describes the following operation performed on a man thirty-five years old, with acromegaly. A flap of skin and bone, nine cm. square, was formed, its inner edge 2.5 cm. from the middle line, its lower 2.5 cm. above the upper margin of the orbit. This was raised, an H shaped incision was made in the dura mater and the two flaps thus formed were bent upward and downward. The head of the patient was then lowered over the edge of the table

and the right frontal lobe was slowly and carefully separated from the roof of the orbit, at first with the fingers, later with Krause's brain elevator. This gave a space five cm. broad in front, narrower behind in which the right optic nerve was visible at the depth of 7.5 or eight cm. The free outflow of the cerebrospinal fluid at this point necessitated the elevation of the head of the table about 30° in order to check it. The chiasm could then be seen distinctly, together with a dark red tumor coming from above, pressing the chiasm downward and projecting forward. The tumor was removed by means of a blunt and a sharp spoon, which penetrated without difficulty into the depths of the sella turcica. The hemorrhage was insignificant. The flaps of dura were then joined together by two sutures of catgut, the bone flap was replaced, and the skin sutured. The patient recovered and the signs of acromegaly abated. The microscopical examination of the portion of the hypophysis removed showed it to be a hyperplasia of the epithelial constituents of the tissue, together with numerous little parenchymatous hemorrhages and many islands of fine granules of an albuminoid substance.

2. **Scoliosis.**—Chlumsky ascribes congenital inclination in scoliosis to a faulty position of the fetus in the uterus.

ZENTRALBLATT FÜR INNERE MEDIZIN.

January 27, 1912.

Arnold: Does the Alimentary Tract Mechanically Break Up Foodstuffs?

Mechanical Work of Alimentary Tract.—Arnold sought to ascertain whether the stomach and intestine have the power to break up mechanically, solid portions of food or whether all disintegration of food masses is accomplished chemically or by solution. The subjects experimented upon undertook to ingest small, hollow paraffin cylinders of different degrees of hardness, and any deformations produced in the paraffin during transit through the alimentary tract were noted upon their recovery from the stools. Cylinders requiring a pressure of from 2 to 2.5 grammes for deformation showed distinct alterations of form, whereas those requiring from four to six grammes were practically unaltered. Since small pieces of the commonly eaten vegetables and fruits, even after cooking, are broken up only by application of pressure ranging from twenty to 300 grammes, Arnold concludes that mechanical influences play no part in the breaking up of the coarser food masses in the stomach and intestines.

CORRESPONDENZ-BLATT FÜR SCHWEIZER AERZTE.

February 1, 1912.

1. E. Döbeli: Etiology and Pathology of Pertussis.
2. Emil Wieland: Feeding Disturbances in Nurslings.

February 10, 1912.

3. Eugen Stadler: Fatal Plumbism from Snuff.
2. Emil Wieland: Feeding Disturbances in Nurslings.
5. Tièche: Vulvovaginitis in Little Girls.

3. **Fatal Plumbism through Snuff.**—Stadler reports a case of a woman, thirty years of age, who was a heavy user of snuff, taking about ten grammes a day. The snuff was wrapped up in so called silver paper which contained 89.9 per cent. lead. As the patient was not careful in opening the package, it was found that small particles of the lead paper were taken with tobacco; certain chemical properties of the somewhat damp tobacco as well dissolved the lead in the wrapper and thus impregnated the tobacco, which was found to contain about 1.75 per cent. of the metal. Accordingly, the ten grammes of tobacco taken per diem would have contained about 175 milligrammes of lead, and according to the latest researches from eight to ten milligrammes of lead for one day produce chronic plumbism.

ARCHIVES OF INTERNAL MEDICINE.

January, 1912.

1. L. Pierce Clark: Curability of Idiopathic Epilepsy, with Report of Twenty-nine Cures.
2. Joseph Erlanger: Criticism of the Uskoff Sphygmotonograph.
3. Albion Walter Hewlett: Infantilism in Pituitary Disease.
4. Clyde Brooks: Persistent Patency of the Ductus Arteriosus Botalli in the Dog.
5. Holmes C. Jackson and C. B. Hawn: Variations in the Concentration of the Blood as Affecting the Opsonic Index. With a Criticism of the Technique from the Physiological Standpoint.
6. Holmes C. Jackson and Tadasu Saiki: Blood and Feces before and after Bilateral Nephrectomy and Double Ureteral Ligation, and Urine Secreted after Reimplantation of the Ureters.
7. S. Strouse and J. C. Friedman: Levulosuria, with Report of an Unusual Case.
8. Jean V. Cooke: Blood Pressure Raising Substance of the Adrenals in Acute Adrenal Insufficiency.
9. William Charles White and Karl H. Van Norman: Determination of Individual Doses in Tuberculin Therapy.

1. **Curability of Idiopathic Epilepsy.**—Clark adduces evidence to show that even severe and long standing cases of idiopathic epilepsy are susceptible of arrest or cure, and emphasizes the necessity of an intensive "hygienic" method of treatment in this affection, in contradistinction to the use of sedative drugs. In all cases of spontaneous cure he has studied, the careful adoption of some self applied plan of hygienic treatment was in evidence. Clark counts as "cured" patients *not* treated with sedatives who have had no epileptic attacks for two or three years and show a return to normal stability in both mental and physical health. The majority of the permanent cures show a gradual subsidence of seizures instead of abrupt cessation. In patients treated with sedatives the criterion of cure must be somewhat modified, as a period of several months or even a year may be required for complete elimination of the drugs from the system. The author does not believe bromides aid in the prognosis in epilepsy, especially as regards permanent cures, having seen many patients treated with them steadily advance in physical, mental, and moral deterioration notwithstanding cessation of seizures. He would use bromides only, 1, as a therapeutic means of determining the severity of the disease, by ascertaining the sedative level necessary to hold the fits in check; 2, as adjuvants after all discoverable causes are set right and in such cases as need some small degree of sedation to bridge over certain periods. The seizures should no longer usurp the whole field of attention with their special therapy of sedation. Fully two thirds of patients with "idiopathic" epilepsy show some functional anomaly of metabolism, either congenital or acquired; hence diet holds first place in the hygienic treatment. Clark places his patients under a system of intensive training and dietetic regimen supervised by a "nurse- trainer" who lives with the patient on the same schedule and draws up daily detailed reports of his condition. The measures outlined for these cases include a diet consisting chiefly of cooked cereals, stewed fruit, milk, eggs, fish, and veget-

ables; calisthenic exercises and a walk in the morning; periods of rest morning and afternoon; wood sawing or other useful occupation; warm bath and general massage in the evening; high colon irrigations every other night until colitis is reduced; castor oil or calomel every ten days. A daily uranalysis is made. Nearly every case with metabolic defect shows either indican or albumin for the first two or three months, later disappearing. All patients were found by the author to benefit more or less permanently by this plan of treatment. He gives histories of thirty-four cases, including twenty-nine in which the arrest of attacks had occurred from two to seventeen years before, and of a number of "cured" cases reported by other authors.

3. **Infantilism in Pituitary Disease.**—Hewlett reports three cases: 1. Man, aged twenty-seven years; history of brain tumor; blindness due to primary optic atrophy; retarded growth; sexual infantilism; obesity; diabetes insipidus; 2, man, aged forty years; periodic headaches since the age of thirteen, with vomiting; mild sexual infantilism; adolescent height and figure; weight, seventy-six pounds; bitemporal hemianopsia; bony discharges in region of sella turcica, as shown by absence of normal outlines on x ray examination, constantly low specific gravity of urine, never exceeding 1,010, though the volume was only 0.5 litre; 3, man, aged fifty-two years; retarded sexual development (first seminal emissions at thirty years); small frame; large sella turcica. The first case corresponding to the Brissaud type and the second to the Lorain type of infantilism, the author concludes that either of these types may be associated with disease in or near the pituitary. The two types are not essentially different, as formerly supposed; in the former, development is simply arrested at an earlier stage than in the Lorain type. The constantly low specific gravity of the urine in the second case seemed to be the equivalent of a mild diabetes insipidus. In the third patient the diagnosis of pituitary disturbance was not well established, but the enlarged sella turcica and general resemblance to the second patient suggested the presence of a mild form of hypopituitarism.

4. **Patent Ductus Botalli.**—Brooks had under observation a dog presenting this developmental defect in well marked form. Notwithstanding the channel, one half cm. in diameter, which brought the aorta into communication with the pulmonary artery, there was no serious impairment of the animal's general health and comfort. This agrees with previous findings in man that the prognosis in the presence of this lesion is good, and suggests the advisability of carefully differentiating between it and aneurysm, owing to the difference in prognosis. The dog showed more than usual resistance to the effects of ether.

5. **Variations in Concentration of Blood as Affecting Opsonic Index.**—Jackson and Hawn adduce evidence to the effect that other factors besides the presence of opsonins influence to as great, if not to a greater degree than the latter the ability of the white cells to engulf bacteria. Their experiments were performed with the object of elucidating the effect of changes in the physical character of the blood upon the index. Changes of this nature were produced in dogs by the ingestion of water (dilution) or of magnesium sulphate (concentration). In the three experiments performed the values of the opsonic index for *Staphylococcus aureus* were found to run parallel with variations in the specific gravity and molecular concentration of the blood, and inversely with the electrical conductivity. In the third experiment, results obtained with two other organisms, similarly tried, did not agree, probably because the optimum and minimum points of phagocytic ingestion for bacteria of different kinds do not coincide. The authors are inclined to believe that a large portion of the so called normal variations in the opsonic index are due to changes in the physical characteristics of the blood, and other variations in disease may be explained, in part, similarly. They suggest an improvement in the technique of opsonic determination, viz., allowing phagocytosis to take place in a bacterial emulsion of the same ionic concentration as that of the serum under observation. This will furnish a more faithful picture of the actual phagocytic ability of the white cells while in their natural environment.

6. **Effects of Bilateral Nephrectomy and Double Ureteral Ligation.**—Jackson and Saiki experimented upon dogs. There appeared to be a slight tendency on the part of the nephrectomized animals to survive the operation longer than those subjected to double ureteral ligation. Analysis of the blood after both operative procedures showed no difference which could account for this. The molecular concentration of the blood increased after both operations until death. The electrical conductivity and chloride content, after a temporary rise on the day following operation, progressively decreased. Hence, the rise in concentration was brought about by an increase in organic substances mainly nitrogenous and noncoagulable, as was shown by the blood analysis. The blood also became more venous, with resulting increased viscosity due to carbon dioxide, and the coagulation time was increased. No vicarious elimination of water, uric acid, or purin bases into the intestine occurred. The urine secreted after reimplantation into the bladder of the ligated ureters was of a character which did not indicate great renal changes. Hydremia did not occur as the result of either operative procedure, and no evidence of edema was ever present; in fact, the tissues at autopsy appeared drier than normal.

7. **Levulosuria.**—Strouse and Friedman classify cases of levulosuria under three headings: 1. Alimentary glycosuria in diseases of the liver; 2. levulose associated with glucose in diabetes mellitus; 3, rare cases in which levulose alone has been found. They discuss in succession these several varieties and add the report of a case of pure levulosuria to the six cases heretofore recorded. The case is of interest in that clinically it presents phases indicating marked disturbance of the internal secretions—tremor of arms, hands, and head; large hands and feet; cyanosis of hands, feet, nose, and ears; pelvis of female type; testes unusually small. Administration of glucose has no effect on the excretion of levulose, nor is there any diminished tolerance for the former. The levulosuria is probably

due to a partial inability on the part of the liver to convert levulose into glycogen; a constant proportion of the levulose in the food is consequently excreted as such.

8. Blood Pressure Raising Substance of Adrenals in Acute Adrenal Insufficiency.—Cooke injected intravenously in a dog extracts made from portions of tuberculous adrenal glands removed from a patient dead of acute adrenal insufficiency, and compared tracings thus obtained with those resulting from the injection of epinephrin solution and of extracts from normal human adrenals. The differences observed indicated marked functional deficiency of the tuberculous glands, involving even adrenal tissue which showed no gross or microscopic lesion.

9. Dose in Tuberculin Therapy.—White and Van Norman report their experience in the past year with a method of determining the therapeutic dose of tuberculin required in the individual case by ascertaining the sensitiveness of the patient's skin to tuberculin with a modified von Pirquet test. In performing the test, the skin on the inner side of the forearm is washed with alcohol and scarified with a von Pirquet scarifier with just enough force to pierce the upper layer of the skin, leaving a punctate spot two mm. in diameter, with bright pink base. No blood should be drawn. A drop measuring exactly 0.01 c.c. of the tuberculin solution (Old Tuberculin) is next applied with a throttle pipette precisely over the point of scarification, and is covered with a vaccine shield held by adhesive. At the end of twenty-four, forty-eight, and seventy-two hours, the amount of reaction is measured in millimetres. A control scarification is always made below the other. All patients are tested first with a one per cent. solution of tuberculin. The standard degree of reaction to be obtained—the "minimal cutaneous reaction" of the authors—is represented by an area of redness, with some induration, measuring exactly four mm. in diameter, seventy-two hours after the application. The percentage of tuberculin in the 0.01 c.c. drop is increased or decreased, as required, in subsequent tests performed at intervals of one week until the dose which will produce exactly the standard reaction is found. This is the dose which, injected subcutaneously in the same individual, will produce the proper therapeutic effect, manifested locally by an area of redness, tenderness, and swelling measuring from two to five cm. in diameter. This method saves much time, avoiding the former tedious procedure of starting all patients on an exceedingly small therapeutic dose of tuberculin and very gradually working up. The authors believe that the object to be attained in tuberculin therapy is not the tolerance to tuberculin which comes from gradually increasing doses, but the reaction on the part of the body cells to the tuberculin introduced, and have noted a striking improvement in the therapeutic results obtained since adopting this principle. It is the more or less constant result of the administration of tuberculin in the dose which will produce a mild reaction that the patient feels better, and coughs and expectorates less; most striking are the improved resistance and ability of the patient to stand exercise and strain. Several tables are presented which embody the findings in 161 patients treated by the authors in the past year. The patients varied in age from eight to fifty-five years; in amount of disease, from incipient to far advanced; in degree of sensitiveness, as shown by the cutaneous reaction, from 0.05 per cent. to five per cent., a difference of 100 times; and, correspondingly, in dose, from 0.005 mg. to 0.5 mg. of tuberculin. The patients continued to react in the same way to the same therapeutic dose given every fourteen days for periods as long as twenty-one months. Patients under observation after arrest of the disease were found to lose their sensitiveness to tuberculin.

INTERNATIONAL JOURNAL OF SURGERY.

January, 1912.

1. C. W. Strobell: New Method of Shortening the Round Ligaments in Retroversion and Prolapse of the Uterus.
2. C. P. Thomas: Thyroid Gland and Some of Its Diseases.
3. M. Einhorn: Directions for the Use of the Duodenal Bucket.
4. W. W. Townsend: Injuries to the Genitourinary Organs Incidental to Railroading.
5. B. B. Cates: Stricture of the Male Urethra, with Report of Case.
6. J. H. Johnson: Diseased Tonsillar Crypts and Their Treatment.
7. J. A. Lee: Treatment of Fractures of the Femur by the General Practitioner.
8. J. G. Dean: Topics of Interest to the Railway Surgeon.
9. W. Armistead Gills: Treatment of Varicose Ulcers with Adhesive Straps.
10. W. Weston: Some Advantages of Medical Examination of Railway Employees.
11. R. B. Epting: Report of a Case of Compound Fracture of Patella and Leg.

2. Thyroid Gland and Some of Its Diseases.—Thomas observes that the most common morbid conditions of the thyroids are cystic, colloid, malignant, and simple hypertrophy. Young women are more often affected than men. Iodine internally is indicated in hypertrophy if the glands are small, but surgery if enlargement continues. Enough gland tissue should be left to function, and the parathyroids and recurrent laryngeal nerve carefully avoided. Cystic goitre can be removed with little danger, as can the colloid. The symptoms of exophthalmic goitre in their order are: 1. Tachycardia; 2, fine, so called railroad bridge tremor, elicited by having the patient hold her hands extended before her; 3, nervousness, with fear of impending disaster or death; 4, enlarged thyroid; 5, protruding eyeballs. Local anesthesia is much less dangerous than general anesthesia in this condition. The most efficient medical measures are large doses of belladonna, bromides, and ergot, which should be kept up for months, watching digestion and elimination closely. All work and responsibility should be avoided, and pleasant surroundings maintained. If the pulse remains above 110, despite the treatment, the two superior thyroid arteries and veins should be ligated, and if the pulse is below 110, and the patient's condition otherwise good, the radical operation should be done. Removal of the right lobe, isthmus, and two thirds of the left lobe is usually sufficient, but if very large more may be necessary.

6. Diseased Tonsillar Crypts and Their Treatment.—Johnson points to the importance of the supratonsillar fossa in tonsillar affections. Diseased tonsillar crypts are common in childhood, while in adults diseased follicles are most frequent. In acute follicular tonsillitis the crypts become filled with white, gray, or yellowish masses, made up of epithelium, food particles, bacteria, and lymph. In chronic diseased crypts the breath is almost constantly foul, cheesey plugs are dislodged on cough-

ing, and there are frequent attacks of sore throat. The crypts may coalesce to form large lacunæ. The direction of the crypts in the upper third of the tonsil is downward and outward. The tonsillar artery enters the base of the tonsil at the junction of its lower and middle third. The fauces and throat may be involved in tonsillar disease, and pneumonia has followed in a number of instances. Nasopharyngeal or sinus disease is possible. The tonsillar tissue is peculiarly liable to tuberculosis. Passing to the lymph and blood, miliary or apical tuberculosis is likely to follow. The treatment is both medical and surgical. The plugs can be squeezed or curetted out. Removal of the tonsils is indicated for hypertrophy, tuberculosis, chronic adenitis of the neck with involvement of the tonsillar crypts, chronic follicular tonsillitis, and recurring tonsillar or circumtonsillar abscesses.

7. **Treatment of Fractures of the Femur by the General Practitioner.**—Lee classifies fractures of the femur as follows: 1, Fractures of the neck, impacted and nonimpacted, intracapsular and extracapsular; 2, fractures of the shaft; 3, fractures above the condyles. The x ray and anesthesia are valuable aids in diagnosis. Fractures produced by indirect violence are oblique, and may be twisting. Injuries of the hip, if in patients over sixty years of age, should be treated as a fracture, unless known to be otherwise. Pneumonia following a fracture of the neck of the femur is a common cause of death in old people, and to avoid this they should be set up on a hard bed, with a sand bag to prevent eversion. In more robust patients Buck's extension with side splints is the treatment, with a hard, flat, single bed, the foot of which should be elevated from six to ten inches. Sufficient weight is attached to the extension to correct the shortening, and sand bags used to prevent eversion. Great care must be taken for the first two weeks that all of these measures are maintained effectually. After three weeks, if the shortening is less than a half inch, a cast may be applied to the leg, hip, and pelvis. The extension apparatus or cast may be removed after several weeks and the patient allowed to move his leg around the bed for a week or two, when he may be allowed up on crutches. The same treatment applies to fractures of the shaft after reduction, which should be done under anesthesia. A double inclined plane or extension is used for fractures above the condyles. If with these methods union does not begin in two weeks, the case should be turned over to the surgeon.

9. **Treatment of Varicose Ulcers by Adhesive Straps.**—Gills, in cases where radical operation is refused or contraindicated, has obtained cures for this condition in seven cases by adhesive straps. He notes that varicose ulcers appear in the lower, inner surface of the leg, while syphilitic sores are usually on the outer surface near the knee. He keeps the patient in bed till the swelling subsides, using massage, and stimulates granulations with a solution of silver nitrate, thirty grains to the ounce, three applications usually sufficing. The ulcer is protected by sterile gauze, and long adhesive straps are applied to the dry skin on either side until the skin wrinkles well and the foot is kept elevated. A cure is effected in from three to seven weeks. A linen elastic stocking is then worn. He has had no recurrences of the ulcers with this treatment.

PEDIATRICS

January, 1912.

1. Mary Sutton Macy: Value of a Biological Key in the Education of the Child.
2. P. B. Brockway: Medical Inspection of School Children, Aims and Results.
3. Chilton Thorington: Pathology and Treatment of Whooping Cough.
4. Archibald D. Smith: Case of Pyelitis; Unusual Difficulties in Diagnosis.
5. H. M. McClanahan: Acute Nephritis in Children.

1. **Biological Key in Education of the Child.**—Macy reminds us that the prenatal and postnatal life of the individual is a recapitulation of the development of the species. Since there must be reproduced in a few years, the results of generations of evolution, the individual is necessarily an expurgated edition of the racial history. The child is then considered, first, in relation to his nutrition; second, as a motor animal; third, as a psychic animal. This is the biological history of the species. The postnatal history of the child divides itself into the following three year periods: First (one to three years), devoted to the maturity of certain fundamental nutritive processes; second (three to six years), devoted to drinking in experiences; third, (six to nine years), expressive period of motor activity, devoted to vigorous expression both physically and mentally; fourth (nine to twelve years), a period in which the child shows great receptiveness, during which the expressive faculties are submerged so that it is impossible to discover what the brain has absorbed; fifth (twelve to fifteen years), the physiological age, a period which marks the maturing of the reproductive power, a period so important as to revolutionize the child's physical body and psychic capacities; sixth (fifteen to eighteen years), the psychological age, a period of rest, during which the new balance of powers is being found by the adolescent child; seventh (eighteen to twenty-one years), the idealistic age, which shows marked mental activity. The author states that the physician as well as the educator who will study the fundamental and the accessory functions of each era of the child's life and adapt them to practical purposes will be successful beyond the wildest dreams of our ancestors in promoting social progress and social evolution.

5. **Acute Nephritis in Children.**—McClanahan again emphasizes the fact that acute nephritis may be caused by any acute diseases of childhood, and that we should be on our guard in all acute infections just as we are in scarlet fever. In speaking of nervous symptoms, he refers to a case of nephritis in which he was convinced that there was an increased amount of cerebrospinal fluid, and did a lumbar puncture with apparent benefit. In the treatment he speaks of four cardinal points. One, care of the skin, that is, keeping the child warmly clad and in bed. Second, elimination from the skin and bowels, and two to four evacuations in twenty-four hours with Rochelle salts. Third, diet; during the acute stage, the more nearly the patient can be kept on a milk diet the better the result. Fourth, the treatment of complications. Headaches and muscular twitchings are valuable danger signals, and usually precede uremic convulsions. The most im-

portant remedy for convulsions is morphine given hypodermically. Acute dilatation of the heart, as indicated by an increased area of dulness and the character of the pulse, demands prompt attention, with ice bags or digitalis when the pulse is rapid and the child is lying quietly. After apparent recovery the case should remain under the observation of the physician for two years or longer.

EDINBURGH MEDICAL JOURNAL.

February, 1912.

1. D. A. Welsh: Surgical Pathology of the Large Intestine, with Special Reference to Carcinoma.
2. Denis Cotterill: Tilting the Soles of the Boots, and Its Use as a Means of Treatment in Various Common Conditions.
3. Allan W. Jamieson and John D. Comrie: Visit to the So Called Fountains of Hippocrates in Cos.
4. George Dean and A. W. Falconer: Aneurysm of the Hepatic Artery.
5. David M. Greig: Intranasal Carcinoma.
6. J. W. Struthers: Intraperitoneal Hemorrhage Following Endocarditis and Mesenteric Embolism.
7. George A. Pirie: Diagnosis of the Contents of a Hernial Sac by X Ray Examination.

1. Surgical Pathology of the Large Intestine.—Welsh gives a rather sketchy account of the surgical pathology of the large intestine. He finds carcinoma to be the principal condition present, the two conditions most likely to simulate it being tuberculosis and chronic inflammation. The best chance of recovery from carcinoma of the large intestine lies in early operation, so he considers an operation indicated as soon as the surgeon is satisfied of the probability of a new growth being present, for no certainty is possible within the period during which complete removal is possible. There is no sign or symptom diagnostic of cancer, and a portion of the growth cannot be submitted to a pathologist. The diagnosis rests on the calculation of a probability and the first condition of successful surgery is the acumen with which this calculation is made. If the surgeon waits until the probability increases to a certainty he no less surely waits until the chances of a successful operation have diminished to nil. If there is any doubt, operate.

7. Contents of Hernial Sac Revealed by X Rays.—Pirie gives the following description of the appearance made by the bismuth in the intestine while passing through a hernial sac: "During the x ray examination a peculiar shadow was noticed in the pelvis. It was darker than usual, and extended into the scrotum; thus the presence of a tight inguinal hernia was discovered. Not only was the outline of the intestine clearly mapped out, but the muscular action could be studied on the fluorescent screen. It was not so vigorous nor so rapid as one sees in the small intestine within the abdomen. About once in two seconds a constriction formed, cutting the bismuth mass in two; this remained a second, then slowly vanished, while the bismuth formed one mass again. Presently at another point a new constriction could be seen forming and then disappearing. This slow chopping process could be observed for several minutes without any trace of a forward movement."

GLASGOW MEDICAL JOURNAL.

February, 1912.

1. W. Ernest Miles: Treatment of Carcinoma of the Rectum and Pelvic Colon.
2. George H. Edington: Note on the Skull of Doctor Pritchard.
3. John M. Cowan: Modes of Cardiac Failure.
4. James R. Riddell: Treatment of Ringworm of the Scalp.

1. Carcinoma of the Rectum and Pelvic Colon.—Miles is of the opinion that cancer of the rectum spreads both intramurally and extramurally, and that the extramural spread takes place in three distinct zones. A cancer situated in the lower part of the rectum may give rise to early metastases in the pelvic mesocolon and pelvic peritoneum, while a growth in the upper part of the rectum or in the terminal portion of the pelvic colon may spread to the circumanal skin and the ischiorectal fat. The extension may take place into the tissues of the three zones wherever the primary growth may be situated in the rectum. Although perineal operations can eradicate the tissues comprising the zones of lateral and downward spread, they are quite inadequate to reach the tissues of the zone of upward spread. The only operative procedure which completely eradicates the tissues forming the three zones is the radical abdominoperineal.

3. Modes of Cardiac Failure.—Cowan says that in certain cases of cardiac disease the normal rhythm of the heart becomes altered by the transference of the pacemaker from its usual site to auricle, ventricle, or auriculoventricular node. The mechanical interference with the heart's work which ensues is necessarily serious, and in the majority of cases leads speedily to a fatal issue. In some cases, however, the pacemaker may revert to the normal site and recovery ensues. In others the defect may be compensated to a satisfactory degree and life may be prolonged for a period of years.

ANNALES DE GYNÉCOLOGIE ET D'OBSTÉTRIQUE.

January, 1912.

1. Potocki: Treatment of Prolapsus Uteri. (*To be continued.*)
2. E. Meriel: Occlusion of the Small Intestine by a Volvulus in a Pregnancy of Three Months.
3. Berthaut: Discussion of the Different Forms of Spontaneous Evolution in Shoulder Presentations.
4. Th. Bataski: Lumbar Puncture as a Curative Means in Eclampsia.

1. Treatment of Prolapsus Uteri.—Potocki, in an article of twenty-three pages, discusses the subject of prolapse of the uterus, first taking into consideration, from an obstetrical point of view, the etiological factors, then the method of preventive treatment during the accouchement; the period of dilatation, of expulsion; repair of tears after delivery, and preventive treatment during the stage of involution. A third portion is devoted to medical treatment, rest, local applications, massage, and pessaries. When these are employed, the smaller is preferred on account of the tendency to dilate, little by little, the vagina. Treatment by bandages, belts, and the knee chest position is also discussed.

4. Lumbar Puncture as a Curative Measure in Eclampsia.—Bataski, after briefly outlining his former method of treating eclampsia by large doses of chloral, the administration of chloroform, and by bleeding, reports three cases in which he performed lumbar puncture. In the first case the cerebrospinal fluid came out in a jet, 35 c.c. altogether being removed. Ten minutes after the puncture, the pulse, which had been but 60 rose to 72. The coma disappeared, as did the headache and other symptoms. The patient was put on a milk diet, and a bougie inserted in the uterus to bring on labor. Twenty hours later, without any renewal of the eclamptic attack, a living child was delivered. The recovery was uneventful. The second patient had been in labor for about three days and had had some nine eclamptic attacks. A

lumbar puncture was performed, and 25 c.c. of spinal fluid, escaping in a jet, was obtained. A dead child was delivered by forceps. Recovery was uneventful. In the third case 20 c.c. of fluid under pressure was procured. The pulse, which had been hard and strong, became less tense, and the albumin in the urine decreased at the same time as the edema diminished. Recovery was without incident. Bataski states that although three cases are not many from which to draw conclusions, yet he feels that the method is of distinct value.

ARCHIV FÜR DERMATOLOGIE UND SYPHILIS.

January, 1912.

1. R. Polland: Sarcomatosis Cutis (Spiegler).
2. Moritz Porosz: Meaning and Explanation of Sexual Dreams.
3. Otto Pultz: Eosinophile Cells and Mast Cells in Vesicular Skin Diseases.
4. William A. Pusey: Solid Edema (Symmetrical Elephantiasis) of the Face.
5. A. Ravogli: Papulosquamous Syphilides and Their Relation to Psoriasis and Parapsoriasis.
6. Edmund Saalfeld: Arsenic in the Dermatology of the Practitioner.
7. W. Schwenter-Trachsler: New Method for the Removal of the Female Beard.
8. Josef Sellei: Cytotoxic Treatment of Prostatitis Gonorrhoica.
9. James Strandberg: A Case of Vesiculopustular Pyemia (Merk).
10. Oluf Thomsen and Harald Boas: Wassermann Reaction in Congenital Syphilis.
11. Ludwig Török: Local Treatment in Inflammations of the Superficial Layers of the Skin.
12. P. G. Unna and L. Merian: Osmotic Removal of the Contents of Intact Corneous Cells.
13. Hans Vörner: Circumscribed Dermatoanemias (Leukischemias).
14. Wechselmann: Hypersusceptibility to Intravenous Salvarsan Injections.
15. Louis Wickham: Radium and Cancer.
16. Demetrius Zambaco-Pascha: Antiquity of Leprosy, Syphilis, and Tuberculosis.
17. Felix Pinkus: Spirochætæ Containing Late Relapses of Secondary Syphilis.
18. Tièche: Investigations of *Spirochæta pallida* in the Tissues of Primary and Secondary Syphilis.
19. Leon Dekeyser: Belgian Leprosies in the Middle Ages.
20. Paul Dorn: Blood Picture in Syphilis after the Injection of Salvarsan.
21. Carl Lange: Importance of Heart Extract in the Present Status of the Wassermann Reaction.
22. M. Miyahara: Critical and Histological Contributions to Our Knowledge of Tuberculosis of the Mouth.

7. Removal of Female Beard.—Schwenter-Trachsler states that the methods for the removal of hair from the female face have serious disadvantages. Destruction of the papillæ by electrolysis requires considerable technical skill, is extremely tedious, and in unpractised hands causes pain and deformity. Kromayer's plan of removing the papilla with the surrounding skin, by means of a very small sharp cutaneous punch, is entirely too severe for use on any but a few isolated coarse hairs which can be better handled by electrolysis. Epilation by the x ray has been abandoned even by the radiotherapeutists; the dangers of atrophy and ulceration are entirely too great. All other methods of abnormal hair removal are merely temporary and but little better than shaving. The author had noticed that hair growth, both lanugo and coarse, was markedly hindered by the vigorous employment of pumice stone when used in the treatment of acne and other conditions. Applying this to the treatment of hypertrichosis, she began several years ago to treat every case that presented itself with vigorous pumice stone frictions twice daily, after the coarser and more isolated hairs had been removed by electrolysis. She has treated 252 cases successfully by this combined method; all varieties of hirsuties were included, but the method is especially applicable to cases where an abundant lanugo growth partially or entirely precludes the use of other methods. The only contraindication that she has observed is the presence of an inflammatory reaction, in which case treatment must be stopped until that has disappeared. Schwentler-Trachsler has waited for years before publishing these results, in order to be satisfied of the permanency of the results attained.

16. Leprosy, Syphilis, and Tuberculosis.—Zambaco-Pascha, by a study of the ancient bones, potteries, inscriptions, and literature, is led to the following conclusions: Syphilis prevailed in ancient Egypt; we can mathematically demonstrate its existence in the Old World, and can therefore reject all statements as to its introduction into Europe by Christopher Columbus. In the same ancient necropolises have been found vertebral columns affected with Pott's disease, that is to say, with tuberculosis. The most ancient Pharoanic documents also refer to this latter disease. The Mosaic laws contain alimentary precautions against tuberculosis; the Talmud prescribes a strict examination of all animals killed for food purposes, forbidding the use of any whose lungs or pleura contained any lesions. Hence tuberculosis has been less rife among the Jews than among others; and their hygienic measures have proceeded, and been the basis of all modern veterinary food inspection. It is needless to say the physicians of ancient Greece were well acquainted with tuberculosis. Therefore leprosy, syphilis, and tuberculosis, three infectious bacillary maladies, have been scourges of humanity since its beginning.

KLINISCHE MONATSBLÄTTER FÜR AUGENHEILKUNDE.

January, 1912.

1. C. Augstein: Studies of the Pigment in the Living Eye.
2. A. Elschnig: Recognition of Anomalies of the Palpebral Fissure.
3. R. Salus: Erythema Exsudativum Multiforme in the Eye
4. J. Bjerrum: Pathogenesis of Glaucoma.
5. C. Behr: Choked Disc Following Perforating Wounds of the Eye Ball. A Further Contribution to the Theory of Choked Disc.
6. J. Komoto: Solitary Tubercle of the Optic Disc.
7. H. Lystad: Treatment of Pulsating Exophthalmos.
8. R. Birkhäuser: Keratitis Dendritica Following Injury, Complicated by Empyema of Antrum of Highmore.
9. B. Wicherkiewiecz: Legal Aspect of the Relation of Keratitis parenchymatosa to Trauma.
10. G. Pfalz: Stereoscoptometry.

1. Studies of the Pigment in the Living Eye.—Augstein, as a result of his studies, comes to the following conclusions: 1. The pigment in the anterior part of the eyeball, usually supposed to be congenital, is not so, but makes its appearance in the first year of life and gradually develops. The same holds true concerning the pigment rings about the scleral veins. 2. Trauma may be considered as the cause of many of the pigmentations in the anterior part of the eyeball, particularly of the episcleral tissue. 3. The formation of pigment depends upon the presence of extravasated blood and pigmented epithelial cells. 4. Following inflammations of the uveal tract there can be an increase of preexisting pigment as well as a new formation. 5. A migration of coloring matter from the internal pigmented areas to the surface is by no means unusual. 6. After the prolonged use of miotics there frequently occurs a precipitation of pigment on Descemet's membrane. Migration of pigment through the cornea may also take place. 7. The

melanosis of the cornea has nothing to do with the membrana pupillaris perseverans. 8. In subconjunctival hemorrhage it is an established fact that the earliest absorption of the blood occurs in the immediate neighborhood of the vessels.

4. Observations Concerning the Pathogenesis of Glaucoma.—Bjerrum is of the opinion that the symptoms of irritation in glaucoma are the expression of a definite inflammation and not of a congestion due to increased intraocular pressure; also that an increased intraocular tension does not appear to produce any congestion. The dilatation of the pupil does not seem to be the direct consequence of increased pressure; as injections into the vitreous do not cause any dilatation, although the eye becomes extremely hard. Possibly the dilatation is due to the action upon the iris of a toxine. Likewise the symptoms of irritation, which appear at the same time as the glaucomatous pupillary dilatation, may be construed as a consequence of a toxic action. Although the heightened intraocular pressure does not play an important rôle in the symptomatology, yet there can be no doubt that the excavation of the papilla of the optic nerve is the direct result of the increase in the intraocular tension. The arterial pulsations in glaucoma are without doubt the result of the increase in pressure. As the disturbances of sight in glaucoma stand without question in direct relation to the formation of the excavation, in so far as they do not rest upon a loss of transparency in the refracting medium, the following would seem to hold: That the increased pressure is of definite significance in the pathology of glaucoma and indeed especially important in practice as an indication for treatment.

5. Choked Disc Following Perforating Wounds of the Eyeball.—Behr gives the following scheme in considering the causes of choked disc. A. As a result of passive congestion of lymph due 1, to compression of the nerve and of the lymphatics extending from its centre, as in (a) endocranial processes accompanied by increased pressure; tumors, abscess, hydrocephalus internus, and by processes in the bony canals; aneurysm of the internal carotid. In (b) intraorbital affections; tumors, inflammation, hematoma, etc. 2, Through retention of the tissue juices in the papilla in persistent increased hypotonia bulbi; perforating wounds, chronic involvements of the anterior portion of the eyeball. B. As a result of active congestion of the lymph following an unusual outpouring from the functionally deranged bloodvessels in general diseases, as chlorosis, polycythemia, etc., and in local disturbances of the vessels of the papilla.

9. The Legal Aspect of the Relation of Keratitis Parenchymatosa to Trauma. — Wicherkiewiecz discusses the medicolegal importance of a preexisting syphilitic infection in keratitis parenchymatosa following trauma. That an injury, which in an otherwise healthy individual would cause but little disturbance, will in a syphilitic be followed by serious results. The point he brings out is the liability of an accident insurance company in such a case, whether it should be held entirely or only partially responsible.

JAHRBUCH FÜR KINDERHEILKUNDE.

February, 1912.

1. C. T. Noeggerath: Treatment of Syphilis in Infants with Salvarsan.
2. H. Wittich: Ambulatory Treatment of Tuberculosis with Tuberculin.
3. M. Kassowitz: Rhachitis.
4. K. Preisich: Scarlatina.
5. E. Rach: Syphilitic Septomeningitis in Infants.
6. The Temperature in Premature Infants.

1. Salvarsan in Infants.—Noeggerath found intravenous injections the best. He used the veins of the head inasmuch as the veins in the arms in infants are very difficult to enter. He calls attention to the fact that it is not so difficult to enter the veins, but very difficult to keep the needle in the vein. The dose was about 0.008 mg. per kilogramme. The author used salvarsan in twenty-eight cases with nine deaths. In conclusion, Noeggerath says that salvarsan is not dangerous in infants. In very young infants it is wise to give a preliminary course of mercury treatment and then salvarsan or to treat with small doses of salvarsan—not more than three to five mg. per kilogramme of body weight. The minimum dose should be 0.002 per kilogramme of body weight. This dose should gradually be increased until the infant is getting 0.1 gramme at both injections. Noeggerath is as yet undecided whether the symptoms disappear more quickly with salvarsan than with mercury. In some cases the symptoms disappear rapidly with either salvarsan or mercury, while in others they are very refractory to both. A combination of salvarsan and mercury seems the best therapy. (See original for case histories.)

2. Tuberculin Therapy.—Wittich reports excellent results from Heubner's clinic in Berlin on the use of tuberculin in tuberculous and scrofulous children. He begins treatment with 0.001 milligramme Old Tuberculin, Koch, and gradually gives increasing doses and tries to prevent any fever or other reactions. In conclusion, he says: 1. The scrofulous signs disappear; 2, the appetite improves; 3, the weight increases; 4, the cough ceases; 5, the diarrhea stops; 6, pains disappear; 7, the night sweats disappear or become less frequent; 8, the general condition improves.

Proceedings of Societies.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Twenty-fourth Annual Meeting, Held in Washington, D. C., December 12, 13, and 14, 1911.

The President, Dr. Rudolph Matas, of New Orleans, Louisiana, in the Chair.

(*Concluded from page* 465.)

Codivilla's Method of Lengthening the Lower Extremity.—Dr. Albert H. Freiberg, of Cincinnati, said that the fundamental feature of Codivilla's method was the application of the distracting force directly to the skeleton by a rod driven through the os calcis, the elongation being held by a plaster dressing and two steel ferules. The method differed from Steinmann's, which was proposed later in choosing the os calcis always for the applica-

tion of force, and in the use of the plaster dressing rather than the weight and pulley. Steinmann's method had a place in the treatment of fresh fractures with unusual shortening or displacement, whereas Codivilla's was proposed for cases in which structural shortening of the soft tissues might be presumed to have taken place. After describing the method and apparatus, as modified for the sake of portability, the author drew the following conclusions: 1. Codivilla's method constituted a valuable addition to our methods of overcoming shortening in the lower extremity. 2. It enabled the surgeon to use great degrees of tractive force painlessly and furnished great ease in handling the patient. 3. It furnished an efficient splint at the site of the break. 4. It was not necessary or even the best method in managing most fresh fractures, even with much shortening. 5. When indicated, it was superior to any method of using adhesive plaster for traction. 6. Used with care, it was free from danger.

The Wiring of Inoperable Aneurysms of the Aorta, with Report of Cases.—Dr. J. M. T. FINNEY, of Baltimore, dealt with the operation of wiring otherwise inoperable aneurysms devised by Moore and modified by Corrado. He dealt with the insertion of from ten to fifteen feet of wire into the interior of an aneurysmal sac through a hollow needle which had been thrust through the aneurysmal wall. After the wire had been inserted, an electric current of from ten to fifty milliampères was passed through the aneurysm by attaching the positive pole to the wire and placing the negative pole at the patient's back. After referring to the work which had been done by American surgeons in the development of the technique of this operation, Doctor Finney reported his own list of twenty-three cases treated by this method, including eighteen heretofore unreported. After describing the technique of the operation, which should be carried out with great care, he also referred to the necessity of proper selection of cases for this operation. He called attention to the fact that only aneurysms of the sacculated variety were suitable for this operation. Attention was called to the great value of the fluoroscope in diagnosis of thoracic aneurysms. The risks, both immediate and remote, attending the operation were enumerated. They consisted chiefly in the possibility of the loop of wire sliding along the wall of the aorta and interfering with the action of the heart valves, from emboli or sepsis or charring of the aneurysmal sac with too strong an electric current. Attention was called to the beneficial effects of the operation, which were chiefly the relief of pain and dyspnea and the lessening of pulsation in the aneurysm. These might come on very quickly and afford the patient much relief. The results of the operation, when one considered the conditions one was dealing with, were fairly satisfactory. In a small percentage no benefit was derived. In a large percentage of cases the symptoms were much relieved. In a few death was hastened. Only now and then a case seemed to be cured, but in an otherwise hopeless condition the cure of a single case would render the operation justifiable. Rest after the operation of wiring for a long period was absolutely essential to secure the best results.

Crile's Shock Researches; Clinical Facts Confirming His Conclusions.—Dr. W. P. CARR, of Washington, D. C., was the author of this paper, which appeared in the JOURNAL for February 17, 1912.

President's Address: The Cinematograph as an Aid To Medical Education and Research.—Dr. RUDOLPH MATAS, of New Orleans, stated that as an agent in imparting sanitary and hygienic knowledge of great importance to the masses, the cinematograph was playing a most effective part. For instance, in impressing upon the public mind the dangers which lurk about the house fly as a transmitter of disease and of the importance of eradicating this pest, the moving picture was far superior to any lecturer's ability in its power to depict the evil. The picture machine has been applied in France, to analyzing the gait of the ataxic, paraplegic, or hemiplegic, and other pathological types of locomotion. Paul Sainton had also recently especially and profitably studied the convulsive tics with moving pictures. With the ordinary cinematograph the photographic film moved discontinuously, being arrested at the moment of each exposure. While this was simple enough at moderate speed, it would be quite impossible when the exposures were made at the rate of two thousand a second, and the mean speed of the film four thousand centimetres a second. These were the figures that were necessary for the study of insect flight, and these were attained on the new instrument. With such a speed, the movement of the film must be continuous and a sharp image was possible only if the exposure did not exceed one million four hundred thousandths of a second, and for this the electric spark gave a light of sufficiently short duration.

In order to study the movement represented on the films, it was merely necessary to pass them through the ordinary cinematograph, making some fifteen exposures a second, instead of the 1,500 or 2,000 a second employed in the taking of the photographs, and then the movements 100 or more times as slow would be seen and in many instances easily followed. Undoubtedly the greatest triumph that had marked the recent advances of the new science of radiocinematography had been obtained by Commandon and Lomon, of Paris, who had succeeded in projecting and making perfectly practical the permanent moving reproductions of intensified fluroscopic images of the skeleton and other organs which thus far had been available only by ocular inspection or by single plate exposures.

To show what had been accomplished by the cinematograph in recording surgical operations, Doctor Matas projected upon the screen several of the Doyen films, which he obtained from the Eclipse company while in Paris this last summer. He regretted that none of the colon films were available, but these would suffice to show what could be done with an ordinary instantaneous film, and he expressed the hope it would encourage our enterprising teachers and operators in America to adopt this method of recording the most difficult operations.

The Edison Company announced that it expected to have very shortly a home kinetoscope which was both a motion picture and stereopticon apparatus, projecting pictures of different sizes. A notable

feature of this machine was that it used a film which contained three rows of pictures, which enabled the operator to exhibit on barely eighty feet of film the equivalent of one thousand feet of the regular professional film. As the new film would sell for sixteen cents per foot, making the cost of the eighty foot film twelve dollars, as against approximately $100, or for the equivalent in professional film, one would realize that the cost had been greatly reduced and the kinetoscope made very much more available to the general public. This new instrument would, it was announced, be listed at about fifty dollars, making it comparatively cheap and also available to the individual teacher.

The purpose of the company in issuing these new machines and films was to make them especially useful and available for educational work in schools, churches, and all kinds of organizations. By this means the time would rapidly approach when the surgical specialist or teacher of surgery might keep a cinematographic record of his own operations and thus establish the basis of a mutually cooperative and interchangeable cinematographic surgical clinic in which all the interested workers could participate.

What can Surgery Do for Gastroenteroptosis?—Dr. Joseph Ransohoff, of Cincinnati, said that: 1. Every case of gastroenteroptosis should be studied individually and should not be treated in a routine way, whether by medicine or operation. 2. If, after the removal of a normal or nearly normal appendix, the patient continued to suffer, he should not be lightly classed among the hopeless neurotics. Rather was it the duty of the surgeon to see whether he had not overlooked some visceral displacement or torsion which was the cause of the suffering. A small incision in abdominal work had some disadvantages. 3. The conclusion of the clinicians, based on laboratory findings, as, for example, after injection of a test meal, could not be made the basis of the functional capacity of the stomach under every day conditions. 4. In many seemingly hopeless cases of gastroenteroptosis with marked neurasthenic symptoms, operation promised relief. If this was the result of suggestion, it was none the less valuable if the relief was permanent. 5. Whereas, internal treatment, abdominal support, and postural treatment should be tried, operative interference should not be unnecessarily delayed lest the habitus nervosus became too deeply rooted to be eradicated. 6. No gastroptotic patients should be operated upon unless some actual functional disturbance could be demonstrated. To relieve this must be the aim of the operation. Given a gastroptosis in which one could demonstrate distinct functional incompetence or deviation, the existence of nervous phenomena did not militate against operation, but might be the chief reason for performing it.

The Essential Factor for the Cure of Hernia in the Male.—Dr. Henry O. Marcy, of Boston, spoke of the cure of inguinal hernia by the reconstruction of the inguinal canal to its normal length and obliquity, which was rendered possible only by the use of buried sutures. This method was too well known to require description. It was dependent upon free dissection, a careful coaptation of the weakened structures posterior to the cord, with a firm reconstruction of the inguinal ring; a replacement of the cord, a careful closure of the superficial structures, and sealing of the wound with iodoform collodion without drainage. For many reasons Doctor Marcy thought kangaroo tendon the preferable suture material.

His contribution was especially offered as a criticism of a late article published by Lieutenant Colonel Ruotte, of Paris, in the *Military Surgeon,* who considered the especial factor for the cure of inguinal hernia to consist of the suturing and resection of the peritoneal sac. Doctor Marcy demonstrated that the special value of Colonel Ruotte's operation must only consist in the closure of the internal ring which thereby necessarily elevated the cord in its passage through the abdominal structures. Whatever reinforcement might result to the structures posterior to the canal, was altogether accidental, and as a consequence the so called French method was unscientific and the results must often be uncertain and unsatisfactory.

Interstitial Ectopic Gestation.—Dr. Charles R. Robins, of Richmond, read this paper, which appeared in the Journal for February 17, 1912.

The following papers were also read: Benign Lesions of the Sigmoid Colon; Ptosis, Mesenteritis; Diverticulitis and Volvulus; Second Report, by Dr. Joseph C. Bloodgood, of Baltimore; A Plastic Operation for Prolapsus Uteri without the Necessity for Abdominal Section or for Distortion of Anatomical Relations, by Dr. Barton Cooke Hirst, of Philadelphia; The Principles Underlying the Surgical Treatment of Gastrointestinal Stasis, Due to Causes Other than Strictural and Ulcerative Conditions, by Dr. R. C. Coffey, of Portland, Oregon; Remarks upon the Diagnosis and Treatment of Diseases of the Biliary Tract, with Special Reference to the Difficulties and Dangers, by Dr. Maurice H. Richardson, of Boston; Intestinal Obstruction Due to Gallstones, with Report of Cases, by Dr. Frank Martin, of Baltimore; The Limitations of Bone Regeneration and Joint Reconstruction, by Dr. John B. Murphy, of Chicago; Experimental Study of the Arteries in Shock, by Dr. Willard Bartlett, of St. Louis; A Suggestion in Rhinoplasty, by Dr. E. Denegre Martin, of New Orleans; An Artistic and Mathematically Accurate Method of Repairing the Defect in Cases of Hare Lip, by Dr. James E. Thompson, of Galveston; The Fee Splitting Evil, by Dr. Charles A. L. Reed, of Cincinnati; The Treatment of Vesical and Diverticular Calculus, by Dr. Hugh H. Young, of Baltimore; Treatment of Pyelitis, by Dr. Guy Leroy Hunner, of Baltimore; Additional Cases of Nephroureterectomy, with Remarks Relative to Removal of Large Suppurating Kidneys, by Dr. George H. Noble, of Atlanta; Emergency Operation for Cerebellar Tumor under Artificial Respiration, by Dr. Harvey Cushing, of Boston; A Review of a Series of Operations for All Forms of Appendicitis, by Dr. Edward G. Jones, of Atlanta.

Officers.—The following officers were elected for the ensuing year: President, Dr. J. M. T. Finney, of Baltimore; first vice-president, Dr. James E. Thompson, of Galveston; second vice-president, Dr. W. P. Carr, of Washington, D. C.; secretary, Dr. William D. Haggard, of Nashville; treasurer, Dr. William S. Goldsmith, of Atlanta.

Old Point Comfort, Virginia, was selected as the place for holding the next annual meeting in 1912.

Letters to the Editor.

MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

WASHINGTON, D. C., *March 3, 1912*

To the Editor:

The Committee on Public Instruction in Medical Matters, recently appointed in connection with our medical society, is fulfilling its function by publishing in the Sunday papers a short statement on personal hygiene, in which novelty is subordinated to accuracy, and sensationalism to practicalness. When opportunity offers a word is said regarding the functions and aims of the medical profession. In addition, a public lecture is being given every week at present with the same object. Our articles have already been demanded in New York, the West, and the South. The committee would be glad to receive any important items to which it is desired to draw public attention.

TOM A. WILLIAMS, M. B., C. M.,
Chairman.

Book Reviews.

[*We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.*]

Home Hygiene and Prevention of Disease. By NORMAN E. DITMAN, M. D. New York: Duffield & Co., 1912. Pp. 333.

The author of this work very justly remarks in his introduction that first aid to the sick ought to prove as useful to the public as first aid to the injured; and he has used considerable discretion in the kind of information given, so that the reader may render a beginning invalid much valuable assistance without being in a position to do him much harm. In many cases the advice to seek the aid of a doctor is extremely pat, for a great deal of unnecessary suffering is undergone by people neglecting to call in the physician, merely for want of the required suggestion. The book has been boiled down by the omission of much of the padding common in books of the kind; the descriptions are confined to symptoms and to treatment, exactly what is wanted by the worried consultant. The ailments are arranged in alphabetical order, rendering reference quick and easy. There is information of a kind likely to be unsuspected by the casual reader, for example, on cleaning, where useful methods are given for cleaning rooms, woodwork, etc., as well as the skin and body; also on climates, there is quite a little treatise on the various kinds of resorts to be found in the United States. In an article on insanity, which might seem out of place in such a book, there is much good advice given toward preserving the mental health, avoidance of day dreaming, and refusing to give way to passion. Directions are given how to stock a very serviceable home medicine chest. Altogether this is not only a safe, but a valuable book for the practitioner to recommend to his patients, particularly those in sparsely settled districts, where it may save an occasional life and can in no way diminish the physician's prestige.

Verhandlungen des ersten Kongresses des nordischen dermatologischen Vereins zu Kopenhagen den 17-19 mai, 1910. Redigiert von C. RASCH, Kopenhagen. Nord. Med. Arkiv 1911, Abt. ii, Anhang. Stockholm: P. A. Norstedt & Söner, 1911. Pp. 67.

It is not possible within the limits of this review to mention even by title the thirty or more papers that were presented at this meeting, which was the first of the Northern Dermatological Society. One of the most important communications was that of Boas on Wassermann's reaction in the light of about 4,000 carefully observed cases. His results were as follows: 1. Chancres, 120 cases, 83 positive, 37 negative. 2. Secondary syphilis: 659 cases, 642 positive, 17 negative. 3. Tertiary syphilis: 125 cases, 120 positive, 5 negative. 4. Latent syphilis, first three years after infection, 315 cases, 137 positive, 178 negative. Infection older than three years, 142 cases, 57 positive, 85 negative. 5. Tabes: 54 cases, 36 positive, 18 negative. 6. Dementia paralytica (serum), 158 cases, 158 positive, 0 negative. 7. Dementia paralytica (spinal fluid), 116 cases, 60 positive, 56 negative. 8. Congenital weak-mindedness: 912 cases, 14 positive, 898 negative. 9. Control cases, 1,107, 3 positive, 1,104 negative.

Moberg details his results in the Röntgen treatment of *Lupus erythematosus.* They were, generally speaking, good; and the author emphasizes as advantages of the treatment its rapidity and cheapness. The rays themselves, he admits, have no direct specific effect on the disease process; there must be a superficial or a deep destruction of the diseased tissue to get results. The amount of tissue destruction must be gauged by the depth of the process; hence the results were much better in the superficial forms, though here, as with other remedial agents in this disease, recrudescences were common. In the deeper forms a dose of 10 H. is required. Repeated röntgenization of the same area is not desirable; obstinate ulceration occurred in the one case in which Moberg tried it.

Pantoppidan recorded two cases of *epidermatolysis bullosa,* a rare congenital and hereditary deformity rather than a disease of the skin, in which there exists an abnormal irritability of the deeper epidermoidal layers, and especially of the stratum spinosum so that the very slightest traumata occasion serous exudation and bulla formation. The patients were two sisters aged respectively thirty-four and twenty-eight years; neither the parents nor any one of their four other brothers and sisters showed the abnormity. It had been present since birth to such an extent that there were always serous or hemorrhagic bullæ or their remains on the hands and feet, or on portions of the body exposed to rubbing or pressure from the clothing, chairs, etc. No scars were left by the lesions. Treatment of all kinds including an energetic arsenical course lasting three months, had no effect on the condition.

Hjalmar Petersen read a paper on a case of general pemphigus with involvement of the conjunctiva; Poul Haslund one on senile degeneration of the skin from the microscopic standpoint; and Reyn recorded a case of *Spina ventosa* of the fourth finger of the right hand cured by means of the x ray.

The Key to Sexual Control or the Cellular Determination of Sex and the Physiological Laws Which Govern Its Control. By PERCY JOHN MCELRATH, M. D. New York: Published by the Author, 1911. Pp. 232.

This book is designed to throw further light on the much mooted question, the possibilities in the predetermination of sex. Sex control is an intricate subject, one that has occupied the attention of writers and investigators for ages, with many conflicting opinions and more or less confusion without very definite or plausible conclusions. Many theories have been advanced, with probably the most plausible conclusions resulting from investigations based on the cell theory. Quite recently attempts have been made to prove that the physical superiority of the male or female individual determines the sex of the offspring, with abundance of statistical evidence in favor of this contention. McElrath, in his work, contends that neither the fertilizing cell nor the egg cell has any sex tendency *per se,* but that sex is determined solely by the manner and completeness of entrance of the spermatozoon into the ovum. If the sperm cell enters entirely into the cytoplasm of the egg, a male is produced; if the entire cell does not enter the egg, a female is produced; and if two or more cells enter the ovum, an abnormity is the result. As to whether complete or only partial penetration results depends upon the vitality and vigor of the respective cells, both of which are affected by time and environment during the interval between extrusion and fertilization, and the possibility of controlling the sex lies in the application of the governing laws, as outlined by the author, which involve the relation of ovulation to menstruation, female orgasm, the period of insemination, etc. Whether the principal influences in causing rupture of the Graafian follicles are the

result of hyperemia and congestion at the height of the menstrual period, as is the generally accepted belief, or the result of copulation according to the theory of McElrath, the fact remains the same, that late copulation after menstruation favors the male sex, and early copulation the female. Very recently a woman under our care gave birth to her sixth successive male child. The oldest of the children is eight and a half years, and in each instance coitus was deferred until from the twelfth to the sixteenth day after menstruation. There are numerous similar instances of record. The author does not claim that sex control can be rendered absolute for conditions cannot always be made ideal. The book, however, is deserving of the most careful consideration and scrutiny, as the facts are based on extensive scientific research and personal investigations. The first chapter of the book is devoted to sex control and its history; the second and third to the embryonic development, histology, anatomy, and physiology of the male and female generative organs respectively. Following are two chapters on the spermatozoon and ovum, their development, anatomy, histology, and rôle in the production of life. The sixth chapter consists of a careful consideration of menstruation, its probable cause, and as the guide to sex control; following is a chapter on the process of insemination and its relation to ovulation and menstruation. Then follows the cellular determination of sex, the direct cause, and the primary laws governing its variation; the paternal and maternal secondary laws which govern the variation of sex. The closing chapters are given to final instructions; the control of sex in the human species; the control of sex in the bird, reptile, and fish families. The very complete and thorough manner in which the author has investigated the subject, should inspire renewed interest in it, and create a demand for the results of his investigations.

A Handbook of Health. By Woods Hutchinson, A. M., M. D., Sometime Professor of Anatomy, University of Iowa; Professor of Comparative Pathology and Methods of Science Teaching, University of Buffalo; Lecturer, London Medical Graduates' College and University of London, etc. Boston and New York: Houghton Mifflin Company, 1911. Pp. xvii-330. (Price, $1.25.)

Since it is now the fashion for the laity to learn something of the construction of the body and to understand somewhat of its physiological processes, it is well that the information should be deftly handled in the preparation and put in a form interesting and striking as possible. No writer could have been better chosen for such a task than Dr. Woods Hutchinson, who has a singular and remarkable gift for conveying scientific knowledge to the public, an extraordinarily picturesque style, humor, and sound and comprehensive grasp of medical facts. Running the Human Automobile is the title of the first chapter. The book then proceeds to discuss foods, drinks, cooking, tobacco, alcohol, the heart, the lungs, the skin, the muscles, bones, nerves, exercise and growth, the senses, speech, the infections, and accidents and emergencies. It is notoriously difficult to get into the hands of the young any book which purports to combine instruction with amusement, but the average boy or girl would be likely to pick up this work, we think, and once begun it would probably be finished. The illustrations are numerous, handsome, and well chosen. The handbook should be serviceable, not only in furnishing valuable information, but also in safeguarding the reader from falling into the hands of any of the various kinds of quacks, especially those who depend for their livelihood upon a denial of the facts of existence.

NEW PUBLICATIONS.

Balfour, Andrew.—Fourth Report of the Wellcome Tropical Research Laboratories at the Gordon Memorial College, Khartoum. Volume B. General Science. London: Baillière, Tindall, & Co., 1911, for the Department of Education of the Sudan Government, Khartoum. Depots for North America: United States, Toga Publishing Company, New York; Canada, Toga Publishing Company, Montreal. Pp. 333.

Wolfram, Johannes.—Der Kampf gegen den Schmerz bei operativen Eingriffen vom Altertum bis zur Gegenwart mit besonderer Beziehung auf die Zahnheilkunde. Mit fünf Abbildungen nach Kupferstichen. Leipzig: Johann Ambrosius Barth, 1912. Pp. x-66.

Franz, Shepherd Ivory.—Handbook of Mental Examination Methods. With 33 Figures and Diagrams. Nervous and Mental Disease Monograph Series No. 10. New York: The Journal of Nervous and Mental Disease Publishing Company, 1912. Pp. ix-165. (Price, $2.)

Mitchell, George F.—The Cultivation and Manufacture of Tea in the United States. United States Department of Agriculture Bureau of Plant Industry Bulletin No. 234. Washington: Government Printing Office, 1912. Pp. 40.

Proceedings of the Fifth Annual Meeting of the Association of Life Insurance Presidents, held in New York on December 13 and 14, 1912. Pp. ix-131.

Miscellany.

Biblical and Talmudic Medicine.—Dr. Henry Illoway writes appreciatively of *Biblisch-Talmudische Medizin,* by Dr. Julius Preuss, published by S. Karger, of Berlin. The author, who has long been engaged in studies of the medicine of the Bible and the Talmud, writes Doctor Illoway, and has published many valuable papers thereon in various prominent German medical journals, has now collected his studies in the one stately volume of 775 pages. It is not the medicine of the Bible and Talmud alone that the author gives us; by comparing what he finds in the sources above referred to with the medical customs and notions prevalent among the various other civilized nations of those days, especially the Greeks and Romans, comparisons which he sets forth in sufficient detail to bring them within the grasp of the reader, he has given us almost a full history of medicine of ancient times in this scholarly and at the same time entertaining book.

The thoroughness of the work which takes in the whole field of medicine from the personality and status of the physician and the various other practitioners to medical jurisprudence is well shown by the table of contents. Besides the foreword, introduction, and register of references (first of works on Biblical and Talmudical medicine hitherto published, then of quotations from the Old and the New Testament and the Talmud), and a table of corrections, the work has nineteen chapters. Chapter one describes the various practitioners of the healing art, the physician, the midwife, the bleeder and cupper, the circumciser, the veterinary surgeon. Chapter two treats of anatomy and physiology; chapter three diseases and their treatment. We have a chapter each on the diseases of the eyes, the ears, the nose, the teeth, the skin; on diseases of the nervous system and on diseases of the mind; on gynecology and obstetrics; on materia medica; hygiene and sanitation, and on legal medicine, this last of more than usual interest.

The style of the author is exemplified in the following short extracts:

Chapter 1. The Physician (der Arzt). Section V. It is very doubtful whether anything can be found in Jewish sources as to physicians engaged and salaried by the State. In other countries such a custom had long been known. In Egypt, according to Diodorus, physicians were engaged by the community at stipulated salaries, *μισθὸς ἐκ τοῦ κοινοῦ*, and in case of war received increased pay. According to the same author, Charondas, in Athens, acted more wisely in caring for the spread of culture and

philosophy than did many a lawgiver who appointed physicians. Democedes of Crotona, who healed the sprained foot of Darius and thereby achieved celebrity, was first engaged for a year by the Æginata, then, for the same period, by the Athenians, and then by Polykrates, of Samos, each time with an increase of salary that recompensed him for the necessary change of residence. The Gauls of Massilia had Greek physicians some of whom were paid by private persons and others by the various cities. The Talmud advises not to live in a city in which there is no physician (rophé), but nowhere do we find any references as to the difference between the physician salaried by the community, *δημοσιεύων*, and the private practitioner, *ἰδιωτεύων*.

Chapter X. Diseases of the Nervous System. Section VI. Hysteria: The oldest example of hysterical mutism as far as I can see is that of a man the son of Crœsus, who though otherwise normal was mute. When he saw the Persian rushing upon his father to kill him, fear and anxiety lent him voice, and he cried out, "Man! do not kill Crœsus." These were the first words that he spoke, and he retained his speech for the rest of his days. Of Echecles, an athlete of Samos, Valerius Maximus relates that he was a mute. On one occasion, when he was the victor, the State withheld from him the honors and rewards and *indignatione accensus vocalis evasit.*

Doctor Illoway regrets that lack of space prevents him from going into further details as to the many interesting things found in this book, and he can only say that it is to be highly commended to all physicians and historians familiar with the German language. All who have read it will have gained a store of historical knowledge of their profession that they could have acquired only after years of reading of many volumes in various languages, and will have been well entertained withal.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending March 1, 1912:

CHOLERA—FOREIGN: *India* (Madras), Jan. 14-20, 18 cases, 14 deaths; *Indo China*, Jan. 2-8, 197 cases, 146 deaths; *Turkey in Asia* (Aleppo), Jan. 28-Feb. 3, 11 cases, 4 deaths.

YELLOW FEVER—FOREIGN: *Mexico* (Puerto Mexico, from S. S. *Icalis*, from Guayaquil), Feb. 28, 7 cases, 1 death; *Venezuela* (Caracas), Jan. 1-15, 8 cases, 8 deaths.

PLAGUE—FOREIGN: *China* (Hongkong), Jan. 7-13, 3 cases, 3 deaths; *Hawaii* (Honakaa), Feb. 25, 2 cases, 2 deaths; *India* (Bombay), Jan. 14-20, 6 cases, 4 deaths; (Karachi), Jan. 14-20, 1 case, 1 death; *Mauritius*, Dec. 1-7, 7 cases, 6 deaths; *Peru*, Oct. 1-21, 37 cases, 11 deaths; *Straits Settlements*, Jan. 1-6, 2 cases, 2 deaths.

SMALLPOX—UNITED STATES: *Indiana*, Jan. 1-31, 89 cases; *Louisiana* (New Orleans), Feb. 11-17, 16 cases; *New York*, Dec. 1-31, 2 deaths; *Tennessee* (Knoxville), Feb. 4-17, 7 cases; *Utah*, Jan. 1-31, 390 cases.

SMALLPOX—FOREIGN: *Austria-Hungary*, Jan. 14-20, 9 cases; *Brazil*, Dec. 15-31, 77 cases; *Canada*, Feb. 4-17, 40 cases; *Chile*, Nov. 1-30, 685 cases, 343 deaths; *China*, Jan. 6-21, 27 cases, 20 deaths; *France* (Paris), Jan. 21-27, 5 cases, 2 deaths; *Germany*, Jan. 28-Feb. 3, 1 case; *Great Britain* (London), Jan. 28-Feb. 3, 2 cases; *India*, Jan. 14-20, 24 cases, 18 deaths; *Italy*, Jan. 1-Feb. 10, 5 cases, 1 death; *Japan*, Jan. 22-28, 1 case, 1 death; *Java*, Jan. 7-13, 3 cases, 1 death; *Mexico*, Jan. 10-Feb. 13, 138 cases, 26 deaths; *Portugal* (Lisbon), Jan. 28-Feb. 3, 2 cases; *Siberia*, Jan. 1-31, 7 cases; *Spain*, Jan. 1-31, 24 cases, 2 deaths; *Straits Settlements*, Jan. 1-6, 2 cases; *Switzerland*, Jan. 14-20, 1 case; *Teneriffe*, Jan. 28-Feb. 3, 4 deaths; *Turkey in Europe* (Constantinople), Jan. 29-Feb. 4, 8 deaths; *Venezuela*, Jan. 1-15, 3 deaths.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for fourteen days ending February 29, 1912:

Billings, W. C., Passed Assistant Surgeon. Relieved from duty at Ellis Island, N. Y., and directed to proceed to San Francisco, Cal., for duty in connection with the medical examination of arriving aliens. **Brecht,** Nelson D., Assistant Surgeon. Directed to proceed to the United States Marine Hospital at Boston, Mass., and report to the Medical Officer in command for duty and assignment to quarters. **Burkhalter,** J. T., Passed Assistant Surgeon. Relieved from duty at the Gulf Quarantine station, and directed to proceed to Key West, Fla., and assume command of the Marine Hospital. **Carrington,** Paul M., Surgeon. Relieved from duty at Port Townsend, Wash., and directed to proceed to St. Louis, Mo., and assume command of the station. **Cobb,** J. O., Surgeon. Detailed to attend the annual meeting of the National Confederation of State Medical Examining and Licensing Boards, in Chicago, Ill., on February 29, 1912. **Collins,** C. L., Passed Assistant Surgeon. Granted one month's leave of absence on account of sickness, from February 15, 1912. **Currie,** D. H., Passed Assistant Surgeon. Directed to take temporary charge of plague suppressive measures in California. **Drew,** A. D., Acting Assistant Surgeon. Granted thirty days' leave of absence from February 28, 1912. **Geddings,** H. D., Surgeon. Designated as a delegate on behalf of the United States and detailed to represent the Service at the Seventh International Congress on Tuberculosis, to be held at Rome, Italy, April 14 to 20, 1912. Detailed to inspect laboratories in England, Germany, Switzerland, France, Russia, and Italy, with a view to granting licenses for the sale of their products in the United States. **Glover,** M. W., Passed Assistant Surgeon. Relieved from duty in connection with the examination of arriving aliens at San Francisco, Cal., and directed to proceed to Angel Island Quarantine station and assume command of the Service. **Lavinder,** C. H., Passed Assistant Surgeon. Detailed to represent the Service at the meeting of the First District Medical Society of Georgia, to be held at Milan, Ga., on February 29th. **Leake,** J. P., Assistant Surgeon. Relieved from duty on the U. S. Revenue Cutter *Algonquin* and directed to report to the Director of the Hygiene Laboratory for temporary duty. **McClintic,** T. B., Passed Assistant Surgeon. Directed to proceed to Missoula, Mont., and other places in that vicinity to make an investigation into the origin and prevalence of Rocky Mountain spotted fever and the measures necessary for its eradication. **McLaughlin,** A. J., Passed Assistant Surgeon. Detailed to represent the Service at the meeting of the Illinois Water Supply Association to be held at Urbana, Ill., March 5 and 6, 1912. **Ramus,** Carl, Passed Assistant Surgeon. Relieved from duty as Chief Quarantine Officer of Hawaii and directed to proceed to Port Townsend, Wash., and assume command of the Marine Hospital at that port. **Rucker,** W. C., Passed Assistant Surgeon. Relieved from temporary duty in plague suppressive measures in California and directed to report at the Bureau for duty. **Sprague,** E. K., Surgeon. Relieved from duty at Key West, Fla., and directed to proceed to Ellis Island, N. Y., and report to the Chief Medical Officer for duty. **Stimson,** A. M., Passed Assistant Surgeon. Directed to proceed by way of Philadelphia, Pa., and New York, to Austin, Texas, to confer with the State Health Officer relative to steps to be taken to prepare antimeningococcic and other serums for the prevention of the spread of infectious and contagious diseases. **Sweet,** E. A., Passed Assistant Surgeon. Relieved from duty at the Marine Hospital, Stapleton, N. Y., and directed to proceed to the Gulf Quarantine station and assume command of the station.

Promotions.

Mathewson, H. S., Passed Assistant Surgeon. Commissioned a surgeon to rank as such from February 2, 1912.

Clark, T., Passed Assistant Surgeon. Commissioned a surgeon to rank as such from February 2, 1912.

Appointment.

Brecht, Nelson D. Commissioned an assistant surgeon in the United States Public Health and Marine Hospital Service.

Boards Convened.

Boards of medical officers convened to meet, for the reexamination of alien immigrants, as follows: Boston, Mass.: Detail for the board: Acting Assistant Surgeon M. V. Safford, chairman; Acting Assistant Surgeon H. B. C. Reimer, recorder. Baltimore, Md.: Detail for the board: Passed Assistant Surgeon John McMullen, chairman; Passed Assistant Surgeon H. McG. Robertson, recorder.

Casualty.

Acting Assistant Surgeon R. C. White died at Pensacola, Fla., on February 14, 1912.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army, for the week ending March 2, 1912:

Beeuwkes, Henry, Lieutenant, Medical Corps. Ordered to the Army Medical School, Washington, D. C., on March 10, 1912, to act as instructor in the course of radiography; upon completion of this duty to return to his station. **Blanchard,** R. M., Captain, Medical Corps. Left Fort Sheridan, Ill., on seven days' leave of absence. **Chamberlain,** W. P., Major, Medical Corps, Granted leave of absence for one month and fifteen days, to take effect upon completion of his duty in London, England. **Crampton,** Louis W., Colonel, Medical Corps. Ordered to proceed to his home to await retirement. **Fisk,** Owen C., Lieutenant, Medical Corps. Left Walter Reed General Hospital, Takoma Park, D. C., on six months' sick leave. **Grubbs,** Robert B., Major, Medical Corps. Granted thirty days' leave of absence on surgeon's certificate of disability. **Stayer,** Morrison C., Lieutenant, Medical Corps. Ordered to report at San Francisco, Cal., for examination for promotion. **Treibly,** Charles E., First Lieutenant, Medical Reserve Corps. Resignation accepted February 27, 1912. **Wells,** Francis M., First Lieutenant, Medical Reserve Corps. Resignation accepted, to take effect April 10, 1912.

By Special Orders No. 47, War Department, February 26, 1912, each of the following named officers of the Medical Department upon his arrival at San Francisco, Cal., will proceed to the post specified after his name and report in person to the commanding officer thereof for duty and by letter to the commanding general of the division indicated: First Lieutenant William R. Dear, Medical Corps, Fort Robinson, Nebr., Central Division; First Lieutenant Clarence A. Treuholtz, Medical Corps, the Presidio of Monterey, Cal., Western Division; First Lieutenant Frederick S. Wright, Medical Corps, Fort Adams, R. I., Eastern Division; First Lieutenant Lee R. Dunbar, Medical Corps, Fort Douglas, Utah, Western Division; First Lieutenant Addison D. Davis, Medical Corps, Fort Riley, Kans., Central Division; First Lieutenant Elsworth Wilson, Medical Reserve Corps, Fort Huachuca, Ariz., Western Division; First Lieutenant Henry F. Philips, Medical Reserve Corps, Fort Bliss, Tex., Central Division; First Lieutenant Robert Lemmon, Medical Reserve Corps, Fort Hancock, N. J., Eastern Division; First Lieutenant Oswald F. Henning, Medical Reserve Corps, Fort Stevens, Oreg., Western Division; First Lieutenant William M. Archer, Jr., Medical Reserve Corps, Fort Riley, Kans., Central Division.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending March 2, 1912:

Duhigg, J. T., Assistant Surgeon. Ordered to the Naval Hospital, Washington, D. C., for treatment. **Payne,** J. H., Acting Assistant Surgeon. Detached from the marine recruiting station, Norfolk, Va., and ordered to the marine recruiting station, Baltimore, Md. **Taylor,** J. L., Passed Assistant Surgeon. Transferred to the retired list, from February 19, 1912. **Treibly,** C. E., Acting Assistant Surgeon. Appointed an acting assistant surgeon, from February 24, 1912. **Wilson,** G. B., Medical Inspector. Detached from duty as fleet surgeon of the Asiatic Fleet, and ordered home to await orders.

Births, Marriages, and Deaths.

Born.

Goldstein.—In Philadelphia, on Thursday, February 15th, to Dr. A. Otto Goldstein and Mrs. Goldstein, a daughter.

Married.

Gilman—Reed.—In Chicago, on Thursday, February 22d, Dr. Robert B. Gilman, of Jersey City, N. J., and Miss Fannie Reed, of Norwalk, Ohio. **McMullin—Wilson.**—In San Francisco, on Sunday, February 18th, Dr. Smith McMullin, of Petaluma, and Mrs. Laura Q. Wilson. **Silvers—Adams.**—In Atlantic City, N. J., on Wednesday, February 28th, Dr. Homer Silvers and Miss Mae Vaughn Adams. **Susskind—Steck.**—In Alameda, Cal., on Thursday, February 15th, Dr. Samuel Susskind, of Oakland, and Miss Vilma Steck, of Alameda. **Tebeau—Whaley.**—In Lumberton, N. C., on Thursday, February 15th, Dr. A. C. Tebeau and Miss Ruth Whaley. **Wagner—Macmullen.**—In Asbury Park, N. J., on Wednesday, February 28th, Dr. Earl Calvin Wagner and Miss Ethelyn D. Macmullen.

Died.

Borland.—In Edgewood, Pa., on Saturday, February 24th, Dr. Elmer B. Borland, of Pittsburgh, aged fifty years. **Burford.**—In Louisville, Ky., on Thursday, February 22d, Dr. John I. Burford. **Burnett.**—In Boston, on Wednesday, February 21st, Dr. Fred N. Burnett. **Butts.**—In Altus, Ark., on Tuesday, February 20th, Dr. R. J. Butts. **Crismond.**—In Anderson, Ind., on Sunday, February 25th, Dr. James W. Crismond, aged sixty-five years. **Denton.**—In St. Petersburg, Fla., on Monday, February 26th, Dr. John Henery Baker Denton, of Freeport, L. I., aged sixty-one years. **Feldstein.**—In Philadelphia, on Thursday, February 29th, Dr. Adolph Feldstein, aged seventy-one years. **Filkins.**—In York, N. Y., on Saturday, February 24th, Dr. J. G. Filkins, aged seventy-eight years. **Fleming.**—In Chicago, on Friday, February 23d, Dr. Leon M. Fleming, aged fifty-one years. **Gillespie.**—In Vidalia, La., on Wednesday, February 14th, Dr. H. D. Gillespie, aged twenty-seven years. **Hitchcock.**—In New York, on Sunday, February 25th, Dr. William R. Hitchcock, aged forty-two years. **Horner.**—In Helena, Ark., on Tuesday, February 20th, Dr. Albert Aurelius Horner. **Hunt.**—In Winchester, Ind., on Wednesday, February 21st, Dr. Morton L. Hunt, aged thirty-one years. **Isaacs.**—In Denver, Colo., on Tuesday, February 20th, Dr. Henry E. Isaacs, of Braddock, Pa., aged thirty-two years. **Jones.**—In Dahlonega, Ga., on Tuesday, February 20th, Dr. C. H. Jones, aged fifty-seven years. **McCaskill.**—In Albany, Ga., on Wednesday, February 21st, Dr. A. B. McCaskill. **McKechnie.**—In Vancouver, B. C., on Thursday, February 22d, Dr. M. E. A. McKechnie, aged fifty-two years. **MacDonald.**—In Princeton, N. J., on Wednesday, February 28th, Dr. Arthur Kendrick MacDonald, aged sixty years. **Mahan.**—In Chicago, Ill., on Saturday, February 10th, Dr. James Mahan, of Paxton, Ill., aged fifty-six years. **Nevin.**—In Jersey City, N. J., on Monday, February 26th, Dr. Joseph Lawrence Nevin, aged fifty-nine years. **Page.**—In Little Rock, Ark., on Thursday, February 22d, Dr. Jefferson G. Page, aged seventy-three years. **Patterson.**—In Biloxi, Miss., on Friday, February 16th, Dr. Robert Patterson, of Barnesville, Minn., aged sixty-one years. **Pauly.**—In Milwaukee, Wis., on Saturday, February 17th, Dr. Ludwig Pauly, aged eighty years. **Schnetzler.**—In Los Angeles, Cal., on Saturday, February 24th, Dr. August C. Schnetzler, aged forty-four years. **Searing.**—In Escondido, Cal., on Sunday, February 4th, Dr. Anna Searing, aged eighty-two years. **Sprinkle.**—In Shelbina, Mo., on Sunday, February 18th, Dr. C. W. Sprinkle. **Weber.**—In New York, on Friday, March 1st, Dr. Leonard Weber, aged seventy-five years. **Webster.**—In Oakland, Cal., on Monday, February 19th, Dr. L. R. Webster, aged seventy-six years. **Welty.**—In Greensburg, Pa., on Wednesday, February 21st, Dr. James Welty, aged thirty-seven years. **Williams.**—In Benge, Wash., on Wednesday, February 21st, Dr. J. R. Williams, aged forty-four years. **Winton.**—In Oakland, Cal., on Tuesday, February 20th, Dr. W. H. Winton.

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COLDS.*

BY A. JACOBI, M. D., LL.D.,
New York.

Hippocrates attributes his winter diseases,—fevers with pain in the sides, chest fevers, coma, cough, hoarseness, lumbar pain, headaches, vertigo, and apoplexy—to the influence of cold or changing temperatures. Coryza and sometimes consumption occur when the autumn is persistently varying, with south winds. His aphorisms are full of such judicious observations as that "Rapid changes from hot to cold temperatures are most detrimental."

Galen proclaims the same notions concerning the diseases of the winter and those caused by sharp changes of temperature. The parts poorly supplied with blood, such as bones, teeth, nerves, the brain and cord, suffer most. Cold temperatures act through the solidifying of the skin and the contracting of the pores, and may cause convulsions and nerve disorders generally. "When a man is excessively overheated and slowly cooled with proper protection of the skin, he is safe; when the cooling is sudden and abrupt, there will be pain."

Celsus, similarly: "Northerly wind causes cough, hoarseness, constipation, suppression of the urine, chills, pleurisy, and thoracic disease. Weakly persons are mainly endangered." Those who suffer easily from the effects of "colds" should abstain from cold eating and drinking. "Nothing is more detrimental to the liver." So far, Celsus.

Explanations of the alleged or presumed facts offered by old authors are not particularly illuminating. They must have been as convincing, however, as are many of our modern explanations to many of us. Cold temperatures acted by condensing all organs reached by them and caused the secretion of a watery fluid which, when together driven, with the suppressed, cutaneous perspiration, into the interior of the body, produced diseases.

Fifteen centuries caused no change in these views, or impressions. Indeed, their medicine was that of Galen. Sydenham's first letter to Robert Brady contains about what follows: "Cough habitually occurs during the incipient winter months, but everybody wondered why it was so frequent this year,—1679. The cause is probably as follows: October was unusually wet. The blood has absorbed much that was crude and moist, and insensible perspiration was interrupted by the cold temperature. That is why Nature exerted herself to eliminate from the body the accumulated serous fluid through the ramifications of the bloodvessels, through the larynx, or, according to others, through the glands, by means of coughing." On winter fevers he expresses himself in similar words.

Sydenham must not be judged by such citations, which were culled from his scanty writings. He wrote but little. A simple volume contains it all. He did little theorizing, little talking, but much of the cool and careful thinking and acting of the practitioner. You know he never was a public teacher, formed no "school," created no "system," made no epoch making discovery; but still is, and is called, the British Hippocrates. Of acute rheumatism, he says: "This disease is met with at all times, mostly, however, in the autumn, mainly amongst those in their prime of life. It is caused mostly by the sudden cooling of people who have been overheated by hard work or otherwise." A doubtful advice of his is the warning against fruit and cold drinking. In his opinion they debilitate and contribute to relapses of fever.

This warning of Sydenham's and many of his successors against cold drinks has become a protracted mistake. Cold water was considered a frequent cause of disease by Stahl. When lately, in 1848 and 1849, I was a student at Göttingen, one of our clinicians, Conradi, would not rest until he succeeded, like a third degree police examiner, in getting out of every patient, *nolens volens*, the final admission of remembering having taken a cold drink some time before his sickness. Triumphantly our old teacher would turn to us: "Do you see, gentlemen? *Ja, Ja; ein kalter Trunk, potus frigidus, Ich hab's ja gesagt.*"

Friedrich Hoffmann, Van Swieten, Boerhaave, and Stahl, in many places, teach the same etiology of many diseases,—the latter principally in what is treated under the headings of strangury, articular diseases, and pleuritis spuria. The first is the result of refrigeration of the abdomen and the lower part of the body in cold weather or in the summer, particularly when several quarts of a beverage have been taken, *wenn selbige vielleicht einen guten Trunk für etliche Kannen für sich genommen haben?* That means an alcoholic drink.

About the end of the eighteenth century new elements entered into nosology. It was the time of Brownianism, which meant very little for sober minded and practical Great Britain, which disowned the new system, but a great deal for Amer-

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ica and Germany. In Germany, the rise of what was called nature philosophy contributed much to the depravation of German medicine, which, while France controlled medical science and art, resulted in verbose confusion and mysticism until it was waked up by Roser, Wunderlich, Rokitansky, and Virchow. Even the practical mind of Hufeland was benumbed by the playing with terms like the rise and fall of "irritability" and irritants. Unfortunately they were supported by the teachings of Albertus von Haller, the greatest mind by far of the eighteenth century. Inflammation of the lungs was, according to Hufeland, caused by "cold, catarrh, and rheumatism," intestinal inflammation by "cold of the abdomen and the feet"; "mesenteritis and peritonitis" by "cold of the abdomen"; erysipelas by "anger, wrath, fright, or cold." He was the same who, among other things, objected to the use of camphor in the treatment of bad cases of pneumonia, in which stimulant expectorants seem indicated to us.

This most valuable of stimulant expectorants and cardiac invigorators was eulogized mainly by "old Heim," the most successful practitioner of old Berlin. Once Hufeland accosted Heim, and in all seriousness warned him: "How can you die in peace and stand up before your God, after having used camphor as you do? what will he say to you?" Old Heim replied: "I do not know what he will say to me, but I know what I shall say to him, which is this: 'You know a great deal, I suppose,'" and, pointing his finger at Hufeland, added, "This, however, is a matter you know nothing about."

Curt Sprengel, the great historian (1766-1833) of Halle, wrote, besides his history, a book on nosopathology, about 1800, under the influence of Hufeland's hypotheses. But, according to him, the result of sudden and intense cold was debility. This debility, not the suppression of perspiration, was the cause of *Erkältungskrankheiten,* refrigeration diseases. One of them was "influenza," which was called a contagious disease in England, but depended, according to Sprengel, on cold and a "peculiar quality of the atmosphere."

Colds and their symptoms become mostly perceptible in the integuments,—that means the skin and the mucous membranes, and all of their constituents,—also in the muscles. Many are attended with a slight or great increase of temperature,—fever; a number also with superficial symptoms in the shape of small vesicles, herpes, which are liable to dry up after a few days. There are other symptoms of less striking appearance, which I shall have to mention briefly.

From the centres of respiration and of temperature, millions of fibres of the cutaneous muscles are softened; for blood flows in their direction, the surface becomes red, water enters through the walls of the bloodvessels into the sweat glands, and through these to the surface. It evaporates and binds a large amount of heat, which is withdrawn from the body. Thus it cools the body. Every cubic centimetre of perspiration which evaporates on the skin, withdraws from the body as much heat as would be required to raise five and a half c.cm. of water from zero to the temperature of the body.

On the other hand, the temperature centre of the cord stimulates the nerves of the skin; in it the muscular fibres contract and empty the bloodvessels; thus the skin becomes pale, wrinkled, and cool (goose-skin). Under these circumstances, the surface evaporates very little water and retains the heat in the interior of the body.

Between these extremes, temperatures rise and fall from hour to hour, from day to day. The temperature of the skin is the same in the tropics and in the polar zones, because there is more evaporation and usually less organic fuel,—food,—in the tropics, but more radiation and more heat formation, though less evaporation, in the cold climates. A difference of few degrees in the temperature of the body means a great deal for the economy of the organism; indeed, we too often identify temperature and fever. On the other hand, we know that we may influence the economy and the functions of the body considerably by increasing or lowering temperature,—for instance, by hot or warm or cold air or bathing, or modifying the amount of food.

To preserve a uniform temperature, the warm body air which was retained between the skin and clothing, in the clothing, and between the several layers of clothing, must be prevented from escaping. That is why you should protect your chest and neck while walking or sleeping in cold air by tucking in the covering around the neck. You should breathe fresh and cold air through your nostrils, but require a fairly uniform temperature of the general surface. To put shoes and low socks and knee breeches on a three year old child, and leave the calves uncovered in October and April is not done by *women,* but by *ladies* who should have no children. Some, indeed, have fewer than they might have,—the undertaker takes some.

Permit me to interject here a ludicrous stupidity of the smart ones who save mankind with Chamberlain's cough syrup. They quote me, and say I am venerable, quite cunningly. They quote me as saying "Men catch cold by putting their hands in their pockets and exposing their wrists." Indeed, I did say that in a popular lecture when trying to make fun of a friend who preceded me on the platform with his hands in his pockets, and of a demagogic woman who stalked from one political platform to the other screeching and gesticulating.

Our clothing is to furnish a transportable climate,—so famous Pottenkofer called it; that is why we must consider not only the temperature and winds, but the moisture of the atmosphere also. We lose through the skin about a quart of water daily in medium temperature,—much more in hot weather. If perspiration evaporates quickly, its loss is felt as an inconvenience, or gives rise to cold and sickness. When it occurs in bed, a dry towel should always be handy to use under the blanket. Otherwise the covering should be one that is hygroscopic,—that means it should absorb perspiration steadily and slowly, and give it up slowly. Linen absorbs water quickly and gives it up quickly, cotton more slowly, silk more than cotton, and wool more than either. That is why the woolen underjacket has conquered its legitimate

place in the so called temperate zone with its fierce cold and its intemperate heat, both in summer and winter.

One admonition in my office work, I have frequently to add to many other advices which are not obeyed, which is: Those who wear woollen underclothing day and night must change it morning and night, so that two garments are in constant use. There is always more or less perspiration in them, which should be allowed half a day's evaporation and drying. Even working people can afford that.

Those of you who labor in settlements or are nurses or are engaged in other useful work will allow an additional remark. Woollen undergarments must be washed frequently. They shrink. Saving housewives do not like that. But if the human bodies are not bathed often,—as, for instance, in France, Germany, Italy, Spain, and Russia,—then the coverings must be bathed frequently. Justus Liebig, the great chemist of the nineteenth century, taught us cleanness. Those of you who promenade in our public streets know the far from picturesque rows of chest protectors hanging in our apothecary windows. Those who sell them are greatly benefited by them; those who wear them accumulate nasty filth and improper possibilities which should be romoved by frequent washing. Of modern scientists I know only one who preaches the gospel of filth, Sir Almroth Wright, the opsonin man.

One of the drawbacks of our clothing is that our garments grow wet, linen mostly, cotton a little less, silk still less, wool least,—but when it, or rather, when both of the latter become wet they are heavy. We catch cold by two causes: First, by conduction; second, by evaporation. These losses cannot be repaired except by great muscular exercise, walking, running, working. If that is impossible,—for instance, in an open wagon during a drenching rain,—even those catch cold who, having read the last athletic bulletin or the books, pamphlets, and papers which deny the existence of colds, disbelieve in it. Rubber clothing does not permit water to reach the body from outside, but it retains inside the water of perspiration, mostly during exercise. Its discomfort is perhaps the least evil; colds are almost as sure as through direct exposure.

Children have proportionately, compared with their weight, more body surface than adults; thus they lose more warmth by radiation and die more readily of a low temperature. It is true, however, that as long as they are in good health they are protected by the greater vigor of their healthy, proportionately large hearts, and their active cutaneous circulation. Young and old when feeble, and covered with a skin flabby or aged, feel cold intensely, suffer from it, and die of it. Alcoholics belong to that class. They die most readily. Still, drunkards are not all dead yet, according to our fellow citizen, William H. Taft, who, on the 22nd day of March, 1910, ordained that God is engaged in preserving drunkards, fools, and the United States. Pleasant to know.

In order to be comfortable, while losing the appropriate amount of temperature, the human body, when nude, should live in a temperature of about 80° F. There are, however, few parts of the globe which *enjoy* that climate, or, if you prefer that view, *suffer* from it. That is why man must secure a portable climate,—that is, an unchanged layer of air of the temperature mentioned.

Immovable air is a bad conductor. That is why our farmers, coachmen, and masons keep large sheets of old newspapers between their clothing (why even Doctor Cook feels warm between our daily papers,—I should say to an uncomfortable degree); why Eskimos, and travellers, and ladies wear furs. That is why dress materials change with changing temperatures.

The immovable air around the skin is not sufficient, however; its outside cover which protects it from the atmosphere must be a bad heat conductor, besides. To be so, our coverings must also contain immovable air. The immovable air acts like a double window. There is a layer of immovable air between the skin and the shirt; another, in the tissue of the shirt itself; the next, between the shirt and underjacket, or vice versa; and so on, from layer to layer. That is why two pair of thin cotton stockings keep the feet warmer than thick woolen stockings, particularly when the latter fit the limbs too tightly. Those who dislike wool on their skins as much as they hate cold feet, will please take notice. A porous woolen glove keeps warmer than a close fitting kid or other leather of the same weight; a wool jacket, more than one of silk. Furs keep warm in proportion to the length of their hair. Winter fur of the animals has not more, but longer hairs than their summer furs. The skin of ducks is always warm though their outside feathers, which cover them closely, be ever so cold from the water from which they have just emerged.

The temperature of the atmosphere exerts a great influence on the regulation of the temperature of the human body. The medium temperature of the year is a little higher in cities on account of their large stone walls; its daily variations in the city are less; its temperature is less influenced by radiation in the night hours. The temperature height of the body corresponds to a great extent with its loss. That temperature is calculated by calories, of which there are daily about 2,500 or 3,000, as a result of food intake. A calory, we all know, is called the amount of heat required to increase by 1.8° F. (1°C.) one kilogramme (two pounds) of water. The daily loss of calories, several thousand in the adult, might be made up by an appropriate number of calories in food. Modern books give us the calory value of scores of foodstuffs. So you take your choice. For many, calory is calory. Formerly we fed chemically; that "scientific method" has failed and is partly forsaken. Now we are expected to utilize mathematical physics. *Quidquid delirant reges plectuntur Achivi.* When our scientists get overpunctilious, both babies and grown people have reason to complain. Ecstasies will die out, however, and enthusiasms sober down. So there is hope for us in future.

The temperature of the air may cause disturbances of the health by falling or rising. Animals when suddenly cooled exhibit an increased disposition to infectious diseases. That is why starv-

ing and underfed school children and people are more easily infected,—a danger to them and a social complement to their rich neighbors. In man, when the peripheral parts of the body are cooled, the bloodvessels of the skin contract. Then those of the brain and lungs and the kidneys may become congested, with headache, vertigo, stupor, and finally death. The contraction of the bloodvessels in the skin causes also a paralysis of the constricting nerves in the skin with congestion, cold, and finally gangrene—death—by obstruction of the circulation, mainly during sleep, hunger, and alcoholism. That does not occur only in winter temperatures, but also in the tropics during sudden nightly cooling, mainly in the whites. Persistently low temperatures, however, when not excessive, stimulate physical forces and activity, provided there is sufficient nutrition. Thus it is that our culture grew in the temperate zones; thus that the well to do classes are more resistant than the hungry and chilly poor; thus that the health of the future will depend on social improvement of all classes.

Now what we call "cold" depends upon abrupt differences of the bodily temperature. A normally warm skin may be subject to such differences by excessive, sudden refrigeration. Thus an exposed automobile trip in the winter may cause a pneumonia; a fall into cold water or exposure to a driving rain, pneumonia or an acute nephritis; or a person, adult or young, is exposed to a hot room temperature or to a perspiration in a steaming hot bed followed by a sudden cooling of the whole body or of a part of it. That is why children may catch their deadly cold in a warm room where they are smothered with blankets or feather beds. If they are treated that way, they will toss about, throw off their blankets, and expose themselves. Mothers and nurses will complain of babies being thus exposed and endangered. When you tell them to keep the window open, the air cool, and to remove part of the coverings, and that under such conditions such infants will sleep quietly and not even disturb their blankets, it takes more intellect and confidence than many of them possess. They treated another child just the same way as they do this, and it is alive,—how vigorous or well they do not know or do not tell. They may have forgotten that one of these children died of pneumonia contracted in a perniciously hot room, with sweating and sudden refrigeration.

Unfortunately, some people, when they make the same mistake a hundred times, call it experience. When people, old or young, treat their skins to the laming or softening influence of warmth and perspiration, they soften and weaken the tissues, the unstriped muscles of the skin, and the smallest bloodvessels, and thereby reduce their tone and vigor. Thus sudden cooling of the whole skin or a part of it, when striking such softened and weakened parts, need not always result in a stimulation and secondary warming. That is mainly so when warmth is removed by radiation, mainly when it strikes small localities, during a draught. I have personal experience. Though I take a general ice cold bath almost three hundred and sixty-five mornings a year, I catch cold, with sneezing and nasal catarrh, when quietly sitting with my feet exposed to a draught, near a slightly open lower window. If it were not for my bath, I am sure I should die twenty times annually of a pneumonia or some other providential dispensation. With wet shoes and stockings, many of you who are vain and young —I mean all of you—may have experience. If it were not for the thin shoe soles and flimsy stockings of the ladies, the throat doctors and the Southern hotel keepers would be bankrupt.

Local disorders of the surface circulation cause internal congestions and diseases. Irritation of nerves results in increased reflex secretion of mucus on the mucous membranes of the nose, throat, bronchial tubes, intestines, and bladder. These affections are called catarrhs. In the nose, they cause a chronic thickening of the membrane, leading to or increasing the tendency to adenoids; they cause a cough, also the barking, false croup which obliges the family doctor,—there are few left, however,—to leave his bed between twelve and one o'clock, merely to find the mother armed with an emetic bottle and the baby soundly asleep again after having vomited. (If there is a general practitioner here, he appreciates this experience of mine and is aware that next day the "specialist" is called in.) They cause diarrhea, for which an innocent tooth is blamed, and belly ache, for which the young one is punished with a nasty worm remedy. It is the only thing I blame my mother for having done nearly eighty years ago. A draught will also cause a facial paralysis, a stiff neck, in the *pater familias* who sits with his perspiring head at an open window when coming home from down town, pain in the muscles and joints, sciatica, and other neuralgias, and contractures. They have nothing to do with bacteria. If there is any differences between the effect of the morning air and the evening air at all, it is because we are more vigorous and more resistant in the morning.

These direct and sudden influences of colds are known to everybody. Still, in a recent (1907) book on colds and on diseases caused by colds, by Dr. Karl Chounsky, a Bohemian professor at Prague, you may read the following, p. 182: "Colds, such as are defined clinically, do no harm, and are entirely unable to injure the human organism; cause no disease directly, nor do they create a disposition for any disease,—particularly for infectious diseases." His big book has been written to express the author's satisfaction with his disbelief in anything that is not bacterial. Many infectious diseases *are* of that nature. But such is the makeup of a narrow mind that it will not accept anything which goes against anything that is verified by *direct* observation *not* made at a man's laboratory window by a single observer. With more insistency than modesty, some of his peers have told us that there is no such thing as a cold, or catching cold. Perhaps they would be a little better satisfied to know that the cold catches them. For some do not believe that there is a cold without bacteria. Within a year, in the *Medical Record,* one of these prophets—no reason to mention his name—has called "taking cold" stupid, a "venerable chimera," and the experience of a "lowered resistance from cold and exposure," a "hackneyed repetition" of the belief that measles, typhoid, and tuberculosis

may follow a catarrh. Then he arms himself with Osler. "It is hopeful to note that Osler, in giving the etiology of acute coryza, makes no mention of cold or of 'catching cold,' rather directing attention to the *Micrococcus catarrhalis* and the epidemic character of the disease." Poor Osler, that rich man, is quoted falsely by a poor man. Osler says: "Prevailing most extensively in the changeable weather of the spring and early winter, acute catarrhal inflammation of the upper air passages, popularly known as a 'catarrh' or a 'cold,'—*usually an independent* affection,—but may precede the development of another disease,—it may occur in epidemic form, many cases arising in a community within ten weeks, outbreaks which are very like though less intense than the epidemic influenza.—A special organism, *Micrococcus catarrhalis,* has been described. Irritating fumes, such as those of iodine or ammonia, may cause an acute attack of the nose." That is all he says of the etiology of acute coryza, "catarrh," or "cold."

The *local* irritation referred to by Osler, I may fortify, though it does not strictly belong here, by my experience with hospital gangrene during the Civil War. None of you young men has an idea of the preantiseptic or the preaseptic era. It was a septic era. We used bromine very often on the gangrenous limbs. Carbolic acid was in its infancy, and its antiseptic properties were not fully appreciated,—so we used bromine. The immediate effect was in several instances to drive half a dozen doctors out of doors gasping, with streaming eyes and noses; a week's nasal catarrh,—frequently bronchitis, would follow.

Further, Osler says, it is true, "Laying aside unfounded traditions and depending solely on our present knowledge, it may be confidently affirmed that the vulgarly listed *causes* of respiratory disease, such as cold, dampness, exposure, wet feet, and draughts are, for all practical purposes, entirely negligible factors." "The groundless fear of cold, fostered by the abuse of this misleading phrase, constitutes a form of hysteria and embarrasses earnest therapeutic measures. So far as we now know, *the true predisposing factors* of the various respiratory diseases (acute and chronic) are dietetic sins, unhygienic clothing, overheated apartments, and defective ventilation." I am quite satisfied with that. That is what he observed in the sick, not at the laboratory windows.

In connection with acute nephritis, p. 86, Osler says it is "due to the *action of cold or* of toxic agents upon the kidneys." Very well.

The exposure to *cold and wet* is one of the most common causes. It is particularly prone to follow exposure after a drinking bout. On page 687: "Alcohol probably never excites an acute nephritis;" page 692, "In the convalescence from acute Bright's disease, care should be taken to guard the patient *against cold.* The difficulty appears to be largely in the correct diagnosis of a cold. Diphtheria, vasomotor rhinitis, and hay fever are no longer called colds. (That is only half true. *Vasomotor* rhinitis is just the thing that is called a cold.) With a closer and more careful study of typical colds, and with keener observation of the period of onset, there may result the finding of a specific organism which will explain the cause of the most common forms."

Here he begs the question with a suggestion or a hypothesis,—no proof is possible. Altogether we come to the conclusion that too much writing is done by men who, while being satisfied with themselves, think others are also satisfied with them. The adverse criticism of F. T. Atkinson is not better founded. He has a letter in the *British Medical Journal* for November 5, 1910, in which he refutes,—to his satisfaction, at least,—the theory suggested, he says, by Dr. Gore, that an ordinary head cold is caused by bacteria, by assuring himself that this theory cannot be true because thirty minims of sweet spirit of nitre and thirty minims of sal volatile in water, repeated every four hours, almost invariably stops it in from twelve to twenty-four hours. This ally of mine is becoming dangerous by his therapeutic optimism.

A recent book by R. Prosser White (1906) has the title, *Catarrhal Fevers, Commonly Called Colds.* As usual, the diagnosis of influenza,—from what he calls "pseudocolds,"—from hay fever, is insisted upon. A cold is, however, infectious. He says nothing new when he insists upon a "chill being *no cause* of a cold." I have always been told that a chill was its result or concomitant. According to White, a cold is a specific febrile rhinitis due to *Bacillus coryzæ segmentosus* (Cantley), which was found seventeen times in twenty-one cases. Inoculations into monkeys had no effect. His treatment consists of alkalies, salicylates, and avoiding of stuffy English churches and bedrooms.

In Notter and Firth, *Hygiene,* sixth edition, page 31, you may read: "At 60° F., air moving at the rate of two feet per second, is barely perceptible; at three feet, it is more so; and above this it becomes a draught. At 70° F. the velocity of the air can be even greater without being noticed."

A draught is not, as suggested by a correspondent of the *British Medical Journal,* a "concentrated dose of fresh air," for on the top of a mountain, where the air is rather "concentrated," *as he understands it,* you are not exposed to a draught, and catch no cold. A draught is a current of air, differing from the surrounding temperature in temperature and velocity, thereby causing a local chill,—sometimes a general chill,—with contraction of the superficial blood and lymph vessels.

"I wish some one would explain to me just what is the danger of the open window. Why is a little sneaking draught in the house a source of cold and grippe, while a high wind out of doors is a pleasure and a benefit? This is a problem that has long puzzled me, but perhaps it is a foolish question."

The subject of draughts has given rise to frequent and angry discussions. According to Harrington, "draughts which are productive of discomfort are more dangerous than ordinary vitiation of the air, and therefore complete ventilation with draughts is worse than partial ventilation without draughts." All systems of ventilation have aimed at purification of air without sensible air currents. Ronald Campbell Macfie (*British Medical Journal,* 1911, page 71) says that of late years the object lessons presented by open air sanitariums have made many converts to the cult of the open win-

dow, and thinks that these opinions are contradictory. I cannot see that there is a contradiction. Harrison's, as well as Macfie's positions are postulates. The latter merely asserts that "cold" is a bacterial disease, and does not advance any further than to admit that a draught may be an accomplice only when it cools the blood to such an extent as to diminish the bactericidal activity of the phagocytes and the vitality of the respiratory cells. In connection with that, he quotes Dr. Ringrose Gore; who contends that the mucus itself in such cases loses its bactericidal power and becomes a nidus for the growth of the microorganisms of catarrh,—*Micrococcus catarrhalis* and others. His first conclusion is that in stuffy, dirty rooms and churches draughts are most feared, and there is most reason for fear; that in sanatoriums where draughts are large and constant,—so he says,—mistaking draughts for fresh air, and vice versa,—colds very seldom occur; and that "draughts do occasionally play an auxiliary part in the production of colds, but that they are easily deprived of their dangers, and should be favored rather than feared."

I have quoted him verbally. I am not impressed by his assertions, among them this, that "colds are easily deprived of their dangers, and should be favored rather than feared."

With the title of *Erkältung, eine dunkle, unklare Vorstellung,* Dr. Otto Knovenagle has published (in 1909) quite a book. It has ninety-four pages. To knock the foundation from under "cold", he proves too much. It was not necessary to prove that "colds" are not responsible for ulcerating teeth, mumps, bone and tendon diseases, influenza, whooping cough, pleuritis, peritonitis, meningitis, tetanus, all renal diseases, acute inflammation of the joints, osteomyelitis, erysipelas, autoinfections, fatigue substances, organic and metal poisons, trichiniasis, malaria, genuine infectious diseases, migraine, tonsillitis, myxedema, Addison's disease, cretinism, diseases of the pancreas, and the thymus. But it pleases him to prove it. So he thinks you have no reason to complain of his verbosity or his eloquent learning. For there is indeed nothing else in the book. That is the way they are made. He does not charge that "colds" cause eclipses and earthquakes.

Dr. B. Ernst published in this year (1911) what he calls a "satire on draughts, atmospheric and climatic influences, and colds." He quotes a number of writers, one or two of great value,—the majority, however, of names you have never heard before, and never will hear. Among the first is M. Robner (*Archiv für Hygiene,* L), who says, literally: "An air current, so trifling as not to be perceptible to our instruments or by the skin, may become effective. What is called draught is a stronger motion of the atmosphere. According to my observations, one may suffer from a draught we do not perceive; we cannot avoid it because it is recognized too late." This is not accepted by Ernst on account of the fact that a strong wind does not by itself cause a disease; that exposure to open air on mountains, or open windows, favors no disease at all. But it is often attributed to draughts by people whose opinions depend on their good or bad will or preoccupied minds. Nobody denies it. He postulates that minimal exposure to cold air is not capable of disturbing the economy of circulation and temperatures. Mere hyperemia, he says, "cannot produce a disease"—why? because normal blood is no pathological stimulus for our organs. No, sir, normal blood is not, but its abnormal distribution may, and is. His postulation is that what is called cold, must always be, is always, the result of a bacterial infection. This is the reason which he asserts but does not prove. Nor does he prove that he is *capable of writing a satire.* There is nothing satirical in the little book. Your friend Horace has told you that it is difficult not to write a satire under provocation, *Difficile est satiram non scribere.* Doctor Ernst proves it to be impossible for him to write one, though he says he does.

What is the connection between colds and serious diseases, the infectious and the not infectious forms?

Pneumonias were known to follow colds directly before we were acquainted with pneumococci. Tuberculosis is liable to prove fatal in the spring months which furnish rapid changes of temperature and of moisture. Diphtheria of the nares and the throat, and the pseudomembranous croup of the larynx may follow, often do follow a sudden cold. So called cholera infantum, and cholera nostras of the adult may follow directly the drinking of icewater by overworked perspiring individuals. How is that? Indeed, we know that they require the presence of and the activity of virulent specific disease germs? If they do, it is this way. Our mucous membranes are covered, like our skin and our clothing, with these germs. Our noses and throats are always,—may this very moment, be,—full of the diphtheria and tuberculosis bacilli, of erysipelas, of rheumatism, and of other microbes. *As long as the mucous membranes are in their normal condition,—that is, covered with their epithelia,—the germs cannot enter the tissues and the circulation. A catarrh removes this protection; the epithelia are swept away by the fluid. That is the chance for the living enemies.*

Every infectious disease has its own microbe. Each of them may cause its own disease. Our noses may be full of bacilli, meningococci, pneumococci, rheumatism cocci, scarlatina streptococci, and so on, but these enemies lie, in the healthy, as it were, outside the Trojan walls. Slight sores or wounds serve like the breach in that wall. Behind the Trojan horse of Homer, in rush the destroyers.

I have often repeated the story of my friend, Doctor Althof, a great oculist and admirable man, whom, in 1876, erysipelas killed a few days after he scratched a small pimple on his cheek; of the young mother who died in the same way a few days after her baby scratched her face in his playful mood. Acute articular rheumatism, with its St. Vitus's dance and acute or chronic heart disease, follows what impresses you as a mild sore throat, so called tonsillitis. It may add, however, that the tonsils are often accused without cause. It is the rest of the throat,—its surface lymph follicles, Waldeyer's ring,—which is more often chargeable than the tonsils. Still, no actually enlarged tonsil should remain unoperated on. I have told the same

often to my medical friends; they should all be apostles of that truth.

As to the prevention of colds, secure general health. The endangered parts of the human body are the nervous system, the skin, the mucous membranes, and the muscles. The skin,—that is, mainly its surface, with its two millions of sweat glands, its muscular layers, and nerves,—is softened and weakened by perpetual warm room air, warm bedrooms, feather beds, warm bathing. It is strengthened by cool or cold temperatures to which the body has been gradually habituated. Cold water stands foremost as a skin protector. Fairly normal persons may rub themselves, or be rubbed, all over, daily, with a towel dipped in cold water, and then be rubbed,—or, better, rub themselves,—dry and warm,—the feet not to be forgotten,—with one or two coarse and large bathing towels. After a while those who have a bath tub,—there are more than 2,000,000 people in Greater New York without it,—may squeeze out a wet sponge over their shoulders, get thoroughly wet, and then rub and dry and warm as said before. After a while, the same person will plunge the whole body in, for a minute or for a few seconds. Those who begin in summer, learn how to continue it during the winter. To begin by plunging into the cold water for more than a few seconds requires some heroism, for which there is no reward except in the glow and vigor felt afterward. Not every one, however, of every age, tolerates cold water treatment like the foregoing. The newly born, or small infant, must not be treated with cold water. One of the reasons why not—is the absence of reflexes, not only that which acts on the muscles and nerves of the skin. The newly born is not likely to exhibit reflexes like the advanced child or the adult in any part of the body. My good friend, Soltman in Leipsic, was the first, fifty years ago, to prove that the newly born animal, the human included, is not very subject to reflexes. They will not jerk so vehemently, perhaps not at all, when tickled on the soles of the feet, like the adult; their knee and other reflexes are not much developed or not at all. In the same way, the cutaneous and capillary reflexes do not show themselves sufficiently. But children of two and three years, when healthy, may well be rubbed down with a cold towel after a warm bath. When cold water is shunned, alcohol rubbing is popular. Alcohol alone is objectionable, for it dissolves and extracts to a great extent the fat of the skin, and leaves it dry and uncomfortable. Alcohol in a mixture of one part with two parts of water, cold or tepid,—cold preferably,—is indicated.

These measures of hardening should not,—mainly not in the case of the very young,—be resorted to in a cold room. When open windows are the rule—properly so—they should be closed temporarily, while the cold washing is proceeded with. Nor should cold washing or a cold bath be employed when the circulation is feeble, and the person, young or old, is anemic, and with insufficient resisting and reacting power. A cold wash or a cold bath requires friction of the surface of the skin while it is given. I have observed that a baby of eight months that was bathed cold to reduce a fever, with a rectal temperature of more than 102° F., was taken with convulsions when in the bath. The temperature was immediately taken again, and proved to be over 105° F.,—a dangerous temperature when reached abruptly,—evidently in consequence of the interruption of radiation from the surface. A hot bath immediately given restored the circulation of the skin, relieved the hot temperature of the interior, stopped the convulsion, and within a few minutes reduced the temperature to 101° and 102° F. That shows that no rule holds good unless it be controlled by sound judgment. After all, there is for the otherwise healthy, with the exception of the newly born or infant, no better stimulant for the skin,—and for the heart itself by accelerating and strengthening the general circulation,—than cold water,—always, however, with the mental reservation that its use must be followed by a reaction which results in a comfortable sensation of warmth.

Many people have no uniform circulation, many suffer from cold feet, mainly those with congenitally small hearts, with or without chlorosis. Sleeplessness is a most common result. Friction with a dry cloth may warm them; then keep stockings on in bed. Others will do better by washing their feet and legs up to the knees with cold water; that is to be followed again by hard rubbing. That and stockings will secure a comfortable night. That is more efficient and more wholesome than to rely on warming bottles, or hot water, or electricity. Still, cold and wet feet may be treated by a hot foot bath, with or without salt or mustard or ashes, conscientious drying off afterward, and keeping up the warm temperature. Copious perspiration of the feet—we call it hyperidrosis—gives rise to frequent colds. Diluted formaldehyde solution may do good; also a mixture of salicylic acid, 3 parts; bismuth subgallate and talcum, of each, 50 parts.

The mucous membranes of the respiratory and digestive organs depend on the vigor of the external circulation and the absence or presence of anatomical malformations or injuries. The injuries to the intestinal mucous membrane are improper feeding or exposure to a sudden cold temperature. It is only the latter that we are here concerned with. Hot drinks, I mean temperance drinks exclusively, and hot applications—mostly dry—will mostly suffice. Anatomical changes in the respiratory organs mean an *undue* amount of deviation of the septum;—you know there is no absolute symmetry in the two halves of the body or in any of its organs,—or the presence merely of a polypus, more frequently, of adenoids. Behind and about a deviation, or a polypus or an adenoid, congestion and thickening of the mucous membrane will take place; mucus will accumulate and disintegrate. So the influence of a morbid condition will facilitate the action of a cold. To prevent its influence, try to keep the mucous membrane of the nose and throat in a healthy condition. The exsection of nasal bone is not often required, in spite of the silvery songs of some specialists. The resection of a tonsil, when really enlarged, more often; that of adenoids, not so often as it is averred now-a-days. We did too little of that before Wilhelm Müller, of Copenhagen, and Hooper, of Boston, taught us better; today, too much is done, on account of the fascina-

tion of specialistic eloquence and of popular credulity and ignorance, because the growth of adenoids, that is, of enlarged lymph bodies, is not prevented or stopped on time.

And now I will tell those not initiated a wonderful secret, which is or may be shared by the million. I let it out, because you know it anyhow. The mildest congestion of any mucous membrane or the skin causes the swelling of the neighboring glands,—for instance, a slight diarrhea, that of the mesenteric glands; a slight eczema of the scalp, that of the glands of the neck; an eczema of the face; the so called milk crust; or a sore mouth, that of the glands under the jaw and chin; of the mucous membrane of the nose, that of the lymph bodies of the membrane,—so called adenoids, and under the angle of the jaw. These are wonderful secrets, known to the medical men, but not remembered or acted upon.

You cure these glands, unless they are malignant—they are rarely so, however—by preventing an acute congestion of the mucous membrane from becoming chronic. That is done by keeping them clean. You accomplish that by irrigating them with a warm saline solution. Such an irrigation—which should be made while the mouth is kept slightly open and respiration uninterrupted,—should be made twice a day, more or less. The quantity should be small,—one or two drachms, so as not to annoy the patient, and to facilitate its removal by the mouth,—but repeated. As a rule, no injection, no snuffing up, no nasal douche,—in order *not to endanger the ear.* That is a good rule for children with narrow nares and a chronic nasal catarrh, though otherwise healthy. For all that, you require no nose and throat specialist. You have to correct even his doings. The hygienic treatment of the mucous membranes prevents ulcerations and adenoids. After the latter have been removed by yourself or the specialist, I do not mean those here,—but some of those whom I know in the provincial town I live in,—never advise any after treatment. That oversight makes their final results doubtful. The practitioner will do well to advise cleaning the nose; it will be in the interest of the patient, who should require no second operation, though not in that of his neighbor, the specialistic friend. Cleanliness will preserve or produce a healthy condition of the mucous membrane with a normal epithelium, which will prevent bacilli and cocci from entering the circulation; *but* whenever the epithelium is thrown off, tubercle bacilli, scarlatina, rheumatism, streptococci, and pneumococci will sneak in. Thereby the old observation, that a cold *causes* tuberculosis, diphtheria, pneumonia, or rheumatism finds its explanation.

Thirty years ago the nervous system was charged with many more pathological sins than to-day. I remember the time quite well when even a pyelonephritis combined with a purulent cystitis was explained by nerve influence. That has changed to such an extent that nerve influences are often exiled. Still, the sudden eruptions of urticaria as a vasomotor exhibition are accepted as gospel truth. The renal oversecretion of the hysterical does exist. Emotional diarrhea is of frequent occurrence. In that respect I can speak from personal experience. When—it was before the time of antisepsis—we had epidemics of septic diphtheria—1870 and after—I lost in succession between one and two hundred patients with laryngeal diphtheria, without a single recovery. Every one of my tracheotomized patients died of sepsis or with gangrene. Those were my gloomiest years in practice. Within five minutes after a call to perform tracheotomy, I had an attack of copious intestinal hypersecretion, together with muscular tremor. They stopped only while I was making my hasty preparations for operation at the bedside. My sudden nasal oversecretion, with secondary diaphragm spasms—sneezing and sometimes difficulty in swallowing—after a few seconds' exposure of my feet to a draught along the floor of the room, I have mentioned before. *No bacilli had anything to do with that.* The symptoms are too sudden even for them. I never have the symptoms when exposed to cold air; on the contrary, I feel much better in steady cold weather, and have been much exposed to it. The fair results of cold in pneumonia do not contradict this experience, for what the patients are allowed or ordered by a doctor who has common sense is air, not a draught.

Nor does it hold good, what you may have been told, that there is no such thing as cough or sneezing, or "colds," in sanatoria. Good sanatoria allow air, not draughts. There is a difference between a room all open, or a room with two or six windows, all on *one* side, and, on the other hand, one whose two open windows are located on opposite sides. The assertion that "colds," coryzas—*Erkältungen* of the Germans,—are all bacterial diseases, as Hueter first asserted in 1875, or that the infectious nature of colds,—that means again microbic origin,—is almost universally accepted; that *Bacillus segmentosus* or *Micrococcus catarrhalis* are always found as causes, is not substantiated.

Some authors are more modest. They are satisfied with calling common colds "influenzoid" or "grippelike." That means nothing but an unmeaning excuse for the absence of a diagnosis or the presumption of a magazine article. I mention no more names of the writers. It is not always worth while. They may take their revenge in calling me down without mentioning mine. When it is asserted,—truly so,—that a large part of our working people in congested dwellings and the foul air of rooms and factories, suffer much from colds and relapses, and lose many days' wages each year,—all that need not mean, and does not always mean, microbic influence; it means underfeeding, worry, and care, lack of oxygen, carbon dioxide and intestinal poisoning, exposure, holes in their shoes, insufficient underclothing, and lack of cutaneous hygiene.

The symptoms commonly called cold, depending on all sorts of influences, vegetables,—such as different varieties of pollen,—chemical irritants, vasomotor conditions, microbes,—require different methods of prevention or cure, according to the known or presumed cause.

R. W. Allen looks for the predominant bacteria, and uses vaccines. He states so in the London *Lancet* of last year. Proper hygiene has been pro-

posed all the time. It is one of the social problems beyond the power of the individual to deal with; it comprehends dwellings, factories, assembly halls, churches, schools. If the laws of proper ventilation have been found, our architects are not aware of them, so far as I know. As a preventive, sneezing should be watched; promiscuous and other kissing prohibited. The bed is a good cure; diaphoresis by hot drinks,—water, milk, alcoholic beverages,—by hot bathing; diaphoretic drugs are indicated. Hot foot baths may be recommended. Mild coal tars (no acetanilide, though it has been admitted to the U. S. *Pharmacopœia*), Dover's powder, aconite, liquor ammonii acetatis, teas,—we have all heard of them. We all use them.

Excessive nasal secretion,—1,000 cubic centimetres a day,—may be best stopped by absolute abstinence from drinking, together with enforced diaphoresis. Cocaine brushed or sprayed into the nose has been more often recommended than proved wholesome. After a short time, the secretion recommences. Adrenalin spray, or the powder of adrenals, snuffed up, acts a little better. A subcutaneous injection of three or four grammes of calcium chloride is recommended in excessive secretions of the nares in hay fever or iodine rhinitis, by Chiari and Jannuschke. Hexamethylenamine is recommended also in all sorts of microbic poisoning. After having been used on kidneys and gallbladders, its virtues are now (by its changes into formaldehyde) extolled in serous and purulent meningitis, in poliomyelitis, and in rhinitis.

But I must not proceed. It was not my intention to say that I know how to cure a cold, no matter whether you call it a cold or catarrh or rhinitis or even muscular pain, better than you do yourselves.

THE CAUSE OF MYOPIA.*

By W. H. Bates, M. D.,
New York.

In the normal eye parallel rays of light are focused on the retina; in myopia they are focused in front of the retina. Myopia, with elongation of the optic axis from bulging of the posterior pole, posterior staphyloma, is incurable. Rarely congenital, myopia is usually acquired.

Functional myopia is an early stage of myopia with elongation of the eyeball. It is produced by muscular action, which alters the curvature of the crystalline lens, modifies the convexity of the cornea, or produces an elongation of the eyeball. Voluntary functional myopia may be produced by efforts to see distant objects, in children, elderly people, cases in which the accommodation is apparently paralyzed by atropine, and in aphakia after cataract extraction. That muscular action can produce functional myopia is shown by the fact that many cases of voluntary functional myopia manifest a convergent, divergent, or vertical squint. Also, operations on the eye muscles have benefited functional myopia. Von Graefe, Donders, and others have reported good results in functional myopia after tenotomy of the external rectus. Stevens published (*Anomalies of the Eye Muscles*) some cases of functional myopia relieved after operations on the eye muscles. In a personal communication he said that in his experience the refraction of the eye was usually changed after such operations.

The diagnosis of myopia may be made with the ophthalmoscope or retinoscope. In myopia with elongation of the eyeball, with the ophthalmoscope by the direct method, the details of the fundus cannot be seen clearly without the aid of a concave glass; whereas, in functional myopia, the retinal vessels and chorioidal pigment can be seen clearly, occasionally without such a glass. With the retinoscope, in myopia with elongation of the eyeball the shadow seen with the plane mirror held at four feet or further always moves in the opposite direction to the movements of the mirror; but, in functional myopia the shadow moves in the same direction at times, and especially when the eye is regarding distant objects without especially trying to see.

It has been generally accepted, that after the prolonged use of atropine, if the myopia continues, it is due to permanent elongation of the eyeball. After twenty-five years' study of these cases, my experience leads me to the conclusion that atropine does not always relax the near focus or relieve functional myopia.

A study of the eyes of a large number of individuals in whom functional myopia was produced by an effort, unconsciously or voluntarily, may be briefly summarized as follows:

An unsuccessful effort of the normal eye to see accurately new, strange, or unfamiliar distant objects was always followed either by myopic astigmatism, usually—compound myopic astigmatism, occasionally, or simple myopia infrequently. Mixed astigmatism was not observed. For example:

Case I. A woman, aged twenty-five years, had difficulty in reading the ten line of the Snellen card at ten feet. When she was unable to see the letters, retinoscopy always indicated a myopic refraction; but, when she read the letters, simultaneous retinoscopy always indicated no myopia. So accurate was retinoscopy in measuring the refraction that one was invariably correct when telling her when she could see and when not.

Case II. A boy, aged nine years, while reading at ten feet the line marked ten on the Snellen card was not myopic. When he regarded the large letter, vision 10/200, he had myopic astigmatism. When he regarded a picture at twenty feet, he appeared to make a greater effort to see, and by simultaneous retinoscopy, he had compound myopic astigmatism.

Case III. A boy, aged five years, when regarding his mother at ten feet, by retinoscopy was not myopic; but, when he regarded a stranger at ten feet, or the unknown letters on the Snellen card at the same distance, he had myopic astigmatism. When he made a manifestly increased effort to see a dog at 100 feet, the objective test used simultaneously indicated compound myopic astigmatism. The increased effort to see distant objects produced more myopic refraction.

Case IV. A woman, aged thirty-six years, with vision, 10/200, 10/50, 10/10, was not myopic. Neither was she myopic when she regarded at ten feet or 100 feet a picture, a book, and many other objects; but, when she was asked to look directly at a point three feet to one side of the Snellen card and read the letters, which was impossible, the retinoscope indicated compound myopic astigmatism, and the left eye converged. (Figs. 1 and 2.)

Case V. A girl, aged eighteen years, emmetropic, was

*Read before the New York County Medical Association, January 22, 1912.

similar to the previous patient; she did not make an effort to see distant objects until asked to regard the Snellen card by excentric fixation. Compound myopic astigmatism was produced and the right eye diverged.

Case VI. A man, aged twenty years, had used atropine sulphate, one per cent., three times a day, in the left eye for two months. When he regarded a green curtain at ten feet he was not myopic; but, when regarding the large letters on the Snellen card he had compound myopic astigmatism.

Case VII. A woman, aged forty-seven years, right eye, keratoiritis, received atropine sulphate, one per cent., three times a day for fifty days. When she regarded a green curtain at ten feet, she was not myopic; but, when she read some of the large letters on the Snellen card at ten feet, retinoscopy indicated compound myopic astigmatism.

Case VIII. A man aged seventy years, by retinoscopy was not myopic when reading the ten line at ten feet; but, when he regarded an indistinct object, a thermometer, at 100 feet, retinoscopy indicated myopic astigmatism. An increased effort produced compound myopic astigmatism.

In normal eyes the axis of myopic astigmatism, which was found by retinoscopy after an effort to see distant objects, was usually corrected by a concave cylinder at 180°. It was observed frequently at 90°, and less often in an oblique meridian. As a rule the vertical or horizontal axis was the same in each eye—exceptions were found infrequently. When the axis was oblique in one eye it was generally parallel, or else at right angles, in the other eye. In most individuals the axis was always the same when tested frequently, daily, weekly, or after some months. Occasionally the axis would change in one person from 90° to 180°, or the reverse, or became more or less oblique when making apparently the same effort to see distant objects. The maximum amount of myopic astigmatism produced was 4 D., and was observed in a man aged fifty-nine years, with normal eyes when he regarded an astigmatic chart at ten feet.

In most eyes with errors of refraction, and in normal eyes with excentric fixation, the axes of astigmatism produced by efforts to see distant objects were not usually constant, and greater variations occurred in the same eye from day to day than was observed in normal eyes. In compound hypermetropic astigmatism the effort to see at a distance always lessened the refraction of sometimes one, sometimes the other principal meridian, or of both. In compound myopic astigmatism, one or both of the principal meridians were always increased. In mixed astigmatism, sometimes the hypermetropic meridian was lessened; in other cases the myopic meridian was increased, and in still others the hypermetropic meridian was lessened, while the myopic meridian was increased.

Symptoms of effort when trying to see distant objects: School children and others usually showed by facial expression that an effort was made—the eyelids were partly closed, or the reverse, more open, staring; wrinkling of the skin of the forehead and eyelids, contortions of the facial muscles, inclinations of the head in various directions, tremor of the head, and movements of the eyeballs resembling nystagmus were observed. Many school children and adults with normal eyes produced temporary excentric fixation, either with convergent, divergent, or vertical squint when trying unsuccessfully to read the Snellen card. The eyes of more than 10,000 school children were examined during the past ten years. The efforts of many to see were so manifest that one could usually tell before the sight was tested that their vision was defective (Figs. 3, 4, 5).

Recently a public school in New York was visited. In one class room of thirty young pupils, the attention of the principal was directed to five children whose facial expression suggested defective vision. She tested their sight and found it poor in all. She proposed glasses. In a few minutes the children were shown how to read the small letters on the Snellen card. They obtained normal vision and required no glasses. The facial wrinkles and evidences of strain disappeared.

About twenty-five teachers listened to a talk on myopia. Most of them showed by their facial expression, wrinkles of the forehead, and strained look of their eyes that their vision was probably defective. They were recommended to read the small letters on the Snellen card. The majority obtained normal vision almost immediately; the wrinkles were lost, and their eyes and faces no longer had the appearance of strain.

H. Cohn (*The Hygiene of the Eye in Schools*, p. 53) wrote: "All oculists agree that protracted near work with a bad light is one of the circumstances most favorable to the origin and development of short sight." My observations did not support this statement.

The near focus of the normal eye was measured objectively with the aid of the retinoscope. When a normal eye read fine print, diamond type, Jaeger No. 1, readily, without effort, at twelve inches, a concave twelve inch glass held outside the visual axis corrected the focus. When the eye read at ten inches it was too weak to correct the focus; and when the print was read at a greater distance than twelve inches, the glass was too strong, overcorrected the focus. Retinoscopy always measured the focus accurately and simultaneously while the normal eye read at 6″, 10″, 20″, 40″, or at any distance the fine print.

When the illumination of the print was lessened sufficiently to make it difficult to read Jaeger 1 at twelve inches, retinoscopy indicated that the near focus of the eye was not increased, but lessened in one or all meridians. No exceptions were found. It occurred in all school children, adults, and elderly people with normal eyes. Usually only one meridian was lessened, the horizontal. The maximum amount was 3 D. The vertical meridian was lessened, exceptionally.

Patients with emmetropia or normal refraction under atropine were examined. When large print was read easily at twelve inches, the eye was focused as in distant vision; but when, because of less light, or the request to read smaller print, an effort was made, one or all of the principal meridians became hypermetropic. It was interesting to note that these same individuals always produced myopic refraction, usually greater in the horizontal meridian, while making an effort to see distant objects; when an effort to see near always produced the opposite refraction, hypermetropia, and greater in the same meridian, the horizontal.

In hypermetropia, with or without astigmatism, one or more of the meridians of the eye were in-

creased by efforts to read by a dim light. In myopia, with or without astigmatism, one or more of the meridians became less myopic. In mixed astigmatism the refraction of the horizontal



Fig. 1.—Reading the Snellen test card with normal vision; optical axes parallel.



Fig. 2.—The same patient making an effort to see the Snellen test card at ten feet by excentric fixation. The patient produced a functional myopia and the left eye turned in.

meridian became either less myopic or more hypermetropic when an effort was made to read fine print. In presbyopia no exceptions were found; an effort to read always produced hypermetropia in one meridian in normal eyes, increased it in hypermetropia, or diminished it in myopia. In diseased conditions, inflammations of the eyelids, cornea, iris, retina, chorioid, and in cataract, an effort to read always lessened the focus.

So decided was the relaxation of the near focus that efforts to read by a dim light were successfully employed in some cases of functional myopia to obtain adjustment of the eye for distant vision after other methods had failed.

The following cases illustrate the effects of effort when reading with difficulty at a near point:

Case IX. A boy with normal eyes, aged nine years, read Jaeger No. 1 easily at twenty inches. A concave twenty inch glass held outside the visual axis corrected the focus in all meridians. When the light was lessened, the print was read with difficulty. Now retinoscopy indicated that the vertical meridian was accommodated as before, but the horizontal was lessened and had become hypermetropic. With the aid of the retinoscope one always knew when the boy read easily or with difficulty. He was also examined after he had been reading two hours by a poor light, leaning over, the book held in his lap. The result was the same.

Case X. A girl, aged twelve years, compound hypermetropic astigmatism, left vision, 10/10 nearly. Retinoscopy, vertical meridian was corrected by convex 3.00 D. and the horizontal by convex 1.50 D. when she regarded the 200 Snellen card letter at ten feet. When she read the twenty line Snellen at ten inches the vertical meridian was corrected by a concave ten inch glass and the horizontal by concave 1.00 D. She read Jaeger No. 1 at ten inches with difficulty; the vertical meridian remained the same, while the horizontal was corrected by convex 1.00 D. The illumination of the page was reduced by a screen. She had greater difficulty in reading Jaeger No. 1 at ten inches when the retinoscope used simultaneously indicated that the vertical meridian was corrected by concave 4. D., or ten inch, while the horizontal was corrected by convex 2.50 D. Retinoscopy indicated that this patient read with difficulty even very large print. An increased effort did not increase the myopic refraction of the vertical meridian, but made the horizontal more hypermetropic than when regarding the Snellen card at ten feet.

Case XI. A girl, aged seven years, left eye under atropine sulphate, one per cent., three times a day for two months, vision normal with convex 3.00 D. S. combined with convex 0.50 D. C. at 90°, the same refraction with retinoscopy. With her correction she read with difficulty large print, Jaeger No. 14, at six inches when the vertical meridian was corrected by convex 4.00 D. and the horizontal by convex 5.00 D., an increase of 2. D. of hypermetropia in the horizontal meridian after an effort to read with the accommodation apparently paralyzed by atropine.

Case XII. A woman, aged seventy-six years, right eye, 20/30, no glass improved, incipient cataract. By retino-



Fig. 3.—Girl with normal vision in 1904. Note the absence of facial effort.



Fig. 4.—The same girl as shown in Fig. 3, five years later with myopia of 3.00 D. Note the elevation of the eyebrows and other manifestations of effort.



Fig. 5.—The same, with myopia increased by voluntary effort to see better the Snellen card at twenty feet. The manifestation of effort is increased.

scopy all meridians were corrected by convex 0.50 D. Regarding the tip of her finger at six inches, the vertical meridian by retinoscopy was measured by convex 2.00 D., and the horizontal by convex 4.00 D. An effort to see distant objects always produced myopic refraction, while an effort to see near objects always produced the opposite, hypermetropic refraction.

Sufficient evidence has been obtained to convince me that near use of the eyes is not the cause of myopia. The cause of myopia is the same in birds, the lower animals, uncivilized man, and school children.

Wild birds have unusually good distant vision; but in captivity they acquire myopia (Casey A. Wood, *Ophthalmology*, Chicago, April, 1907). Uncivilized people have good sight; but after they live in civilized communities they acquire myopia (Risley, *System of Diseases of the Eye*, Norris & Oliver, 1897, Vol. II). Children in the first year of school have normal vision; later, myopia is acquired. The following explanation of these facts is offered:

The uncivilized man is compelled to adjust his eyes for accurate distant vision, for protection against enemies, and in obtaining food. But, when living in civilized communities he is protected from enemies, his food is supplied, accurate distant vision is no longer necessary, he neglects to practise it, naturally loses it, and becomes myopic. Wild birds are compelled to adjust their eyes accurately for distant vision; but, in captivity the necessity ceases, and, because accurate distant vision is no longer required, they neglect it and become myopic. School children do not need accurate adjustment of their eyes for distant vision. When they neglect to practise it they become myopic. To make the matter clearer: When the eyes are not accurately adjusted for distant vision they must obviously be adjusted for a near point and be functionally myopic.

CONCLUSIONS.

1. Myopia is not caused by efforts to read by a bad light.

2. The cause of myopia is an effort, usually unconscious, to see distant objects.

938 St. Nicholas Avenue.

THE CIRCULATION OF THE CEREBROSPINAL FLUID AND ITS BEARING ON THE PATHOGENESIS OF POLIOMYELITIC DISEASE.*

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While engaged in an investigation of the circulation of the cerebrospinal fluid in the living animal (dog), certain phenomena were observed which, it is believed, will be of importance in explaining the pathogenesis of disease of the central gray matter of the spinal cord and brain.

If one inject, into the subdural space of a living dog, over the cerebral cortex, two cubic centimetres of a one per cent. solution of methylene blue and kill the dog after ten minutes, it will be found that the blue coloration is confined to that part of the brain in front of the tentorium. The entire surface of the cerebral cortex on the side of the injection and a small though varying area of the mesial surface of the opposite hemisphere is stained. That is, the fluid diffuses to some extent under the falx cerebri. The cranial nerve sheaths, the subarachnoid space at the base, as well as the cerebellum, pons, medulla oblongata, and cord are unstained. At times the stain may show in the lower horn of the lateral ventricle on the side of the injection, finding its way through perforations in the pia, which admit the anterior chorioid artery. This is in accord with the long known though often forgotten fact that the subarachnoid cavity does not extend over the cerebral hemispheres. Anterior to the tentorium this cavity is present only in the sulci and at the base of the brain, and is continuous with the lymph spaces in the sheaths of the cranial nerves. Between the surface of the cortex of the brain and the dura one may have lymph, especially in inflammatory conditions, but not cerebrospinal fluid.

If the same amount of methylene blue solution is injected under the dura in the cerebellar region, then the entire surface of the cerebellum, pons, medulla oblongata, and upper part of the spinal cord are stained. In addition, the base of the brain, as far forward as the optic chiasm, and the sheaths of the cranial nerves, are stained. So striking is this difference of staining of the cranial nerve sheaths between injection over the cerebral cortex and that behind the tentorium, that one is impressed with the idea that the sheaths of the cranial nerves are the orifices of outlet for the cerebrospinal fluid.

When the methylene blue is injected into the spinal portion of the subarachnoid cavity then a most striking picture presents itself. This experiment is done as follows: The dura over the lumbar portion of the spinal cord is laid bare for an inch or more by laminectomy, so that an injection may accurately be made by means of a fine hypodermic needle without injuring the spinal cord. The animals are killed from ten to twenty minutes after injection by opening the heart. The brain and cord are then carefully removed and the stain is found distributed as follows: The outer surface of the spinal cord is stained for a varying distance up; at times all the way to the medulla oblongata, at other times not so far. The floor of the fourth ventricle, however, is stained, as are the cerebellum, the aqueduct, the entire ventricular system of the brain, the subarachnoid space at the base, as well as the sheaths of the cranial nerves (Fig. 1).

The lower end of the spinal cord is the most deeply stained, as far down as the filum terminale. The spinal nerve roots outside the dura are absolutely unstained. Contrary to accepted opinion, there is no lymph connection between the spinal subarachnoid cavity and the sheaths of the spinal nerves. If, after removing the spinal cord, transverse sections are made all the way up to the medulla and fourth ventricle, the route of the circulation of the cerebrospinal fluid will become visible. It will be found that the central canal of the spinal

*Read before the Research Society of Cincinnati, December 7, 1911

cord, from its lower end to the point where it opens out into the floor of the fourth ventricle, is stained blue. A section of the spinal cord is most striking (Fig. 2). The meningeal surface is stained in its entire circumference. The central canal appears as a dark blue point in the centre of a blue (diffusion)

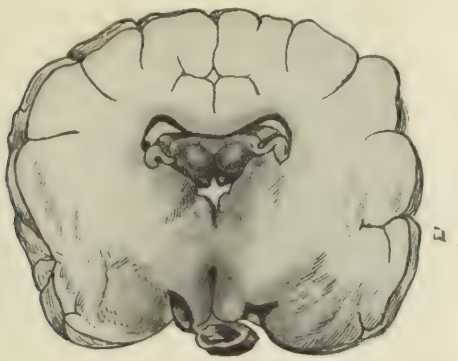


FIG. 1.—Frontal section of the brain of a dog after injection of two cubic centimetres of methylene blue (one per cent.) into the lumbar subarachnoid cavity. The stain is found in the ventricular system and the subarachnoid cavity at the base. Section made at the level of the pituitary gland.

patch in the central gray of the cord, all the rest of the cord being unstained. It is to be remembered that when the stain is injected into the cerebellar region, the central canal is unstained. The blue fluid will pass down the outside of the cord, but through the central canal only from below upward. This is due to the fact that the central canal of the cord is lined with ciliated epithelium, and ciliated epithelium in canals wash toward the orifices of outlet, and these are for the cerebrospinal fluid, the lymph spaces in the sheaths of the cranial nerves at the top of the neural tube. The central canal is said to open into the posterior fissure at the lower end of the cord, and one may see the line of blue most intense at this point, and find it gradually diminishing in intensity as it passes up the central canal. This demonstration of a circulation of cerebrospinal fluid upward through the central canal of the cord to the ventricular system of the brain, if it may be applied to man, will be of great interest.

Available literature on the central canal is very limited. All authors agree that it is open in the lower animals and in young children. In the adult the results of investigation vary. Bidder, Wagner, Shroeder v. d. Kolk, and Stilling hold that the central canal persists in adults. Kölliker found that not infrequently the canal was obliterated in places, most often in the cervical region. Clarke also found the canal frequently blocked. Frommann found the canal open throughout its entire length in three out of twenty-five adult cords examined. In the human adult most of the evidence shows that the central canal is frequently closed at some point, usually in the upper portion. It may, however, persist as a canal, and this may be the explanation for the nine per 1,000 deaths from cocaine lumbar anesthesia. That is, in the presence of an open central canal the drug is carried up to the floor of the fourth ventricle, where it paralyzes the respiratory and other vital centres. Since it is impossible to say in advance when this may be the case, this form of anesthesia should hereafter never be employed. The symptoms of lumbar cocaine (or stovaine) anesthesia speak for the transmission of the drug through the central canal. These patients have a partial motor paralysis, with loss of the sense of pain and temperature. The muscle and tactile senses are not abolished. This disturbance of sensation corresponds to that which is found in syringomyelia, where the lesion is about the central canal. It is here that the cocaine comes in contact with the fibres of pain and temperature sense as they pass upward in the central gray matter. The fibres for tactile and muscle senses do not reach this area and are unaffected by the drug. The cocaine also reaches the motor cells in the anterior horns by diffusion through the gray matter from the central canal.

This is also the probable explanation for the fact shown by Lewandowsky, that the injection of strychnine into the subarachnoid space is followed by great pain, as well as motor spasms. Hans Meyer's experiments with tetanus toxine may be explained in the same way. He found that when tetanus toxine was injected into the subarachnoid cavity, the animals suffered great pain, in addition to motor spasms, and he gave to this condition the name *Tetanus dolorosus.*

This finding is also very suggestive as a possible explanation of the pathogenesis of poliomyelitic disease. It shows how it is possible for a poison to reach the meningeal surface of the cord and the central gray matter, and leave the rest of the cord unaffected. Acute poliomyelitis is a disease of childhood and is also an ascending paralysis. An ascending poliomyelitis also occurs in adults, though more rarely than in children. It is possible that this is due to the fact that in but a fraction



FIG. 2.—Section of the spinal cord after injection of methylene blue into the lumbar sac, showing distribution of the stain to the meningeal surface, and the central canal of the cord.

of adults the central canal exists as an open tube. These are things that must be settled by observation. In all cases of death from poliomyelitis, and from lumbar anesthesia, the condition of the central canal of the cord must in the future be investigated.

It may be stated here that the author is engaged

in an experimental investigation in which it is sought to produce the condition found in acute anterior poliomyelitis by the injection into the spinal subarachnoid cavity of dogs of various poisons. After the injection of morphine, dogs show a motor paralysis of the posterior extremities, sensation remaining intact. This motor paralysis disappears after twenty-four hours. On injecting small doses of dilute hydrocyanic acid, a motor paralysis of the posterior extremities, associated with general convulsions, is produced. The convulsions disappear after an hour; the motor paralysis remain. Such animals have been kept alive for seven days, the motor paralysis persisting, sensation being unaffected. The cords of these animals were removed and will be studied and form the subject for a future communication. It may here be stated that these cords show a degeneration of the motor cells in the anterior horns and a beginning replacement fibrosis.

832 Hutchins Avenue.

HOME OPERATIONS;*

The Burrows Kitchen Table Device.

By Waters F. Burrows, M. D.,
New York.

Since the subject of this communication is solved by many in our profession, both for the benefit of the patient and the skill of the practitioner, there are no radical changes to propose. Surgery is more than ever before depended upon in disease, and with this increasing importance of surgical relief the practitioner comes constantly in superficial but less intimate contact, losing thereby much experience in the early detection and proper treatment of such cases.

Surgeons in general complain of the advanced state of many affections when referred to them by medical men, but to diagnosticate early diseased conditions the latter must obtain the experience that only intimate contact with his cases throughout vouchsafes, and correctly to guide his patient he needs a proper conception of the condition present and a knowledge of the relative dangers of delay and of radical relief. Only personal observation of his surgical cases will give him this information.

It is possible by studying the history, subjective and objective symptoms, and clinical data to diagnosticate early, and generally positively, to exclude other conditions, and, with mature judgment, which in abdominal work reaches its greatest state of perfection only when through operation the living pathology is known, to direct these cases correctly, avoiding often fatal delays, at least preventing too prolonged convalescence and perchance permanent impairment of health.

Operations in the home, which I wish especially to call to your attention, mean increased comfort for the patient, gratifying the natural desire to be at home when sick, avoiding the presence of strangers which is most irksome, and a more rapid and satisfactory recovery is made than when he is transported elsewhere. In addition, there are many abdominal states where the patient will not bear shifting upon chair, stretcher, uneven pavements, and the like to an operating room without spreading

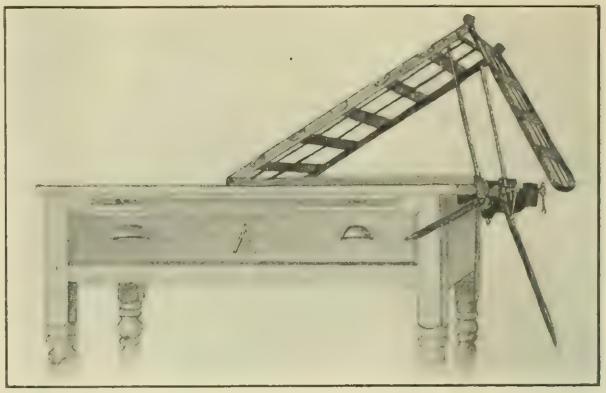


Fig. 1.—Table attachment, showing arrangement for Trendelenburg position, also crank by means of which this part is raised and lowered. In front of ratchet on each side is the socket for leg holders. Floor support telescopes and is sharp on end.

infection when present, or lowering vitality to an extent that jeopardizes chances of recovery.

The family physician, in whom there is the greatest confidence, not a small matter among all concerned, increases his ability to recognize inaugural symptoms, entailing less delay in all cases and markedly so in some, since it may be he alone who can sufficiently influence the sick one to seek early operative relief. His direct interest does not lessen and the relationship to his patient remains undisturbed.

For the surgeon also the advantages are marked. At times it necessitates delays, but the association of a colleague on the case, whose presence is reassuring to the patient, goes far to obviate slight discomforts and will in many instances save postoperative time by making daily visits unnecessary. The frequent custom of having nurses alone observe and report upon these operative cases is often unsatisfactory.

Preparations for major operations in the patient's

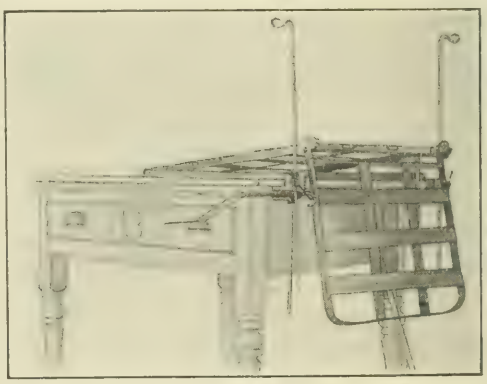


Fig. 2.—Leg holders in position. The foot piece of the attachment (turned down in illustration) may be raised to horizontal position, extending length of a kitchen table or other table two feet.

home must be so made that time is not wasted, and with the writer's cases his office nurse, a woman

*Read before the New York Physicians' Association, January 25, 1912.

with a surgical training, prepares previously the surroundings and the patient. She carries with her a drum, holding sterile materials and a nickelled copper boiler, size eighteen by ten by seven inches (Fig. 1), containing basins, irrigators, preparatory

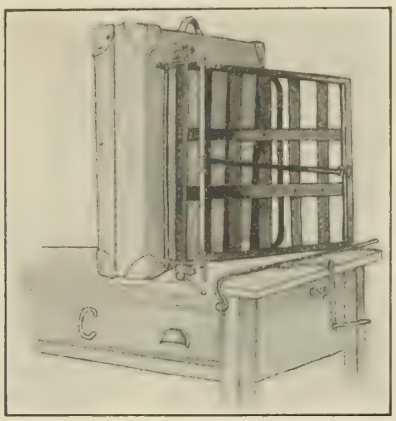


FIG. 3.—Attachment folded up. Size, 28½ x23x4½ inches. Carrying case.

and nonsterile supplies. Upon arrival at the home the boiler is emptied, filled with water, and put upon the stove, so that when the writer comes his instruments may be at once sterilized together with such other material as is required. The dressings, gowns, etc., are sterilized under fifteen pounds pressure in a vacuum sterilizer (Fig. 1) in his office, and kept in the dust proof, air tight drums, size nine by ten inches, already referred to. The writer carries his kitchen table device (Fig. 2) and instruments. With the former the Trendelenburg position is easily obtained.

The kitchen is the room of choice for operative work, provided the light is good or artificial light is to be had. It is more nearly clean that the average operating room, in which all kinds of infections are treated and the pathological bacteria of the latter room are practically absent.

The preparation of the writer's cases consists largely in making ready the skin and alimentary tract, seeing that the heart and lungs are normal, the antitoxic and emunctory organs active, or protected by suitable prophylactic measures, and in administering morphine, one fourth grain, twenty minutes before operation, that is, upon the arrival of the operator.

The after treatment, as described recently by the writer,[1] is largely symptomatic. Stimulants and drugs are avoided as far as is possible. The patient is put back into a bed raised at the head, so that he never lies with his head on the same level as the lower part of his body, and generally by the second, third, or fourth day he is in a sitting position, getting up and around upon the sixth or seventh day after abdominal section. Saline instillations per rectum are used after most laparotomies.

The preparation of the surgeon and his assistant consists in stripping to the waist, putting on a rubber apron, and applying a mouth mask, then thoroughly scrubbing hands, forearms, and arms to the shoulders, using an orange stick for the finger nails and finally lime and soda for the nascent germicidal chlorine freed. When thoroughly prepared (a matter of eight minutes' careful attention), the parts cleansed come in contact with nothing but absolutely sterile material. A gown is donned, but its tying is done upon the back by an assistant. Gloves are worn in all abdominal operations.

Regarding the conditions which can with preference be treated surgically in the home, the assumption is that by this method of thorough cooperation between physician and surgeon, early diagnoses and favorable cases for quick recovery will make up fully ninety per cent. of the work, whereas at present at least one quarter and more of the abdominal cases are further advanced than ideal conditions would justify. In this large proportion of the cases will be found congenital deformities (pyloric stenosis, atresia recti, congenital dilatation of the colon, etc.), gastroptosis, cecoptosis, coloptosis, cases of diarrhea demanding cecostomy or appendicostomy, constipation necessitating sigmoidopexy, or rarely if ever ileosigmoidostomy or colectomy, cholecystitis, gastric and duodenal ulcer, appendicitis, tuberculous and other infections of the gastrointestinal tract, together with benign and some malignant neoplasms, and practically all of those demanding colostomy, intussusception, volvulus, adhesions and angulations of the intestines, gynecological and many genitourinary states, hernias, and in fact most other conditions.

Hemorrhoids, anal fissures, and ulcers, most fistulas, many severe cases of pruritus ani, and the vast majority of other minor rectal troubles are radically cured by operative measures performed in

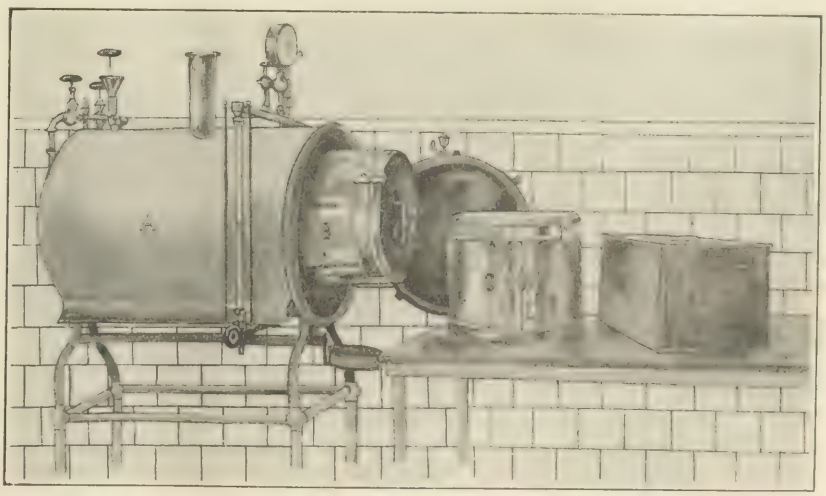


FIG. 4.—*A*, steam vacuum sterilizer; *B*, drum for sterile dressings; the holes admitting steam to its interior are uncovered by the band of metal which encircles the drum; *C*, drum for sterile dressings, the holes here being covered, making the carrier air tight and dust proof when the lid has been clamped down; *D*, the metal band surrounding the drum (showing width); *E*, the clasp which, by a leverage action, tightens the band, fixing it in place; *F*, nickelled copper boiler.

[1] Causes of Postoperative Complications and Early Voluntary Muscular Movements, with the Avoidance of the Usual Confinement to Bed as a Means of Combating Them. *New York State Journal of Medicine*, December, 1911.

the office. General anesthesia is not required, the local anesthetizing of the parts preventing pain and after pain more than slight discomfort, which indeed is absent in cases of internal hemorrhoids, simple bleeding, prolapsing, ulcerating, or otherwise, necessitating thereby no laying up of the patient.

In view of the ease with which the home is prepared for operative work, the slight trouble entailed upon the family, and the comfort of having the patient, especially during convalescence, near them, the attainment of the Trendelenburg position upon any table through means of the writer's device, the lack of danger in most instances of proper surgical procedures, the modified postoperative treatment, whereby discomfort is at a minimum, the probability of a rapid recovery, and the risk that many cases run in transportation, the majority of operative procedures, other things being equal, should be performed at the home. The room selected is but for a short time transformed and, with pleasing surroundings recovery is hastened and the outcome is more to be commended on account of the close relationship held throughout by the practitioner, who not only directly follows his case, increasing his diagnostic astuteness, but also retains the confidence and highest esteem of his patient.

40 EAST SIXTY-SECOND STREET.

MODERATELY CONTRACTED PELVIS AND INDUCTION OF LABOR,

BY ELLICE McDONALD, M. D.,
New York.

(Concluded from page 479.)

RESULTS OF METHODS.

It will be also noted that the weight bears a fairly definite relation to the size of the head. This is of use in checking up the size of the pelvis, as shown by the author's rule for the duration of pregnancy. As, for example, with a fundal measurement of 35 cm. and an occipitofrontal measurement of 11.50 cm., it can be safely estimated that the fetus is of normal size, 3,300 grammes. In this way it is possible to use the fundamental measurement and estimated weight as a check upon the cephalimetry with particular accuracy for the purpose of finding this ratio.

These methods have been in use in my hands for seven years and continue to give good results. In all I have measured eighty-four heads before and after delivery. In sixty cases, the occipitofrontal diameter was correctly estimated; in seventeen cases there was an error of 0.25 cm. and in six cases there was an error of 0.5 cm.; and in one case there was an error of 0.75 cm. This last case was not a fair test, as the head was well in the pelvis and could not be properly reached. Skill and practice are decided factors, but the method is soon learned.

A FEW SELECTED CASES REPORTED.

CASE I. II para, four years married. First baby stillborn after forceps. Second baby dead after forceps. Pelvis generally contracted. Diagonal conjugate 11.20 cm. True conjugate 9.50 cm. Fundus and head were measured from time to time during last weeks of pregnancy and labor induced two and one half weeks before term. Fundus 33 cm., occipitofrontal estimated 11.25. Child weighing six and three quarter pounds delivered by forceps with an occipitofrontal diameter of 11.25. Sixteen months afterward this woman was delivered of a second living baby by induction of labor and prophylactic version. She had delayed this time several days over the appointed time for induction, with the result that the child was four ounces larger than planned. The occipitofrontal was correctly estimated at 11.50. Owing to her delay, the child weighed seven pounds four ounces with 11.50 occipitofrontal and 9.50 biparietal. This woman thus had two living children after having had two dead babies.

CASE II. Primipara, age twenty-five years, with a mitral stenosis and regurgitation, flat pelvis with 9 cm. true conjugate. Labor was induced when the fundus measured 32 and the occipitofrontal 10.75. This was three weeks before estimated term. She was delivered after an easy labor of a child weighing six pounds with a 10.75 occipitofrontal diameter and a 9 cm. (as estimated) biparietal. A severe labor would have endangered this patient.

CASE III. Primipara. Flat pelvis. True conjugate 9. Labor induced when fundus was 34 cm. and occipitofrontal 11.25 cm. Delivered of a 3,100 gramme child with occipitofrontal 11.25 cm. and biparietal 9 cm.

CASE IV. II para. First child dead after forceps. Flat pelvis, true conjugate 10. Labor induced at term when she came under observation. Fundus measured 38 cm., estimated occipitofrontal 12 cm. Delivered after a



FIG. 4.—Trial descent of the head into the pelvis. Müller's method.

tedious labor of a 4,000 gramme child, occipitofrontal 12, biparietal 9.75.

CASE V. Colored I para. Generally contracted pelvis, true conjugate 9.5 cm. Labor induced when she came under observation. Fundus 38 cm., estimated occipitofrontal 11.75 cm. Delivered by hand forceps operation of a 4,000 gramme child with occipitofrontal 11.75 and biparietal of 9.25 cm.

CASE VI. I para. Flat pelvis, true conjugate 8.5 cm. Labor induced when fundus measured 33 cm. and estimated occipitofrontal 11 cm. Delivered by medium forceps of 2,925 gramme child with 11 cm. occipitofrontal and 8.5 biparietal.

CASE VII. IV para. Three dead babies previously—two craniotomies and one version. Flat pelvis 8.75 cm., fundus 38.5 cm., estimated occipitofrontal 12.5 cm. As it was seen that there was a child too large for the pelvis, Cæsarean section was done and a baby delivered weighing 4,100 grammes and with occipitofrontal 12.5 cm., and biparietal 10 cm.

CASE VIII. I para. Generally contracted pelvis, true conjugate 8.5 cm. Fundus 37 cm. Estimated occipitofrontal 12 cm. Cæsarean section, as child was too large. Weight 3,750 grammes, occipitofrontal 12 cm., biparietal 10 cm.

CASE IX. I para. Generally contracted pelvis, true conjugate 9 cm., estimated occipitofrontal 12 cm. Cæsarean section, as child was too large—weight 3,500 grammes. Occipitofrontal 12 cm., biparietal 9.5 cm.

These selected cases give some idea of the course of the measurements. In all, they have been used in thirty-one cases of contracted pelves as a basis of treatment; five of these cases were Cæsarean sections in which the measurements were confirmed.

TRIAL DESCENT OF THE HEAD INTO THE PELVIS.

In addition to these methods of measurement, an attempt is made to estimate the size of the head in

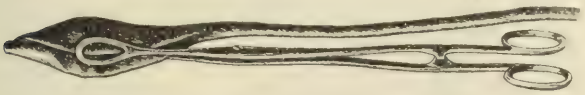


FIG. 5.—No. 3 de Ribes bag, rolled up ready for insertion into the cervix.

relation to the pelvis. This was done by the Munro-Kerr modification of Müller's method and consists in attempting to force the head into the pelvis by a grasp above, while the lower hand in the vagina gauges a descent of the cephalic pole. Munro-Kerr's modification consists in holding the thumb above the brim of the pelvis as well as the fingers within the vagina.

COMBINATION OF METHODS NECESSARY.

By the use of these three methods it is possible to gain a reasonably sure idea as to the size and weight of the child before labor and so to form some idea of when labor should be induced and what the course of treatment should be. It should be remembered that the average sized child measures 35 cm. fundal measurement, weighs 3,300 grammes and has a biparietal diameter of 9.10 cm., and with this as a starting point, the time of induction is easy to reckon for any known pelvis. These figures are based upon my own measurements. My plan is to measure the fetal head and uterine fundus from week to week before labor, and so decide when induction should be done. This should be when the estimated biparietal is a trifle smaller than the true conjugate.

These methods require some experience and some patience. A combination of the methods gives the

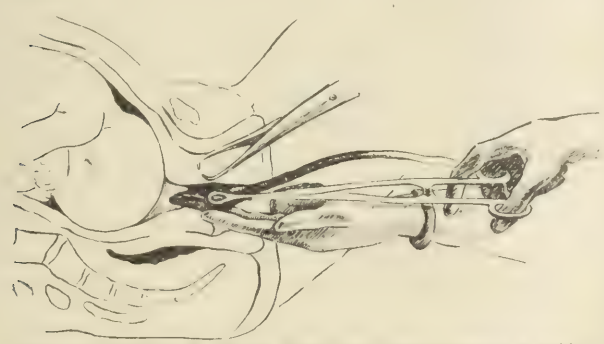


FIG. 6.—Insertion of the de Ribes bag: fingers used as a guide and as a speculum.

best results: he who depends upon one alone will be deluded. The interruption of pregnancy need not be earlier than the amount of contraction requires, and the child need not be exposed to the risks of unnecessary prematurity. It is but seldom advisable to induce labor more than four weeks before term, as then the child would be below the minimum weight, 2,500 grammes, for good results. A child of this weight has an average biparietal of 8 cm., the lowermost limit set for induction of labor, 8 cm., true conjugate.

Watchful attention and careful measurements in the last weeks of pregnancy avoid the dangers of prolonged pregnancies and large babies, because the size and growth of the child are measured and recognized. Induction may then be done in time. Large babies give more trouble in moderately contracted pelves than does the size of the pelvis. All normally sized babies should be born through a true conjugate of 9.25 cm., equal to the average biparietal diameter, but the big fellows give the trouble. The day will come when a ten pound baby will become an accusation to the accoucheur instead of a boast to the parents.

The head of a large baby is much firmer, harder, and more difficult to mould than that of a small

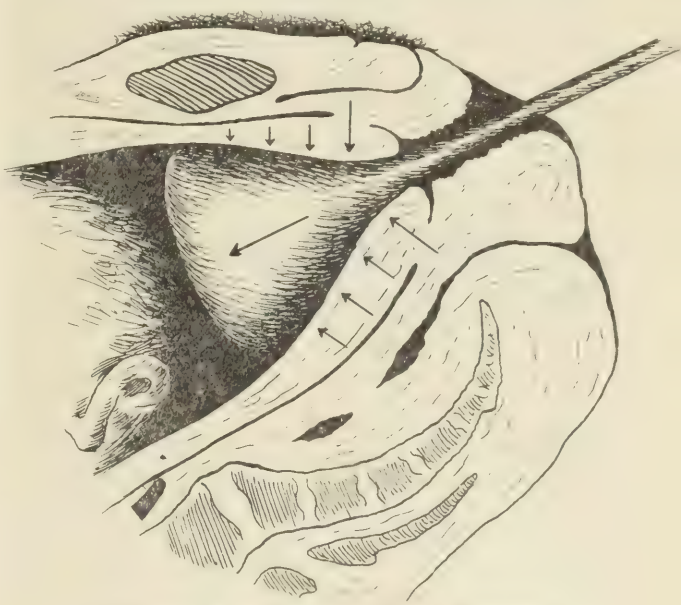


FIG. 7. Bag after insertion and water dilatation.

baby. This alteration in the consistence of the fetal skull of the large child accounts for the trouble he causes even more than does the increase of the diameters of the head. It is this fact that is responsible to a large extent for the success of induction of labor in contracted pelves of moderate degree.

ALTERNATIVE METHODS.

The treatment of contracted pelves by other methods shows a large mortality. Cæsarean section, the popular operation of the day, is vaunted as being almost without mortality; yet, my collection of 3,000 operations, done under modern aseptic conditions in the last twenty years, shows a mortality for the mothers of seven per cent. In this I have only included series of five or more cases in order to be sure that the operators had reasonable skill. It is true that the greater part of the mortality comes in cases which, with ruptured membranes, had repeated examinations or attempts at forceps delivery, the so called "suspect" cases. Thus, in Routh's

collection from the British Empire, there was a mortality of 2.9 per cent. in the Cæsarean section with intact membranes and 17,3 per cent. in the operation after rupture of the membranes and repeated examinations or attempts at delivery with forceps. While this is true, the gross mortality of the operation must be considered, and it is not fair to pick and choose in regard to the estimation of the mortality.

It is difficult often in reports of Cæsarean sections to arrive at the correct mortality, so concealed are the deaths by excuses of accident, unavoidable happenings, or diseases not due to the operation. The true percentage of mortality in any operation is the total number of deaths following that operation, and it must be so reckoned in order to have an exact estimate. Any one who attempts to dig this out from the labyrinth of confused reports and obscure tergiversations has my sympathy.

However, in contracted pelves of moderate degree with the very large percentage of spontaneous deliveries, there is no excuse for doing a primary Cæsarean section, save when the child is known to be too large. Thus, Cæsarean sections, in the moderate degree of contraction, must be secondary operations, because the large percentage of spontaneous deliveries in this class makes it only fair that the woman have an opportunity to deliver herself, and so the delivery, if by section, would share in the larger mortality of secondary operations.

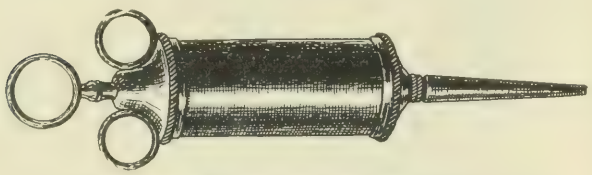


Fig. 8.—All metal syringe which can be repeatedly boiled.

The absolute indication for Cæsarean section should be a true conjugate through which it is not advisable to attempt pelvic delivery. This true conjugate is 7.5 cm. In this class, Bürger gives nine per cent. of pelvic deliveries, but the child is so small that there is not a great chance of its survival. With large children, the indication for Cæsarean section may be enlarged; but, if the case is seen in the last weeks of pregnancy and before the child has grown too large, induction of labor should always be considered. The ease of its performance deludes surgeons into the belief that Cæsarean section is a simple procedure.

It must be remembered that the mortality among Cæsarean section babies is considerable. In the collection of 3,000 cases, the maternal mortality was seven per cent. and the immediate fetal mortality four per cent., with no record of those dying in the puerperium. In 197 Cæsarean sections done in the New York Lying-In Hospital, the maternal mortality was sixteen per cent. and the late fetal mortality eighteen per cent. So it may be considered that induction of labor in selected cases will give as good results for the child, and is very much safer for the mother.

The alternative operation of hebosteotomy (pubiotomy) has still to prove that it is to be a permanent obstetric procedure. Those who are familiar with the literature at the time when the operation of symphysiotomy, now abandoned, was saluted with a chorus of praise as solving all obstetrical problems, will consider the new procedure with scientific caution. Whether pubiotomy is to find a permanent place remains for the future to decide. In any case, it will be an emergency operation of use when the disproportion between the head and the pelvis is found to be unsurmountable after a trial of the spontaneous forces. Its use will be in pelves with a true conjugate of 7.5 to 8.5 cm. It may be used in conjunction with induction in pelves above 8 cm. However, in spite of its enthusiastic admirers, the report of 664 collected cases by Schläfli make for caution. The maternal mortality was 4.82 per cent., and the immediate fetal mortality 9.18 per cent. The bladder was injured in twelve per cent. of cases, and in 4.77 per cent. there was permanent incontinence. It is a mutilating operation, and mutilating operations in obstetrics should be avoided upon general principles. However, it will probably be eventually proved that that operation, as an emergency procedure, will have a place in the treatment of that class of contracted pelves which is too small for induction of labor and too large for Cæsarean section, namely, pelves from 7.5 to 8 cm.

INDUCTION OF LABOR.

Induction of labor is done by many methods. The best of these is by the insertion into the uterus of the Champétier de Ribes rubber bag or hystereurynter. This may be conveniently inserted without an anesthetic, save in very nervous primiparæ, when a little chloroform may be needed. This, however, after skill is acquired, is the rare exception.

The patient should have a dose of castor oil and ten grains of quinine the evening before induction. A douche of some nontoxic antiseptic which does not coagulate albumen is usually given, and the vulva is cleansed and shaved as if for operation. The patient is put across the bed with her legs upon the operator's knees, as he sits in a chair. The cervix is grasped with a volsellum forceps and the os is explored with the finger to see that it will admit the rolled up No. 3 bag (Fig. 6). The os will usually do so; but, if not, it may readily be dilated with the steel dilators. The rolled up rubber bag is then passed along the fingers, which are used as guides to the uterus and as a speculum, by pressing downward and backward upon the perineum. The bag is thrust slowly into the uterus until the greater part has passed the external os. Care should be taken not to rupture the membranes. With the under finger held against the closed bag to prevent its being forced out and the cervix steadied by the volsellum, the forceps on the bag is slowly removed and withdrawn. The bag is then filled with sterile water from a large (eight ounce or more) syringe, which has been previously filled. The bag will then slip away from the sustaining finger and pass into the uterus. A sterile (Irish moss) lubricant is a useful adjunct, and makes the manipulation less painful. The whole procedure

may be easily done alone if the operator is skillful in doing three things at once and has a short-handled tenaculum which may be managed with one hand. Some prefer to insert the bag through a Goodell's bivalve speculum, but the fewer instruments in the vagina, the more room.

The danger of the induction is prolapse of the cord or an arm following upon rupture of the membranes. This accident will be rare if the head is not displaced while the bag is rolled up, but the bag placed against the head and allowed to raise the head by pressure of the water. In this way, if the head is displaced, the room is immediately taken by the filled bag, and the cord cannot come down.

The bag is filled until it is tense, which is judged by the finger placed at the os; the tube is tied and protected by a sterile towel. The patient is then allowed to walk around and pray for labor pains.

Labor begins in a very variable time. If the uterus is tense before the bag is inserted, labor often begins within an hour or two, but if the uterus is lax, labor is often delayed for some time. The bag may be pulled upon every half hour or so, but it is not advisable to tie any weight to it. The average time before pains begin is about six hours.

A recent discovery of the specific effect of the extract of the pituitary gland upon uterine contraction promises to be an aid in the stimulus of labor pains. Stern and other German writers report that pituitrin in hypodermic doses of 0.5 to one c.c. and repeated, if necessary, has no bad effects, and has a distinctly stimulating effect upon uterine contractions. I have used this only in a few cases so far, but, from the German reports, it promises to be useful.

Other methods of induction are used by other operators. Variously shaped bags have been devised, but none are as satisfactory as the de Ribes. Those bags depending upon the hydrostatic pressure itself for the dilatation are dangerous. The insertion of a bougie has many advocates. Kroemer, in a report based upon ninety-two cases, found that birth took place twenty-four to forty-eight hours after the bougie and only fifteen hours after the de Ribes bag. The bougie should be kept for cases in first months of pregnancy, where labor is induced for systemic disease and a viable fetus is not expected. The use of a large bougie or small rectal tube only accentuates the disadvantages of the instrument. Von Herff advises rupture of the membranes alone for induction, and reports good success in 100 cases. The average length of labor was twenty-six and a half hours. Contraction began within twelve to twenty-four hours. Only seven of his 100 women had slight fever; one died from uterine rupture, following version.

FURTHER COURSE OF LABOR.

After the pains have begun and the bag is expelled into the vagina, it should not be removed too soon, as its presence in the vagina seems to excite contractions. The attitude of the obstetrician should be one of expectancy. The application of forceps should not be attempted until the head is well within the pelvis. The use of forceps to drag the head into the brim and overcome bony resistance is associated with a high fetal mortality. Version, so called "prophylactic version," is suitable to a very few cases of flat pelves and, unless done in carefully selected cases, is accompanied by a high fetal mortality. Having induced labor, the best thing to do is to wait patiently until the child is born, or until some very decided indication for the life of the child requires version or forceps. But expectancy gives the best results. Munro-Kerr, for example, reduced the fetal mortality of forceps in contracted pelves in his clinic from twenty-seven per cent. to four per cent. by making a rule that there must be very decided indication for hastening the delivery.

If these precautions are taken and these rules followed, induction of labor will be found a very satisfactory operation, provided the child may be watched and labor induced at the most auspicious moment. It will be found particularly satisfactory in women who have a tendency to large children and who have lost their first child; but it will, if intelligently advised, be equally useful in primiparæ.

CONCLUSION.

Induction of labor is suitable treatment in contracted pelves of moderate degree, provided the size of the baby be estimated by measurements of the uterine fundus and fetal head and by the relation of the fetal head to the pelvis.

Labor may then be induced at the most suitable moment, so as to get the largest sized baby that will pass the pelvic strait and avoid unnecessary prematurity. It is essential that mothers be examined at least four weeks before the expected labor in order to estimate the proper time for induction.

The lowest limit of pelvic contraction, suitable for treatment by induction of labor, is 8 cm. true conjugate, as this will allow the birth of a 2,500 gramme (five and three quarter pounds) baby, with an average 8 cm. biparietal diameter. This weight of baby avoids the dangers of unnecessary prematurity and has a mortality but little more than the average. Better results are obtained with pelves larger than this, but this is the lowest limit.

If the child is measured in all cases by the methods of the author, the dangers of prolonged pregnancy and overweight babies will be avoided, because they will be recognized and may be treated.

Cæsarean section has a mortality in 3,000 cases of seven per cent. and should be reserved for cases with pelvic contraction through which it is not advisable to have a baby pass (below 8 cm.), or to cases in which the child has already grown too large to pass through the moderately contracted pelvis. In these cases it may be done as a primary operation and the mortality reduced.

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174 West Fifty-eighth Street.

SIGNIFICANCE OF THE GROUP OF HEMOPHILIC BACILLI IN CONJUNCTIVITIS, ESPECIALLY IN THAT OF TRACHOMA.*

By Anna Wessels Williams, M. D.,
New York.

(From the Division of Laboratories, Department of Health, New York City; Director William H. Park, M.D.)

During the past year and a half, ten workers have been grouped in the health department for the purpose of studying trachoma and allied conditions from all standpoints, but especially from that of the public school children of New York city. These workers have been advised and encouraged most helpfully by Dr. William H. Park, Director of Laboratories. The paper to-night is a report of one phase of the work—a part of the bacteriological study—and emphasizes only two points.

From the important papers of Doctor Noguchi (1) and Doctor Noguchi and Doctor Cohen (2), read before this society in 1910-11, we have had a good opportunity of learning of some of the recent work that has been done on the etiology of trachoma; how certain epithelial cell inclusions, which have been found in large numbers in the acute papillary stages of the disease, are considered by the majority of the many students of this subject to be the cause of trachoma. Noguchi and Cohen believe that these inclusions are an accompanying infection; Wolbach and McKee (3), Addario (4), and a very few others think they are degeneration products of the epithelial cell; while Hertzog (5) and a few others think they are involution forms of the gonococcus.

From time to time in the history of trachoma investigations, the assertion that the gonococcus is an etiological factor in trachoma has been made. In order to find out whether or not the gonococcus had anything to do with the trachomatous eyes of school children, and at the same time to make a more comprehensive bacteriological study of these eyes and to continue the investigations of the trachoma inclusions started by C. R. Gurley and J. Chase in our laboratory in 1910, this part of the study was planned. An eye clinic was established in the research laboratory, with Doctor Wootton, the department's ophthalmologist, in charge, assisted by Doctor Von Sholly, Miss Gurley, and others of the group.

A history and a minute record of the course of each case has been kept by the folder and card index system. All of the charts and chart holders for the work, as well as a certain amount of money for the car fare of those children living at a distance and too poor to pay, were presented by the Committee on the Prevention of Blindness of the Sage Foundation. These aids were most helpful to us in getting quickly and satisfactorily into the work.

Following the course for so long a time of such a large series of cases of all types of conjunctivitis by full written records has seldom, if ever, been done before. It has allowed us to make the column of recovering cases seen in Table I and to trace a certain number of cases from acute catarrh through a series of attacks to papillary trachoma with typical inclusions. Tables showing the course of the cases will be given in the full report at a later date. We mean to keep track of the cases of trachoma which we have recorded as cured, with the exception of a mild folliculosis, in order to determine if possible whether subsequent symptoms of trachoma are the result of an exacerbation or a reinfection.

In our clinic, after the minute description of the eye condition was recorded, in each new case, and from time to time in some of the older cases, a light curettage of the palpebral conjunctivæ was made, then a sterile cotton swab was rubbed over the curetted areas, and placed immediately into a tube of ascitic broth, which was taken at once to the laboratory, where part of it was planted on a series of culture media plates, including glucose ascitic agar, blood agar, and plain alkaline veal agar. All were then placed in the incubator at 36° C., and were examined within twenty-four hours, and later when necessary.

From one case among the first growth Miss Wilson found a few gonococcuslike colonies on glucose-ascitic agar and on blood agar. These were fished, and were found to be a tiny, Gram negative bacillus which was strictly hemoglobinophilic. Since then, rabbit blood broth, instead of ascitic broth, has been used for the cultures taken directly from the eye, since this medium is better for the tiny bacillus and equally good for the gonococcus. The blood broth acts as an enriching medium in those instances—and they are not few—where there is no growth on the original plates. After about twenty-four hours in the incubator, the blood broth in practically all the acute papillary trachoma cases (Table I) has shown an abundant growth of the little bacillus, and blood agar plates made at this time from the blood broth culture generally have given many typical colonies. This tiny bacillus in blood broth grows in small and large compact groups which, after Gram, counterstained by fuchsin, appear under the low power as small granular masses taking a brilliant red stain. Under high power (x 1,200 diameter) the individual bacilli show about the edges. The individual bacillus does not show so brilliant a stain. Stained by Giemsa, *these small groups of bacilli have morphology and staining characteristics very similar to those of some of the trachoma inclusions.* Our attention was thus early directed to the question of the identity of the two. I shall speak of this a little later.

*Read at the New York Pathological Society, January 10, 1912.

In looking up the literature on hemoglobinophilic bacilli found in eye diseases (Table II), I was surprised to find that most investigators say that the influenza bacillus is found rather infrequently—with the exception of Müller's series of cases—and that the Koch-Weeks bacillus is found practically only in acute conjunctivitis, *and that it grows better on serum agar than on blood agar.* Müller (6) found in a large percentage of his acute trachoma cases in Egypt a tiny bacillus which he could not differentiate from the influenza bacillus, though he thought it was another species, since there were no known cases of influenza about.

In Manila recently Edwards (7) found in a few cases of trachoma a minute Gram negative bacillus which was a strict hemoglobinophile. He called it *B. trachus,* and suggested that it might produce the trachoma inclusions.

A few authors—Kamen (8) and others, maintain that the Koch-Week bacillus is a strict hemoglobinophile and that the cultural work of those who assert otherwise is open to criticism.

So we had first before us the problem of the relationship of our bacillus to the influenza and the Koch-Weeks bacillus.

After carefully examining a series of clinically typical "pink eye" and getting an abundant, practically pure growth of a bacillus similar in general to the one we were isolating from our papillary trachoma cases, we were forced to the conclusion that those who consider the Koch-Weeks bacillus a strict hemoglobinophile are correct. The word hemophilic, therefore, in Table II and in the title of this paper, should be changed to hemoglobinophilic. Furthermore, in this series of cases of "pink eye" we found that the size of the bacillus in the direct smear of the exudate varied from coccus forms to comparatively long forms, while the pure cultures did not always vary correspondently, hence we cannot consider the point of size in the direct smear of worth in differentiating Koch-Weeks and the influenza bacillus (see Table II). It was surprising to us to find in the direct smear from several of the cases of "pink eye" so few distinct bacilli, though the culture plates showed an abundant growth. In these smears and in the direct smears from our trachoma and follicular conjunctivitis cases, where the tiny bacillus was found almost invariably, we found no recognizable bacilli within the leucocytes, while we found the groups lying within the cells for the most part scattered and atypical—corresponding frequently to Lindner's extracellular "initial bodies," found in his cases of trachoma.

It has been stated that trachoma gives no constant bacteriological findings. In order to get further evidence on this point, that is, to find whether or not the tiny bacillus we were finding so constantly in our cases of papillary trachoma was present in the cases direct from other countries, we are examining at Ellis Island, through the kindness of Doctor Stoner, chief medical officer, and of his assistants, cases of typical and doubtful trachoma in the immigrants. We have already examined sixteen cases, in three of which with marked papillary trachoma both hemoglobinophilic bacilli and trachoma inclusions were found. In four border line cases and two follicular conjunctivitis cases, only bacilli were found, while in seven recovering cases no bacilli were found, and only a few inclusions in three of these. Thus, so far, these findings correspond with those in our school children.

We have isolated, in all, 128 strains of a hemoglobinophilic bacillus from our series of 213 cases (Table II)—and we have as yet not been able to find any distinct differential points between any of them or between our strains and those of *B. influenzæ* as described by others or as studied by us. Two strains of *B. influenzæ* kindly sent us by Doctor Wollstein have been studied with our cultures.

It is true that certain of our strains show small peculiarities which seem to be holding through many culture generations, such as greater tendency to thread formation, more marked pleomorphism, large or small size, etc., but so far we have found no distinct relationship between these characteristics and the clinical picture. We are compelled, therefore, for the present to group all of these bacilli with the influenza bacillus.

Doctor MacNeal and Doctor Povitzky are studying complement deviation of the group, but so far have encountered little but difficulties. Miss Mishulow is getting some interesting results with symbiosis studies, but at present they can be used practically only to show some of the difficulties in the way of demonstrating and of isolating the little bacillus. Staphylococci seem to have a decidedly inhibitory action on the growth, especially in blood broth, while certain nonhemolyzing streptococci favor the growth slightly, and the xerosis group shows a markedly favorable action. On nonblood media, growth has been obtained so far only with the xerosis bacillus.

The fact that the staphylococcus inhibits growth may account in part for negative results in some of our apparently recovering cases where staphylococci were in abundance.

I said that early pure cultures show a resemblance to some trachoma inclusions. These early cultures show many forms similar to Lindner's initial bodies, and smears taken daily from the same culture and stained by Giemsa show morphologically a similar cycle of development to that described by Prowazek and others, especially by Lindner (9), in 1910, for the famed chlamydozoa of trachoma or the trachoma inclusions. In other words in the culture of the tiny hemoglobinophilic bacillus we have, morphologically, a culture of the trachoma inclusions. Thus we have, first, tiny coccuslike or short bacillar bodies taking a clear blue stain, and later the appearance of very tiny metachromatic granules within these blue bodies, then the gradual disappearance of the blue bodies, leaving a mass of metachromatic granules. I have placed under the microscopes some initial inclusions and a more developed included form from a case of papillary trachoma, also smears of a culture from the same case made after two, three, and five days' growth on blood agar and you can readily see for yourselves the striking resemblance between the two, a resemblance still more striking when many smears and cultures are examined.

That the epithelial cells of the conjunctiva may take up bacteria is a well known fact, but nobody before has, to my knowledge, followed the cycle of

development of the bacteria within the epithelial cells, and no one has recognized the possibility of any of the group of hemoglobinophilic bacilli, found by us so frequently in trachoma, having the power to grow in the epithelial cells, except Edwards, who merely suggested that the bacilli which he found might produce the trachoma inclusions.

In most cases of blenorrhea, gonococci are found in the conjunctival epithelial cells, and since these organisms in pure culture pass through a cycle of development somewhat similar to that of the hemoglobinophilic bacillus, that is, the production ultimately of masses of metachromatic granules in the cultures, with the gradual disappearance of the blue staining organisms, there is reason to suppose that they too may form inclusions, especially in certain cases, though this is a subject which needs much further study in connection with a bacteriological study of gonorrheal and nongonorrheal ophthalmia neonatorum.

In none of our school children cases so far have we found gonococci. While the two facts which we wish to emphasize in this paper, namely, first, the finding of our tiny bacillus so uniformly in our cases of papillary trachoma, where we have found, too, the trachoma inclusions (Table I), and, second, the morphological similarity of the two, lead us to conclude that bacillus and inclusion are probably identical in papillary trachoma, and hence that the bacillus is probably the cause of the disease.

The hypothesis that one or more of the group of hemoglobinophilic bacilli is the cause of trachoma explains many other hitherto unexplainable phenomena of this disease: 1, Its irregular onset; 2, its insidious course; 3, its variable contagiousness with its exacerbations of secretion; 4, the continued presence of trachoma in certain districts where helping causes are present, etc. Naturally suitable monkey inoculations would in all probability be all that is necessary for proof or disproof.

It is, to say the least, a very good working hypothesis. For it means practically that all cases of secreting conjunctivitis, however mild, should be looked after until all secretion has ceased. With organisms of this type which presumably may lose their virulence quickly under favorable conditions, sufficient oversight of cases gives great hope of getting rid of dangerous carriers.

On the strength of these results we are strongly advocating, and trying to get established special mixed classes for the school children who are now being sent to school with very slight secretions while receiving treatment at clinics. The Board of Education has the plans under consideration. We are also advocating more minute home inspection and instruction, and we are hoping for help in this part of the work from organizations whose work lies in these directions.

To lessen the disease among our immigrants, our immediate hope is the establishment by the ship companies of more prophylactic measures on board ship. With arrangements for the isolating of *all* secreting eye cases, and the helping to keep *all* eyes clean by boric acid solutions, etc., the immigration bureau at Ellis Island would in all probability not need to deport, as they do now from time to time, a whole group of patients with acute papillary trachoma.

With these measures established, if our hypothesis is correct, we can hope in a reasonable time to have trachoma under control, if not practically stamped out.

TABLE I.

Showing Relative Occurrence of Hemoglobinophilic Bacilli and Trachoma Inclusions in Author's Series of Cases.

Trachoma.																	
Acute			Old			Recovering			Acute conjunctivitis.			Follicular conjunctivitis.			Folliculosis		
No. of cases.	Bacilli.	Trachoma inclusions.	No. of cases.	Bacilli.	Trachoma inclusions.	No. of cases.	Bacilli.	Trachoma inclusions.	No. of cases.	Bacilli.	Trachoma inclusions.	No. of cases.	Bacilli.	Trachoma inclusions.	No. of cases.	Bacilli.	Trachoma inclusions.
41	+	+	9	—	—	23	—	—	4	—	—	9	—	—	11	—	—
5	+	—	6	+	—	7	+	—	12	+	—	15	+	—			
1	—	+	9	—	—	14	—	+									

TABLE III.

Showing Frequency of Hemoglobinophilic Bacilli in Author's Series of Cases.

Diagnosis.	Number of cases examined.	Number of cases showing bacilli.
Acute conjunctivitis ("pink eye," etc.)	47	38
"Trachoma"—		
Acute papillary conjunctivitis	47	46
Old and recovering cases	68	13
Follicular conjunctivitis	40	31
Folliculosis	11	0
Total	213	128

TABLE II.

Showing Several Points in Group of Hemophilic Bacilli as Noted in Published Reports.

	Where found							Differential points		
	Human beings						Lower animals, genito-urinary.			
Names.	Eye.	Ear.	Respiratory tract.	Meninges.	Genito-urinary tract.	Other locations.		Size.	Hemoglobin.	Pathogenicity, lower animals.
B. influenzæ (Pfeiffer)	+	+	+	+	+	+		short	+	−
B. of Müller	+							short		
B. of Koch-Weeks	+		+					longer	−	—
B. trachus (Edwards)	+							short	—	
B. of Davis (10)					-			short	—	—
B. hemoglobinophilus canis (Friedberger) (11)							—	short	-	--
Hemoglobinophilic bacilli in author's series of cases	+				-			short / longer	-	—
Trachoma inclusions								small / longer		—

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549 RIVERSIDE DRIVE.

TRANSDUODENAL LAVAGE: A NEW METHOD IN THE TREATMENT OF CHRONIC AILMENTS. A PRELIMINARY REPORT OF RESULTS IN ASTHMA AND PERNICIOUS ANEMIA.

BY M. ERNEST JUTTE, M. D.,
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Irrigation of the colon is so valuable in the treatment of various disorders that news of a method of irrigating the small bowel will be welcome and of great benefit. Experience with this work, so far, encourages that hope.

To irrigate the small intestine it is necessary to introduce a tube into the duodenum. Any of the known duodenal sounds or aspirators may be employed, but the simplest and best is one belonging to an outfit recently invented by Doctor Bullinger and Doctor von Oefele, of New York. The passage of the tube into the bowel is helped when plain water is taken, which does not—as against more concentrated solutions—remain in the stomach for any length of time, but is almost at once emptied into the duodenum by the normal peristalsis of the stomach, which will also carry along the end of the tube.

The essential part of the outfit above mentioned is a one sixteenth inch thin, soft rubber tube, four or more feet long, which is graduated so as to show how far it has entered the bowel. One end of it is weighted with a steel ball, and about a half inch above a number of holes are made. The other end of the tube is connected with a flask, resembling an Erlenmeyer flask, with two opposite openings. By means of rubber tubing the efferent opening connects with a suction pump, fastened to a faucet. If a suction pump is not available an ordinary syringe will do.

With this apparatus Bullinger and von Oefele have succeeded in withdrawing large quantities of enteric secretion and have carried on extensive investigations with regard to the physiology of the intestine; but the results of their studies have not yet been published.

I have used this duodenal tube for washing and flushing out the small bowel, and incidentally the large bowel.

The modus operandi is as follows:

After swallowing the tube to a point about twenty cm. beyond the mark which indicates the distance from mouth to pylorus, the patient lies down on his right side and drinks about 100 c.c. of water. This position very soon brings the heavy end of the tube near the pylorus, while the peristalsis of the stomach propels the water onward and carries along with it the end of the tube.

On turning on the faucet, part of the water swallowed and some secretion are aspirated into the flask. If the reaction is acid, the end of the tube is likely to be still in the stomach; if alkaline, it is in the bowel, except when regurgitation of duodenal secretion into the stomach has taken place. Hyperacidity is apt to cause delay in the opening of the pylorus, which may be overcome by giving some sodium bicarbonate. Undue spasm, due to hyperesthesia, can be quickly relieved by gastric lavage, so that with some practice there will be little difficulty in getting into the duodenum and in judging the position of the end of the tube.

For irrigation of the bowel, I disconnect the apparatus on reaching the duodenum, and attach the catheter tube to an irrigator containing about 1,500 c.c. of irrigating fluid. Soap water works well, but other solutions may be used. Lately I have used a solution of one to 1,000, made with *Sapo medicatus*,[1] which, aside from its cleansing effect, is in some disorders of medicinal value.

To this solution I add 14.5 grammes of sodium chloride which, to some extent, prevents rapid absorption of water and allows of the flushing out of still lower segments of the intestinal tract.

While the fluid runs in, the patient lies on his back and receives abdominal massage to make the cleansing process more effective. After the treatment he rests awhile and is then directed to rise slowly. Within an hour he usually has a copious movement.

The number of patients who have received transduodenal lavage is not yet large enough to warrant definite conclusions, still, a preliminary statement of my experience with a few patients treated in this way may be interesting and will suggest the possible scope of this treatment.

CASE I. The first patient, an upholsterer, sixty years of age, had a case of bronchial asthma, and suffered much for five or six years, but became worse about June, 1911. He had the typical appearance and symptoms of the asthmatic. He had lost about fifty pounds in weight during the preceding year and was in a miserable state. His urine showed a very marked indican reaction. His stools were very offensive and diarrheal in character.

I gave him his first irrigation in September, 1911. The effect was striking; while still in my office he coughed up a large quantity of thick, tenacious mucus containing many Curschmann's spirals. The next morning he reported he was much relieved, was without distress, and he felt quite easy; and, that for the first time in four months, he had enjoyed a night's rest in bed. The indican reaction was much decreased; after the second irrigation it was negative. Having succeeded in checking excessive putrefaction, I tried to limit fermentation also by cutting out fermentative food and putting the patient on an almost exclusive protein diet. In addition, he drank large quantities of hot water to cleanse his system. I gave him from one to two irrigations a week, but no medicines except a laxative pill when needed.

He felt quite well for four months, then he again ate largely of fermentative food. Soon after he coughed and had wheezing spells, but these were slight and left him when he again went on a strictly nonfermentative diet.

CASE II. The second case was also one of asthma. The patient, a boy of nineteen years, had from his eighth year suffered from bronchitis and asthma. Except for a

[1] See Sapo medicatus als äusserliches Heilmittel und seine resorptiven Wirkungen, by von Oefele in *Wiener klinische Wochenschrift*, No. 41, 1904.

period of three years he had been continually under the doctor's care. He was unable to lie or sit down for any length of time and was in great suffering. His entire body was covered with acne; he had lost most of his teeth; his abdomen was distended with gas; his lungs were emphysematous and he had the typical signs and symptoms of asthma. He received the same treatment as the first patient with the addition of gastric lavage. His improvement was also immediate. In two and a half weeks his skin was much cleaner. He still coughed a little, but he had no attack of asthma until four weeks after the beginning of the treatment. This attack also followed the taking of starchy food. He at once returned to the strictly protein regimen, drank hot water, continued the transduodenal irrigations, and in this way the attack was checked within thirty-six hours. Since then, that is, for the last three months, he says he has felt better than at any other time in his life. He went to work ten weeks ago.

My impression is that the strict protein diet and the drinking of hot water had much to do with the results obtained.

The following two cases were in ward patients in the Postgraduate Hospital, from the service of Doctor Quintard, with whose kind permission the patients received transduodenal lavage during the latter part of their stay in the hospital.

Case III. Patient K., eighteen years old, for years suffered from asthma and chronic constipation, so that he had never been able to do any kind of work. He received ten irrigations within two and one half weeks, during which time he gained six pounds in weight. He left the hospital greatly benefited and made another gain of eight pounds, indicating his increased power of digestion and assimilation.

Case IV. Patient C., aged forty-seven years, was admitted November 2, 1911, because of shortness of breath and progressive weakness, pallor, loss of strength and weight. The diagnosis was pernicious anemia. Within one month he received seventeen irrigations. He visibly improved under this treatment and gained nineteen pounds in weight on the regular ward diet. His red blood count increased from 1,520,000 to 3,316,000 and his hemoglobin from thirty per cent to seventy per cent. In every way he felt so well and his general condition was so much better that he was allowed to leave the hospital.

These and similar observations not here mentioned suggest that the cause of some of the obscure chronic ailments may be traced to and found in the intestine, that the removal by transduodenal irrigation of the toxines produced in the course of fermentation and putrefaction will aid digestion and assimilation and will bring about improvement or recovery in such diseases as bronchial asthma, primary and secondary anemia, gout, rheumatism, arthritis deformans, toxic albuminuria, so called biliousness, chronic constipation, and other intestinal disorders.

Further clinical investigations are now being carried on.

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FATIGUE IN RELATION TO COLDS.*

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The subject assigned me to-night deals with two of the most common and most familiar drawbacks to our enjoyment of well being, namely, fatigue and colds. If one could eliminate these two intruders, we should add a large margin to our achievement and to our enjoyment. The only contribution that I can hope to make to this symposium is a very simple consideration of, first, what fatigue really is; second, what a cold is, and, third, the relation of fatigue to colds.

First, What is fatigue? In a general experimental way we know, or think we know, the answer to this question all too well. The dictionary tells us that "fatigue is a feeling of weariness following physical or mental exertion," and with the condition described by that definition we are perfectly familiar. But there is far more to the matter than a mere "feeling." The popular belief that fatigue is largely a "feeling," and the failure to recognize in it a definite physiological state causes us too frequently to disregard its real importance. Again, there are different degrees of fatigue, and fatigue in these different degrees stands in quite diverse relations to our physical well being. Fatigue, in the degree that we mean usually by the expression "being tired," is the daily experience of every one. If our day's work has been one of muscular activity, involving the large trunk and limb muscles, or if it has employed chiefly the finer muscles of hand and eye, or both, as night approaches we find that we must use more nerve and will power to execute the required movements than was needed in the morning. As the end of the day's work draws on, there is also a tendency to less accurate and delicate work of the fine muscles, while the work of the large muscles is less steady and well directed. The speed and buoyancy of the morning has given place to lassitude and heaviness. We have to urge ourselves to continue the task that was easily done in the morning.

If, on the other hand, our occupation consists largely of mental activity, a similar decline of power and ease of performance takes place. In the care and direction of the household; in the work of the school or office; in the conduct of professional life, the same change from the buoyancy of the morning to the lassitude of the evening takes place. Again, the wear and tear of social life, with its multiform nerve and brain demands, goes through the same cycle of rest and fatigue. In all these last mentioned occupations, it is largely the cerebral centres that bear the brunt. But always there is a greater or less amount of muscular activity added, either of the fine muscles of eye and hand or of the large muscles involved in maintaining the fixed positions of sedentary occupations. From this degree of daily fatigue, recuperation should be rapid, and proper food and bathing followed by a good night's rest in a well ventilated room—with a clear conscience—will remove the effects of the day's exertion. More than this, the reasonable work of body and occupation of mind, especially if the proportion of muscular and cerebral activity is well balanced, followed by adequate rest, will result in increasing ease and efficiency of performance and enjoyment of life.

If, however, the work is excessive, either in the tax imposed upon the powers of the individual, or in its duration, and if the due proportion of rest is not taken at proper intervals, and if the rest is not

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properly reinforced by good food and pure air, sooner or later, the balance between wear and repair will be lost. At first the loss will be imperceptible, then more and more perceptible, until a condition of overstrain and exhaustion is reached.

With all this we are very familiar, and yet we are, I fear, too apt to think of fatigue, as we do of nervousness, as something more or less intangible, fanciful, hypochondrical, as the case may be—not as a physiological fact, a demonstrable result of muscle and cerebral activity. The most extensive laboratory for the production of fatigue is found in the musculature of the body. The muscles form both the most widespread and one of the most active of our tissues, and, as I say, constitute the most extensive agency for the production of fatigue, as well as the storehouse for its products. They are also most easily studied by the physiologist. The nervous system comes in as an easy second on both points. Probably all other tissues and organs are affected by the products of fatigue at second hand through the blood stream and nervous reflexes.

What, then, is fatigue as brought about in muscular tissue? With every movement or sustained position of the body there is brought into play the contraction of groups of muscle fibres or cells, and with each such condition there is a certain change in the chemical condition of the muscle, or a splitting up of the protein of the cell, with the forming of other chemical compounds, or the products of fatigue. Experimentation shows that these chemical results of work are largely of an acid nature, that sarcolactic acid, carbonic acid, and monopotassium phosphate are formed. These fatigue products are washed out of the muscle by the lymph and blood streams, and produce in the body at large an acid intoxication, mild or severe as the case may be. It is thought that there may be also more complex toxines produced, and if so, why not an antitoxine of fatigue as well? Weichardt, of Berlin, has proved, to his own satisfaction at least, that there is a specific toxine of fatigue, and he has elaborated, and even protected in this country by patents, an antitoxine.

I judge that the announcement of this dangerous boon was premature. It could hardly otherwise have escaped the eager eye of the pharmaceutical "trade," It makes one dizzy to think of the achievements of the average American could he, by a mere plunge of the hypodermic needle, be free at will from all fatigue. Unfortunately, the time is not yet!

The existence of these poisonous acid products of muscular activity has been frequently demonstrated in the laboratory. A common experiment is as follows: The leg muscle of a frog is stimulated by the electric current, with the result that it contracts actively and continuously. In a certain length of time the response to the stimulation grows more and more feeble and finally ceases. Now, if the muscle is washed thoroughly with a salt solution, and the stimulation is again applied, the power to contract is regained; that is, the paralyzing poisonous products of fatigue, the sarcolactic acid and carbonic acid, have been washed out and the muscle regains its power to do work. Again, an animal, as, for instance, a dog, is thoroughly tired out by running or by work in the treadmill. A small amount of his blood is withdrawn and injected into the circulation of another dog that is in a state of complete rest and well being. This second animal will at once show every sign of severe fatigue; he will pant, lie down as if very tired, or, if the dose has been sufficiently large and toxic, even die of fatigue. The fatigue products of the tired animal are introduced into the circulation of the animal at rest, and the result is a definite physiological reaction of fatigue, even though the second dog had not moved a muscle, thus showing that fatigue is not a psychic affair, a mere feeling, but a recognizable toxemia or poisoning. A similar toxemia is generated in the central nervous system and end organs of the nerves, giving rise to similar loss of power. So then, when fatigue supervenes in our day's activities, we have, circulating in our blood stream, certain substances that inhibit the action of our defensive agencies, that lower our resistance. Those faithful sentinels of the body—the white blood corpuscles, or phagocytes—are by this acid intoxication rendered less efficient, less able to encounter and demolish any invading foe. In other words, the opsonic index, which is the technical test of our resistance, is lowered. Now, given rest, food, oxygen, and time for the blood stream to gather up and bring to the excretory organs of the body the toxic material, and we are ready for the next day's encounter, i. e., we are rested. Such are, crudely stated, fatigue and rest, a chemical breaking down and a chemical building up.

Now, what is a cold—a simple every day cold? Colds are so ever with us, they seem so simple, so annoying, usually so apparently transient, that they escape much of the careful consideration by pathologist and therapeutist, that is given to other less common and perhaps, on the whole, less destructive ailments. I will tell you what I believe a cold to be, trusting that the eminent gentlemen on the programme with me will not wholly disapprove my statement.

There is necessary, first, a diminished resistance. This means that, from some cause or other, the blood is carrying about in its distributive course some poison, toxine, that for the time being inhibits the resisting power of the phagocytes, or white blood cells—intoxicates them, so to speak. Second, there is necessary the enemy or invading army. There have been isolated a number of bacterial organisms to which is ascribed the credit of producing our common cold: *Micrococcus catarrhalis, Bacterium segmentosum, Bacterium influenzæ.*

Given the two conditions of lowered resistance and irritating microorganism with, third, a possibly diminished antiseptic power of the natural secretions of nose and pharynx, larynx, and trachea, due to the toxic condition of the blood, and there is needed only the fourth accident of the chilling of a greater or lesser portion of the surface of the body (which still further lowers resistance by disturbing the equilibrium of the circulation) to complete the process of "taking cold." Of all four conditions, I believe that the fourth, the one upon which the heaviest blame is oftenest laid, is the

most negligible on the whole. The inhalation of the morbific microorganisms discharged into the air by some sufferer from a cold by open sneezing, coughing, using a contaminated handkerchief, etc., introduces these unbidden guests into the nose and throat, an environment quite to their liking and most favorable to their growth, a warm, moist, dark garden spot where they may grow and multiply. Once this growth begins, unhindered by the ineffective secretions, the alarm is given and the inrush of phagocyte bearing blood begins. Our resistance is lowered by the acid intoxication of fatigue, the phagocytes are weak, the invaders are strong—we have a cold!

Fatigue, therefore, producing as it does an acid intoxication in the blood, a toxemia, cannot fail to have a very direct and active effect upon colds, both in permitting them to begin and in prolonging their stay.

Let us follow these theories out into daily life and see when and where we most frequently catch cold. You will all say, "when we are tired and below par." This means when you are under the influence of some toxemia, or poisoning, which has lowered your resistance.

Where? I believe that with a little thought you will agree with me, that usually we catch cold where people congregate in churches, theatres, ballrooms, crowded stores, or railway conveyances, children in school, working people in factories, shops, and offices.

Now, put these conditions together. You have been busy all day. You are tired. You go to the theatre, to any evening function or entertainment where many people are gathered in a small space. You have a cold the next morning—with or without any change of dress or other exposure. You are tired with work in office or home or shopping expedition, you have been hurrying in crowded stores, or subways, or other public conveyances. You catch cold literally! Children in school, workers in stores and factories, are subject to both fatigue and crowded, bacteria infested rooms. These and similar conditions in homes, as well as abroad, are analyzable into fatigue—meaning lessened resistance; and irritating, disease producing microorganisms everywhere present, where human beings are shut up in devitalized stagnant air. Let us then draw some practical conclusions.

Exposure of the surface of the body to cold air, or even to drafts, does not, of itself, and of necessity, produce colds. On the contrary, exposure of the body to cold is one of the best of preventions, conducing, as it does, to an assured equilibrium of circulation. I always think of the wise old Benjamin Franklin, who tells us in his autobiography of his habit of spending a considerable time daily taking an air bath, and of the benefits which he believed, doubtless rightly, to have derived from it.

Second, we must all inevitably become fatigued. (Let us all get tired doing an honest day's work, by the way! I believe, though I have not scientific authority for it, that the toxemia of fatigue of the idle must be of a particularly virulent character). But being tired, let us recognize that fatigue is not a mere feeling, but it is a physiological fact, an actual condition, and may not be disregarded. It has its doses and physiological effects as truly and definitely as strychnine or any toxic drug.

Heed its warnings, therefore. Stop your dose when you get your "enough" signs, otherwise you are acquiring a cumulative poison that will surely have its due effects.

With the *first—the first,* mind you—symptoms of a cold, search for the toxemia that is lowering your resistance. It may be indigestion, or imperfect elimination, or fatigue. If fatigue stands convicted, rest. Rest at once. A forty-eight hour cold is with you to stay until it has lived out its life or gone on to heavier damage elsewhere in your economy. Let me say right here that I would preach the gospel of short and often in regard to rest, in contrast to our too general habit of overfatigue and long rests. A good night's sleep of eight hours, every night, is far, far better than the enforced two weeks' or two months' "change," because one is "all tired out." Why should we load up the body with fatigue products and expect it to do its work under that pervasive poison, without danger, until a convenient season for the repair of rest?

Remember, then, that fatigue is the outward and visible sign of an inward and active poison or toxemia, and that that toxemia means lessened resistance to colds, as well as to many other morbid invasions.

Rest, local disinfections, and stimulation by proper food and air, I would suggest as the royal roads to avoiding as well as curing colds.

Correspondence.

LETTER FROM LONDON.

Discussion on Thyroidectomy.—Sir Philip Magnus, M.P., on the National Insurance Act.—Death of Lord Lister.

London, England, *March 1, 1912.*

At a meeting of the surgical section, Royal Society of Medicine, a paper was communicated by Dr. T. P. Dunhill, of Melbourne, on Partial Thyroidectomy under Local Anesthesia. He said there was room for legitimate difference of opinion on every aspect of the subject. In the classical type there was goitre, tachycardia, and palpitation, tremor, staring eyes, with or without exophthalmos. There might or might not be complete amenorrhea, emaciation, alopecia, and other less constant symptoms. There was, however, still a possibility of a complete return to health by medical treatment or rest or with no treatment at all. In the second class he placed the cases in which the disease had progressed to the point of organic degeneration. In the third class were the cases in which the thyroid gland was quite small and yet there might be one or more of the characteristic signs in extreme degree. The fourth class included cases in which there were some thyrotoxic symptoms associated with a goitre not truly exophthalmic in type.

In deciding whether to operate in such cases one must take into account the age of the patient and the severity of the case in relation to the progress made under medical treatment. If the patient had means and leisure, the symptoms were not progress-

ing, and there seemed no danger of the heart passing from mere irritability to organic change, medical treatment could safely be persisted in for an indefinite time.

He refused to operate until he knew that a patient had had three months' efficient medical treatment. These cases responded promptly to operative treatment, and if organic disease was not present cure was complete, provided sufficient gland was removed. With local anesthesia and expert operating the danger was practically nil. In the second class one met with every stage of wreck, with irregular pulse and apex beat anywhere between the nipple line and axilla. Most surgeons said these should not be touched because, 1, operation was too dangerous; 2, organic disease had advanced so far that improvement could not follow. Out of 380 thyroid operations he had done, there were nineteen in cases of this class. He did not think any anesthetist would care to give a general anesthetic in cases of this class, but, under local anesthesia, patients stood the operation well. There was only danger under two conditions: 1. Qperating under an acute exacerbation of poisoning; 2, operating when bronchitis was present. He lost his first patient through removing too much tissue at once with much crushing when he was inexpert. His second death was through operating when bronchitis was present, but the pulse rate was daily increasing and he took the risk to try to save life. Hypostatic pneumonia followed, and the patient died. The third patient was moribund when he operated. He had lost one other patient the circumstances of which he was not at liberty to publish. The anesthetic was novococaine. He used seven ounces of a solution of one in 500. The front of the neck was well infiltrated.

Sir Victor Horsley said he could not hope to add much to the discussion, but he would take up certain points which Doctor Dunhill had raised and give his own experience. With regard to pathology he did not quite agree with Doctor Dunhill's four classes. It was sufficient for their purpose to divide cases into true exophthalmic goitre with watery secretion, parenchymatous goitre with exophthalmic symptoms, and a third rare class in which the gland was wholly diseased, and in which he thought total removal ought to be carried out and then graft normal gland beneath the peritoneum. With reference to clinical experience and mortality Doctor Dunhill had said that in his experience the danger was nil and that was his own experience since he lost his first patient sixteen years ago. He had not had another death, but in three cases he refused to operate, and so it might be said he had avoided mortality. He thought with Doctor Dunhill that three months' medical treatment was enough. He did not think there was any medical treatment which would cure a case of parenchymatous goitre with exophthalmic symptoms in the adult. But parenchymatous goitre in a young girl at the period of puberty could be got rid of by compensatory thyroid treatment. He had never operated with anything but general anesthesia.

Mr. Leedham Green said that when the subject was previously discussed at the annual meeting in London, a very gloomy view was taken of the operation. But its value had not yet been sufficiently appreciated in England, indeed many practitioners did not know that an operation could be done for its relief. He thought there was a distinct mortality from the operation, higher than that of a simple goitre. Six leading German surgeons gave a mortality which varied from three per cent. to 17.3 per cent. The average for many hundreds of published cases was fifteen per cent. Restoration to health was also strikingly good after operation.

At the annual dinner of the West London Medicochirurgical Society, under the chairmanship of Mr. McAdam Eccles, Sir Philip Magnus, M. P. for London University, spoke on the Insurance Act. He said that discussion was now proceeding in the various newspapers with regard to the act which should have taken place before the bill was introduced, and certainly long before it became an act of Parliament. With regard to the £2 limit which it fell to his lot to propose in the House of Commons, he had always had great sympathy with the medical profession in endeavoring to insist upon the limit, which was one of the now celebrated six cardinal points, and he firmly believed that if the medical profession had been differently represented, and also if they had shown the same amount of resolution and determination which had been evinced since the bill became an act, all the six cardinal points would have been obtained in the bill itself. The £2 limit he considered was a most important point, as it was essential for the profession to limit, if possible, the area over which the contract system of attendance was to extend. The contract system might be essential with regard to the poorer classes, but if it was to be far extended it would deprive the ordinary medical practitioner of his little leisure and the opportunity of making some private practice; so that while the system might be desirable on a limited scale it was like some drugs which, when applied to the living organism in small quantities, produced very good effects, but if given in too large doses destroyed the organism entirely. If the Insurance Act was studied it would be found that about three fourths of it was quite different from what it was when introduced, as pages and pages of amendments had been passed in the House of Commons without any discussion whatever. Under the act there was practically no income limit, since any person whose income had not exceeded £160 per annum at the time of insuring, and who had been an insured person for five years, might become, and remain a voluntary insurer, eligible to receive medical benefit whatever his income might later amount to.

The death of Lord Lister has caused widespread regret, not only among the medical profession, but also among the entire community. He had lived so long in retirement that he was known to the present generation of practitioners more by repute as the greatest benefactor of mankind than as a leading surgeon, which he undoubtedly was, apart from his great scientific achievement. First in Edinburgh, and afterward at King's College Hospital, London, he was surgeon to the hospitals and lecturer in surgery to the medical schools attached to them, and he there expounded to the students his views on antisepsis.

Therapeutical Notes.

Vaccine Treatment of Hydrocele.—Mallannah (*British Medical Journal,* January 27, 1912) has used with great satisfaction a vaccine containing from five to ten million of *Bacillus pyocyaneus* or *Staphylococcus pyogenes aureus* after tapping the hydrocele (in some cases without tapping). The injection of this vaccine into the sac causes a severe inflammation, lasting seven days. When the inflammation subsides the scrotum becomes reduced in size and the hydrocele is cured.

Rhinopharyngitis.—Gallois (*Archives générales de médecine,* January, 1912) uses in these cases, if acute and sthenic, a phenol spray (one to 100); if less intense he advises the following, likewise in a spray:

℞ Phenolis,
Sodii salicylatis, } āā 2.00;
Sodii biboratis,
Aquæ, 500.00
M. Ft. mistura.

If the infection is mild and chronic in character, a spray of boric acid or borax (two to 100) is useful. These sprays should always be introduced into the nasal cavities, and never through the mouth.

In the atrophic stage, recognized by the formation and presence of dried crusts in the nasal passages, the following ointment is applied to the crusts within the nares.

℞ Balsami peruviani, 0.10;
Acidi borici, 5.00;
Petrolati, 20.00.
M. Ft. unguentum.
Sig.: To be dispensed in a collapsible tube.

Chilblains.—Where the skin is unbroken, Besnier (*Progrès médical,* November 4, 1911) uses the following:

℞ Acidi tannici, 0.10;
Glycerini,
Aquæ rosæ, āā 50.00.
M. Sig.: Apply after bathing the part in hot water.

Liebreich, in the same condition, advises the following:

℞ Sodii biboratis,
Aluminis, āā 5.00;
Aquæ rosæ 300.00
M.

When the skin is broken (*ulcérée*) Brocq applies:

℞ Linimenti calcis, 100.00;
Phenolis, 0.50.
M. Sig.: Bathe the parts with this and cover with zinc oxide plaster.

As a prophylactic, Brocq advises:

℞ Pulv. camphoræ, 5.00;
Petrolati, 30.00.
M. Sig.: Rub in well over the exposed part every evening.

Acetylsalicylic Acid in Typhoid Fever.—Chambers (*British Medical Journal,* January 20, 1912) gives to patients suffering with typhoid of moderate severity three grains of this drug as an antipyretic, repeated every four hours; where there is little sign of action the dose is increased to four or five grains. According to the author the drug should never be administered in tablet form, but dissolved in water containing a little sodium bicarbonate, which increases its solubility. The application of heat to facilitate its solution in water tends to decompose the drug.

Martindale (*British Medical Journal,* February 3, 1912) suggests the following mixture:

℞ Acidi acetylsalicylici, 3ii;
Mucilaginis tragacanthæ, m̄xc;
Aquæ, q. s. ad 3vj.
M. Sig.: Use one to four teaspoonfuls as required.

Treatment of Catarrh.—A. Parker Hitchens (*Medical Record,* February 17, 1912) has made a mixed vaccine for the treatment of acute and chronic catarrh. The vaccine contains in each c.c. the following bacteria, which are most frequently found in the infected respiratory mucous membrane: *Staphylococcus aureus* and *Staphylococcus albus,* of each 150 millions; *Streptococcus, pneumococcus,* members of the *Micrococcus catarrhalis* group, members of the bacillus of Friedländer group, of each 50 millions. In robust persons in the chronic stage of the disease the initial dose is from 0.25 to 0.50 c.c., administered subcutaneously, generally about the insertion of the deltoid muscle, repeated at five day intervals, and the amount has not been increased above 0.50 c.c. When the initial dose during the acute attack was 0.25 c.c., the dose may be repeated at shorter intervals. If the nose becomes very dry on the third or fourth day after the injection, an oil spray will be found useful.

The Karell Milk Diet in Heart Disease.—His (*Therapeutische Monatshefte,* January, 1912) advocates strongly the use of a diet published by Karell in 1865. The special feature of this "milk cure" is restriction to milk exclusively and very small amounts of it, not exceeding 800 or 1,000 c.c. a day for five or six days. This is less than a quart in the twenty-four hours, and, although undernourishment and weakness from its use has been feared, experience has shown these fears to be groundless. In this diet the carbohydrates, the source of energy for the muscles, are deficient, but this is not vital, as the patients are kept in bed. It is a remarkable fact that on this small quantity of milk diuresis increases. The production of toxines is markedly diminished in the gastrointestinal tract, and there is less tendency to ascites. The indications for the Karell cure include not only heart disease with a tendency to edema, but numerous cases of cardiac, renal, and cardiopulmonary insufficiency.

Pharyngeal Cough.—Robin (*Bulletin général de thérapeutique,* January 15, 1912) advises the use of the following:

I.

℞ Betanaphtholis, 0.10;
Sodii biboratis, 15.00;
Aquæ menthæ piperitæ, 200.00;
Aquæ bullientis, q. s. ad 1000.
M. Ft. Gargarisma. Sig.: Warm over a water bath before using to cleanse the throat. Then make a local application of cocaine solution (0.25 to 10.00 water); glycerite of tannin (10 per cent.); or this glycerite of resorcin and cocaine:

II.

℞ Resorcinolis, 1.00;
Cocainæ hydrochloridi, 0.10;
Glycerini puri, 30.00.
M. Ft. lotio.

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THE UPRIGHT POSITION IN OPERATING UNDER ETHER NARCOSIS.

Surgical literature reveals the existence of an almost universal fear among surgeons of performing operations upon any part of the head while the patient is in the upright position and under the influence of a general anesthetic. This fear, it would seem, is due to the belief that there is an added risk in the administration of any anesthetic in such a position, and when operations are performed in the nose, fauces, or other parts of the throat, there is danger of blood flowing into the windpipe. In operating upon the nose and throat the two main reasons for desiring the upright position are: First, that more skillful, and therefore more satisfactory work can be done when we can make use of the same topographical relationship with the patient as that to which we are accustomed in every day office practice. In these days of clearing vision we are obliged to get the best view of the field of operation which is obtainable and this may be secured far better in the upright than in the supine position. Second, that in any operative work about the head there is less blood lost when the patient is in the upright position. When the body is upright there is less pressure in the vessels of the head than when it is in the supine position and this is especially true when the subject is under the influence of a general anesthetic. The amount of blood which can be withdrawn from the body without harm varies in different individuals, but in many cases it is highly desirable to reduce the shock of an operation by securing the retention of as much blood as possible.

The almost universal custom of writers of textbooks and monographs, in dealing with operations within the upper air passages, is to advise the upright position when local anesthesia is to be employed and the recumbent position when the patient is to be placed under the influence of a general anesthetic. The interpretation of the latter piece of advice is, no doubt, that although the upright position is regarded as nearly always preferable, a concession must be made to the horizontal position because of the supposed danger of blood flowing into the windpipe, as well as the danger from the anesthetic, when the patient is in the upright position. The questions, therefore, which must be satisfactorily answered before the upright position will be generally accepted are: Is there greater danger from a general anesthetic and is there greater danger from blood flowing into the windpipe in ordinary operations, when the patient is without voluntary control, in the upright position than under similar conditions in the supine position?

It has been made quite clear to us that the danger of blood flowing into the trachea is no greater during operations which we are wont to perform in the nose and throat when the body is upright than when in the hanging head position, and it can be confidently stated that, at least in the routine operations performed in the nose and throat, even without alertness in sponging, embarrassment from blood flowing into the windpipe does not occur. The writer is familiar with the work of one American surgeon who has operated with the patient in the upright position several thousand times without meeting with a single serious embarrassment. In his early operations some hitches occurred from a too rapid elevation of the body from the recumbent to the upright position, but since the upward movement has been made with greater deliberation, no difficulties have been encountered which could be attributed to the position. The secret of a safe and an uninterrupted administration of an anesthetic in the upright position is in keeping the neck somewhat stretched and the head moderately extended over the head rest. If the anesthetist is impressed with the importance of this desideratum there need be no added risk in the administration of an anesthetic, provided, always, that the body is not raised from the horizontal to the upright position too rapidly. This is a matter of much importance, for a

sudden change from the supine to the upright position while the patient is under ether narcosis is apt to produce cerebral anemia and loss of cardiac balance.

The upright position will probably be employed to a greater extent in the future than heretofore, for methods recently devised have made it easy to attain the position and when attained easy to maintain it in safety, thus enabling the operator to work more expeditiously and skillfully.

Thomas R. French.

THE MEDICAL EXAMINATION OF IMMIGRANTS.

Our immigration problems are so numerous and complex that their proper solution requires the expert aid of specialists along many different and widely divergent lines. It is not only the sociologist, the political economist, and the statesman who are able to shed light on the many phases of this subject, but the physician must be heard as well, and the medical aspects of the question carefully weighed, before further legislation controlling the alien influx can be intelligently enacted.

Chief among these medical aspects are, first, the large number of aliens of all races who become public charges, in whole or in part, on account of physical or mental defects; second, the different racial tendencies to special diseases, and, third, the problem of the insane and mentally defective alien.

The fact that different races show varying tendencies to the same affections has always been conceded, and is now further elucidated by the investigations of the immigration commission.[1] Thus, of all charity patients entering Bellevue and its allied hospitals in New York city, from August 1, 1908, to February 28, 1909, 52.3 per cent. were foreign born, and among these foreign born the Italians and Hebrews suffered most from traumatism, 17.6 per cent. of the latter and 17.3 per cent. of the former having been admitted on account of injuries, incidental for the most part to accidents incurred at manual labor, or while working with machinery. The Irish, notwithstanding the fact that they are largely unskilled laborers, show only 8.6 of cases coming from traumatism, whereas alcoholism was responsible for 39.6 per cent. of their admissions. The Italians gave only 2.3 per cent. for alcoholism, and the Hebrews were at the bottom of the list with 0.6 of one per cent.

For venereal disease more Italians and Hebrews were treated than either English, Germans, or Irish, but none of the foreign races approximated the high percentage of the native born negro in the frequency of gonorrhea and syphilis.[1]

In the matter of susceptibility to mental diseases the widest variations are shown. The Irish, in their native land in the year 1903, had 490.9 in insane asylums, to every 100,000 of the population, whereas in the whole United States for the same period the total number of insane to each 100,000 of population was only 186.2.[2] The opinion that the Irish contribute more than their proportionate share of the insane in this country is rendered reasonable by an examination of the reports of the New York State Commission in Lunacy. Thus, in the year October 1, 1907 to September 30, 1908, out of a total of 2,548 first admissions of foreign born, they head the list with a total of 647. The Germans come next with 428. During the same period the Italians contributed only 213.[3]

Relative to the abuse of medical charity by the foreign population, it can be said that the community that tolerates the abuse is more to blame than the immigrant, who very often comes from a country where the government or municipality freely provided him with dispensary treatment, and he seeks it in this country without a thought of its being anything but his right. At the Charity Hospital Dispensary in Cleveland, out of 186 cases investigated only about one half were found worthy of free aid. The fact that sixty-seven per cent. of these were Jewish[4] simply serves to indicate that this race was a little more alert to its opportunities than others.

After all is said and done, the figures given serve to show us very little except as they indicate the complexity of the problem. The one feature that stands out prominently and does not seem to permit of any double interpretation is the fact that our alien population contributes more than its proportionate share to the inmates of our public medical institutions of all kinds. If, in New York, the Germans and Irish yield more than their share of the insane, and the Italians an excess of cases of traumatism, and in Cleveland the Hebrews ask for free medical aid to a degree more than commensurate with their numbers, the chief argument to be deduced therefrom is for a more rigid medical inspection and mental examination of the alien at the time of his landing. Whereas the examination as directed at present serves a useful purpose, there is absolutely no reason to suppose that its efficiency could not be greatly augmented by the inauguration of two changes.

The first change would be an increase in the force of medical examiners and interpreters. The increase in the medical force should be sufficient to

[1] Jenks, Jeremiah, and Lauck, W. J., *The Immigration Problem*, p. 46.

[2] U. S. Census Special Report, *The Insane and Feeble Minded in Institutions*, pp. 9 and 10, 1904.

[3] *Twentieth Annual Report*, State Commission in Lunacy, 1907-1908, p. 1637.

[4] Dr. Frederick C. Herrick, *Cleveland Medical Journal*, October, 1911.

allow of the thorough physical examination of all aliens instead of simply those who present gross evidence of physical defect on casual inspection, as is the present custom. The addition of a sufficient number of interpreters would often serve to make a diagnosis more accurate and would greatly facilitate the mental examination. The second proposed change is the placing of medical inspectors on board immigrant ships so that they may mingle freely with the passengers and observe them carefully during the voyage. This offers the most feasible plan for detecting an increased number of insane or mentally defective aliens, without subjecting all of them to unnecessary detention and observation after arrival.

POSTURE DURING LABOR.

A very slight increase in the pelvic diameters is frequently all that is required for the successful termination of the second stage of a protracted labor. The introduction of the Walcher position some years ago, that is, the extension of the lower extremities by allowing them to hang over the edge of a bed or table, is one of the means of securing this increase. It is so effective that we wonder it is not more frequently resorted to in cases in which delivery is long delayed and in which, for any reason whatsoever, the aid of the forceps is not invoked.

There is another position, however, to which we desire to recall attention, which is very simple for cases of normal or only slightly contracted pelvis, but is at the same time very effective. This is the squatting position. It is by no means a new procedure. Engelmann, in his comprehensive ethnological study on Posture in Labor in Volume V of the *Transactions of the American Gynecological Society,* says concerning this position: "Though apparently inconvenient and repugnant to the refined woman, this position is certainly the most natural one for expulsion from the abdominal or pelvic viscera, and will certainly, in many cases, facilitate labor." Numerous pictures of aboriginal women in labor adorn this article, which is well worth consulting in considering the question which is now before us.

A. F. A. King, of Washington, also called attention to the practical value of this position at one of the more recent meetings of the American Gynecological Society. It is of value in any of the vertex presentations, unless possibly in the occiput posterior, in which we have never had opportunity to use it, nor have we seen any record of its use by others.

We recall its value vividly in a case of face presentation in a multipara with normal pelvis and, if we remember correctly, with no history of unusual delay in previous labors. In this instance, however, though dilatation was well advanced, the pains had ceased for several hours, to the dismay of the patient and her friends. As the pelvis showed no perceptible deformity, the suggestion of the squatting position was made to the patient's physician. It was probably not more than five minutes after this position was assumed that the pains returned with such vigor and frequency that delivery of the head was almost accomplished before the patient could be returned to the bed.

We have frequently resorted to the position since that experience, always with advantage, though never with quite such dramatic effect as in the case which has been cited.

THE RADICAL CURE OF FEMORAL HERNIA.

Operation is somewhat largely resorted to nowadays for the cure of femoral hernia. A certain amount of skepticism exists among members of the medical profession with regard to the assertion that femoral hernia is quite as amenable to operation as inguinal hernia. According to Mr. William H. Battle, however, not only can femoral hernia be cured with equal certainty by operation as the other variety, but probably with even greater certainty. Mr. Battle, whose recent address on the subject was delivered at the London Polyclinic, and reported in the *Medical Press and Circular* for December 27, 1911, goes into the question exhaustively. In the first place he points out that the diagnosis of femoral or crural hernia is not so easy as that of inguinal hernia, and he enters fully into the characteristics of the former variety. Attention is drawn to the fact that the radical cure of femoral hernia is always eminently desirable and frequently imperative, and emphasis is laid on the need for a thorough operation. The removal of the sac only is not sufficient. In support of this view the authority of Coley, of New York, is cited, that in such operations there was usually recurrence within a year in thirty to forty per cent. of the cases. Dr. W. T. Bull also gave evidence of a similar nature. Battle's operation is to close permanently the upper end of the canal in such a manner that a barrier is left which does not lose its vitality. The aponeurosis of the external oblique is referred to. In addition, sutures are so placed that no coughing or vomiting can remove this natural barrier. It is stated that so successful has this method proved that, tested during a period of several years, Battle has been credited with only one recurrence in the statistics of St. Thomas's Hospital. Thus, when a femoral

hernia is irreducible, an operation is absolutely necessary, and when reducible the wisest course is to undertake operation. A hernia of this character is a dangerous condition and apt to cause trouble at a period of life when strangulation is exceptionally serious.

THE USE OF SACCHARIN IN FOOD PROHIBITED.

The secretaries of Agriculture and of Commerce and Labor have issued a decision which goes into effect April 1, 1912, prohibiting the use of saccharin in food. This decision seems to be based largely on the idea that the only use of saccharin in foods is as a sweetener, and that when it is so used, it inevitably displaces the sugar of an equivalent sweetening power. Sugar has a food value and saccharin has none. It appears, therefore, that normal foods sweetened with saccharin are adulterated under the law, as their food value is lessened. The decision points out that the use of saccharin in foods intended for the use of those persons who on account of disease must abstain from the use of sugar, is not affected by this decision, for the secretaries state that any food product containing saccharin, and plainly labeled to show that it is intended for the use of such persons, falls within the class of drugs and consequently is not affected by this decision, which is restricted wholly to foodstuffs. It would appear from this that any food product containing saccharin may be sold, provided it is plainly labeled to show that it does contain saccharin and is intended for the use of persons who, on account of disease, are forbidden to use sugar. We dwell particularly upon this point since there seems to be some misunderstanding as to the scope of the decision.

THE OCCURRENCE OF PAROTIDITIDES IN NERVOUS DISEASES.

Besides the ordinary types of parotiditides there is still another which is met with in affections of the nervous system, having its own pathogenic and clinical characters. Euzière (*Montpellier médical*, August 20, 1911) states that this type of parotiditis is usually mild, which distinguishes it from the parotiditides of general diseases and cachexia, with which they are most generally confounded. These facts have already been referred to by Gilbert and Vallaret in cases of hemiplegia.

This complication occurs quite as often in cases of old organic nervous lesions as in the more recent ones, and usually the appearance of the parotiditis is preceded by such predisposing causes as hyposystolia or serious iodism.

The symptoms are the same as in other varieties of the affection, the tumefaction being the first to appear; while the pain is difficult to detect, given the psychism of the patients. Trismus, a filthy condition of the mouth, and inflammation around the orifice of Steno's duct, from which a drop of pus may be occasionally seen to escape, are symptoms met with in nearly all cases.

The final outcome is characteristic. After three or four days resolution takes place rapidly and leaves no subsequent disturbance.

What is peculiar to these cases is the ease by which the normally aseptic ducts, like that of the parotid gland, become invaded by the buccal saprophytic bacteria. The hemiplegic, the general paralytic, or the chronic meningitic, have an incomplete deglutition, so that the food débris accumulates in the buccal cavity; the psychic deficit resulting from their disease causes them to neglect the toilet of the mouth; the diminution of the salivary secretion decreases the irrigation of the ducts and, perhaps, renders the saliva more favorable for the pullulation of bacteria. All these conditions play an evident part.

In some cases the action of the iodides comes into play, because it is by these glands that it is eliminated, and thus they are rendered less resistant to microbic invasion.

THE NEW UNIVERSITY AT FRANKFORT, GERMANY.

In our issue for April 8, 1911, we informed our readers, editorially, that the city of Frankfurt am Main, Germany, had decided to found a university. As we stated, this project was brought forward a few years ago on the death of Mrs. Speyer, who left a considerable sum for educational purposes. The university is planned to have three faculties, of law, philosophy, and medicine, and will be supported without governmental aid. According to information we have now received it has been decided to open the university in April, 1914.

Medical Law.

X. THE PHYSICIAN AS WITNESS.

In personal injury cases the defendant usually requests that a physical examination of the injured party be made by a physician in his behalf so that he may be informed as to the character and extent of the injuries sustained. This request is usually granted, and when refused, may ordinarily be obtained under an order of the court. In the case of Grant v. New Orleans Ry. & Light Co., 56 S. W. Rep., 897, the plaintiff not only refused to grant the privilege of examination, but successfully opposed an application to the court for an order to

make such examination. Upon the trial of the case it resulted that the plaintiff had the advantage of the testimony of three physicians who had examined her at the time of the injury and also at the time of trial, while defendant was unable to introduce any evidence as to plaintiff's condition based upon an examination.

The effect upon the mind of the court of this manifestly unfair presentation of the case is shown by the following comment by Mr. Justice Monroe: "Whereas plaintiff has been allowed the benefit of the testimony of medical men selected by her as to her actual condition just after the accident, and at the time of the trial, the defendant has been denied the opportunity and the right to rebut that testimony, which, therefore, stands upon the same footing as would that of an expert accountant, named by one litigant, in a case in which the other litigant has been denied all access to the account constituting the subject of the litigation."

In the case of Lacoume v. State, 143 S. W. Rep., 626, it was held that a regularly practising physician, testifying as an expert, was properly permitted to answer a hypothetical question as to what would be the effect of a "lick on the head" with a given instrument, with which it was shown the assault was made.

X. THE PHYSICIAN AS WITNESS.

In the case of Kaczmarek v. Greuder, Paeschke & Frey Co., 134 N. W., Rep. 348, the plaintiff, a boy of sixteen years, was employed by defendant and set to work operating a stamping machine, by which small pieces of tin were stamped between a die and a punch. He worked from 7 o'clock through the morning, but a few minutes after beginning work in the afternoon lost two fingers of the right hand, by having them caught between the die and the punch.

The operator in using the machine would place a small piece of tin on the die with his right hand and step on a treadle, which would cause the punch to come down on the die and stamp the tin. When working at the usual and ordinary speed, the machine stamped about thirty-five pieces of tin a minute. Early in the afternoon a piece of tin remained fast to the die after being stamped and the operator attempted to remove it. In doing so his fingers slipped under the punch and his foot involuntarily came down on the treadle and the punch came down, cutting off his fingers.

The theory of the plaintiff's case was that the injury resulted from the automatic action of his foot, as the result of a habit formed by the continuous and repeated operation of hand and foot in the same order; that he did not know such a habit would be formed; and that his employer did not know, and ought to have known the fact, and should have warned him thereof, and, not having done so, was guilty of negligence which was the proximate cause of his injury.

A part of the evidence introduced by the plaintiff to show the likelihood of the formation of such a habit, and that the defendant should have known of the danger of its formation, was the testimony of two physicians who had made a special study of the brain and nervous system. These physicians testified in answer to hypothetical questions, that, in their opinion, the continuous operation of the machine in the manner required would be likely to produce an involuntary sequence of muscular activities which would become automatic, and proceed without express brain action or will power. This testimony, the Supreme Court held, was fairly within the field of expert knowledge.

In the case of Conway v. Metropolitan St. Ry. Co., 142 S. W., Rep. 1101, the Kansas City Court of Appeals, held that a physician, testifying as an expert, might, on crossexamination be required to answer hypothetical questions assuming facts not proved, for the purpose of testifying the soundness of his opinions.

In this case the witness had treated the plaintiff and on the trial testified both as to facts relating to the plaintiff's injuries within his knowledge, and also as to matters of expert opinion, showing that plaintiff had sustained certain nervous disorders as a result of the injuries sustained. Upon crossexamination certain hypothetical questions were asked him, such as: "Doctor, assuming it to be true that prior to this accident the plaintiff had had fainting spells, and that she had had an attack, or had been suffering some time before the accident from gallstones and that her complexion was very yellow, can you tell as a physician whether or not that might, that condition, assuming it to be true, in any way affect her nervous system?"

In passing upon the propriety of this character of crossexamination, Mr. Justice Johnson said:

> The rule in this State is that a witness is on the stand for all purposes and may be crossexamined about matters not referred to in the examination in chief. The rule makes no distinction between expert and nonexpert evidence. As is well said in Rogers on *Expert Testimony*, p. 79: "On the crossexamination of any witness, whether an ordinary or an expert witness, counsel are entitled to ask any questions which tend to test the accuracy, veracity, or credibility of the witness, or which tend to shake the credit of the witness by injuring his character, although the facts concerning which he is questioned may be, as to the main issue, irrelevant and collateral. Consequently, on crossexamination of a witness testifying as an expert, counsel may be permitted, for the purpose of testing the skill and accuracy of the witness, to ask him hypothetical questions pertinent to the inquiry, whether the facts assumed in such questions have been testified to by witnesses or not."
>
> Defendant was entitled, on crossexamination, to test in every reasonable way, not only the credibility of the witness, but also the soundness and reasonableness of his opinions elicited in the direct examination to the effect that the ailments from which plaintiff was suffering were directly referable to the injuries caused by defendant's negligence. The questions were directed to an issue offered by plaintiff, and therefore were clearly within the bounds of legitimate crossexamination.

News Items.

Personal.—Announcement is made of the resignation of Dr. James J. Putnam and Dr. Edward H. Bradford from the staff of the Harvard Medical School. Doctor Putnam has been professor of diseases of the nervous system at Harvard since 1893, and chief neurologist to the Massachusetts General Hospital. Doctor Bradford has been instructor, lecturer, and professor of orthopedic surgery since his graduation in 1872, and has been visiting surgeon to the Children's Hospital for many years.

Dr. J. H. Woodward, of 58 West Fortieth Street, announces to the profession that henceforth he will limit his practice to ophthalmology.

Change of Address.—Dr. W. H. Bates, to 938 St. Nicholas Avenue, New York.

A Pellagra Laboratory in Savannah.—The laboratory established in Savannah, Ga., by the Public Health and Marine Hospital Service, for investigations in pellagra, is now complete. Passed Assistant Surgeon C. H. Lavinder is in charge of the work.

Manhattan Medical Society.—At a meeting of the Manhattan Medical Society, held on Friday evening, March 22d, Dr. William A. White, of Washington, D. C., professor of mental diseases in the George Washington University Medical School, presented a paper entitled Mental Medicine in General Practice. The discussion was opened by Dr. Smith Ely Jelliffe, and was participated in by Dr. M. S. Gregory, Dr. Pearce Bailey, and Dr. L. Casamajor.

Issuance of Death Certificates Restricted to Doctors of Medicine.—The Court of Appeals on March 8th upheld the validity of an ordinance of New York city, prescribing that a death certificate must be signed by a doctor of medicine, the legality of which was contested by an osteopathic physician of Brooklyn. The lower courts held that the Board of Health of New York city had acted within its powers in passing the ordinance, and the Court of Appeals sustains that decision.

The Health of Chicago.—During the week ending March 2, 1912, the total deaths from all causes, exclusive of stillbirths, reported to the Department of Health of the City of Chicago, numbered 726, corresponding to an annual death rate of 16.5 in a thousand of population, as against 17.1 for the preceding week, and 15.2 for the corresponding period in 1911. The principal cause of death was pneumonia, 158 deaths from this disease being reported, while the deaths from all forms of tuberculosis numbered 83, and from influenza, 4. There were 858 cases of contagious diseases reported, of which 175 were scarlet fever, 124 diphtheria, 98 measles, and 195 tuberculosis.

American Delegates to the Tuberculosis Congress in Rome.—The National Association for the Study and Prevention of Tuberculosis announces that the following six delegates have been appointed by the government to represent the United States at the Seventh International Congress on Tuberculosis to be held in Rome, April 14th to 26th: Dr. Henry Barton Jacobs, of Baltimore; Dr. Livingston Farrand, of New York; Dr. Charles Lyman Greene, of St. Paul; Dr. G. Walter Holden, of Denver; Dr. Gerald B. Webb, of Colorado Springs; and Dr. William H. Baldwin, of Washington, D. C. Doctor Farrand will present the official report from the United States.

Resolutions of the Death of Doctor Weber.—At a recent meeting of the Board of Directors of the New York Postgraduate Medical School and Hospital, the following resolution was passed on the death of Dr. Leonard Weber:

Whereas, We have learned with deep regret and sorrow of the death of our esteemed associate and colleague, Dr. Leonard Weber, who for many years gave his best efforts to this institution, and

Whereas, Doctor Weber was a man of high honors, exceptional ability and integrity, beloved and respected by all who knew him for his many scholarly attainments, his geniality, and his sincerity; therefore, be it

Resolved, That we record this sad tribute to his memory, and join in expressing to his bereaved family our sincere sympathy, and be it further

Resolved, That these resolutions be spread upon the minutes of this faculty, and a copy transmitted to the members of his family as a token of our respect, and a reverence to his memory.

H. J. Boldt, M.D.,
George G. Ward, Jr., M.D.,
Committee.

Bacteriologist Wanted for the Philippine Service.—The United States Civil Service Commission announces that an examination will be held for the position of bacteriologist in the biological laboratory of the Bureau of Science, Manila, P. I., at a salary of $2,500 a year It will not be necessary for applicants to appear at any place for examination, their eligibility being determined upon the evidence furnished in connection with application and examination Form B. I. A. 2. Applicants must be graduates in medicine, and in addition must show that they have specialized extensively in bacteriology and are capable of doing original research work. The ordinary bacteriological training incident to a medical course or a hospital interneship will not be considered in this connection. For further information regarding the character of the work and the scope of the examination, application should be made to the United States Civil Service Commission, Washington, D. C.

Dedication of the Robert Dawson Evans Memorial Building.—The Robert Dawson Evans Memorial Building of the Massachusetts Homeopathic Hospital was dedicated on the evening of March 6th, and was opened to the public on the afternoons of March 7th, 8th, and 9th. This new building will be devoted to the hospital's new department of clinical research and preventive medicine, and at present the work has been divided into two parts, one strictly medical and the other that of public education. The medical director of the institution is Dr. Frank C. Richardson.

American Red Cross Exhibition.—The American Red Cross Society invites attention to the exhibition in connection with the Ninth International Red Cross Conference, which will be held in Washington, D. C., May 7 to 17, 1912. This exhibition wil be divided into two sections, the Marie Feodorovna and the General. The former is a prize competition, with nine prizes aggregating approximately $9,000. The general exhibit is divided into two parts, the first being an exhibition by the various Red Cross Associations of the world, and the second being devoted to exhibits by individuals or business houses. Major Charles Lynch, of the Medical Corps of the United States Army, is chairman of the Exhibition Committee, and he will be glad to furnish further information regarding the exhibition to all who are interested.

An International Movement for an Investigation of Ozena.—At the meeting of the Third International Laryngological Congress, held last September in Berlin, it was resolved that a universal investigation of the subject of ozena should be made, and a report presented at the next meeting of the congress, which will be held in Copenhagen. An executive committee was appointed to take charge of the work, consisting of Professor Rosenberg, Professor Grabower, and Professor Alexander, all of Berlin, who, in turn, have appointed a laryngologist to superintend the work in each country. Dr. Emil Mayer, of New York, will assume charge of the investigations in the United States, and he has appointed an executive committee consisting of the following: Dr. Joseph Gleitsmann, Dr. Robert C. Myles, and Dr. Harmon Smith, representing the American Laryngological Association; Dr. Wolff Freudenthal, Dr. Thomas J. Harris, and Dr. H. Holbrook Curtis, representing the American Laryngological, Rhinological, and Otological Society; Dr. Sidney Yankauer, to represent the Academy of Ophthalmology and Otolaryngology. Representative laryngologists will be appointed in each State to conduct investigations as to the relative frequency, etc., of ozena, and will send reports to the chairman of the executive committee. The movement is an international one, and the cooperation of the medical profession is confidently expected.

Meetings of Local Medical Societies to be Held during the Coming Week:

Monday, *March 18th.*—New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York; Elmira Clinical Society.

Tuesday, *March 19th.*—New York Academy of Medicine (Section in Medicine); Buffalo Academy of Medicine (Section in Obstetrics and Gynecology); Triprofessional Medical Society of New York; Psychiatrical Society of Ward's Island; Medical Society of the County of Kings; Medical Society of the County of Westchester; Clinical Society of the Elizabeth, N. J., General Hospital.

Wednesday, *March 20th.*—New York Academy of Medicine (Section in Genitourinary Diseases); Woman's Medical Association of New York (New York Academy of Medicine); Medicolegal Society; Northwestern Medical and Surgical Society of New York; Buffalo Medical Club; New Jersey Academy of Medicine (Jersey City); New Haven, Conn., Medical Association.

Thursday, *March 21st.*—New York Academy of Medicine; German Medical Society, Brooklyn; Newark, N. J., Medical and Surgical Society; Æsculapian Club, of Buffalo.

Friday, *March 22d.*—New York Clinical Society; Academy of Pathological Science; New York Society of German Physicians; Manhattan Medical Society.

Saturday, *March 23d.*—West End Medical Society; New York Medical and Surgical Society; Harvard Medical Society; Lenox Medical and Surgical Society.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

February 29, 1912.

1. D. L. Edsall: The Clinician, the Hospital, and the Medical School.
2. W. P. Lucas and E. E. Southard: Neurology of the Child. I. Convulsive Tendencies during and after Encephalitis in Children.
3. Walter M. Boothby: Self Retaining, Air Tight Face Piece for Nitrous Oxide Oxygen Anesthesia.
4. J. W. Courtney: Thrombosis of the Left Posterior Inferior Cerebellar Artery.
5. G. L. Walton: A Butler Who Killed His Three Children.

2. Convulsive Tendencies during and after Encephalitis in Children.—Lucas and Southard have searched the records of the Children's Hospital for possible cases of encephalitis and have found twelve that, with some reservations, may be considered as such. The onset in all of these was sudden with paralysis. The deep reflexes were altered in ten, mental symptoms were present in ten, rigidity of the neck in nine, general convulsions in seven (absent in four), nausea and vomiting in five (not noted in seven). The results fall into three groups; death during acute attack, two cases; recovery from acute attack with subsequent epilepsy and mental deficiency and death after twenty-one months, one case; and recovery from acute attack with residual symptoms, five cases; two normal, except for strabismus and possible slight mental change; two epileptic and mentally defective. With respect to epilepsy the total incidence of convulsions during the acute attack was seven in twelve. Of nine children still living, five showed convulsions during the acute attacks and two of the five are epileptic. In both epileptic cases there was a brief interval between recovery from the acute attack and the onset of the epilepsy. Detailed histories and the account of a fatal case with autopsy are given.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

March 2, 1912.

1. Robert T. Morris: Colon Bacillus, a Regulator of Population.
2. Henry J. Nichols: Present Status of Salvarsan Therapy in Syphilis.
3. E. H. Trowbridge: Subcutaneous Injections of Salvarsan in General Paresis.
4. Axel Werelius: Hepatoptosis and Hepatopexy.
5. William Lintz: Rheumatic Carditis.
6. William Lesche: An Improved Esophagoscope.
7. Montague L. Boyd: Phenolsulphonephthalein and Functional Tests of the Kidneys.
8. William Hartz: Chronic Paraldehydism.
9. R. P. O'Connor: Shortening and Advancement Methods without Employing Sutures under Tension.
10. William J. Manning: A Finger Guard.
11. B. W. Rhamy: Acetonuria and the Relation of Acetone to Acid Intoxication.
12. Henry S. Satterlee: The Vacuum Bottle as an Incubator.
13. Israel Bram: Relation of Albuminuria to Indicanuria.
14. A. R. Hoover: Two Cases from Cesarea.

1. The Colon Bacillus, a Regulator of Population.—Morris holds the view that the colon bacillus ranks along with the tubercle bacillus as an agent for preventing overpopulation and regulating the character of population, and might have been seriously considered and given especial attention by Darwin and Malthus had they been in possession of the data which are now in our possession. The author notes the active agency of the colon bacillus in many conditions, infective in origin and leading to inflammatory action and often to destruction of tissue. This activity he remarks in connection with gangrene of the appendix, adhesive inflammations in the vicinity of the pylorus and duodenum, in lesions of the gallbladder, and ulcers of the stomach and duodenum. Interstitial pancreatitis and pancreatic cirrhosis lead up to the possible etiological activity of the colon bacillus in the causation of arteriosclerosis, as in the latter we have a similar alteration of bloodvessels, including increase of connective tissue. The colon bacilli frequently cause acute peritonitis when they escape from some destructive focus. The author recognizes a colon bacillus anemia simulating pernicious anemia. Harris has found the bacillus in large numbers in the urine of a patient with infantile paralysis. Infection of the urinary tract has been noted by several observers, the colon bacillus standing, apparently, in causal relation to it. The female genital tract, from vagina to ovaries, has been invaded by this bacillus, occasionally giving rise to ovarian abscess. Sometimes the effects of the bacillus are remote and not suspected, as in a case of chorioiditis, in which removal of the appendix cured the patient of his chorioiditis.

2. Present Status of Salvarsan Therapy in Syphilis.—Nichols concludes that salvarsan, in spite of its occasional failure, has come to stay, and while it has not met all our expectations, the modern treatment of syphilis must be along the lines laid down by Metchnikoff, Schaudinn, Wassermann, Noguchi, and Ehrlich.

3. Subcutaneous Injections of Salvarsan in General Paresis.—Trowbridge gives the history and treatment of eight cases of general paresis which were selected at a time which showed as nearly as possible the earliest symptoms of mental and physical deterioration. The results obtained by him do not give any hope for benefit in this disease by the subcutaneous use of salvarsan, and a longer lease of life would follow its abandonment as a mode of treatment. The author sees but one method to "stamp out" this disease, that of prophylaxis. He is of the opinion that the law should require that all patients with active syphilis be treated by mercury or salvarsan until the Wassermann reaction becomes negative and remains so for at least one year.

4. Hepatoptosis and Hepatopexy.—Werelius considers the condition of prolapse of the liver in all its phases, giving tabulated data of sixty-six cases operated in. In these operations for fixation of the organ, the incisions used have been vertical (median line, through the rectus, along outer border of rectus), parallel (with the costal arch), and transverse (a few inches above nipple and lumboabdominal). Silk, catgut, and silver wire ligatures were used for suspension. The methods of suspension employed are: Liver sutures, suture of the round ligament, anchoring of the gallbladder, suture of the peritoneum, laparectomy (diminishing the size of the pendulous abdomen), artificial production of adhesions between the liver and the abdominal wall (by sublimate or phenol solutions, rubbing with sterile gauze, scarification, cautery, and tampons), and by a combination of the previous methods.

5. Rheumatic Carditis.—Lintz, from a careful consideration of this subject, draws the following conclusions: 1. *Diplococcus rheumaticus* is the cause of a specific infectious disease known as rheu-

matism. 2. The pathology of this disease is absolutely characteristic. 3. The valvular lesions are caused by the dissemination of the diplococcus through the coronary circulation, which organisms are not simply deposited in the valves by the endocardiac blood stream. 4. Change in the myocardial mitral sphincter (lost tone and consequent dilatation of mitral opening) is the cause of apical cardiac murmurs (they are never functional). 5. Loss of tonicity of the cardiac musculature (a result of the selective action of this particular toxine on the myocardium) causes general cardiac dilatation (the most serious derangement of this disease). 6. Diagnostic importance must be given to a disturbance of the pulse and temperature ratio. 7. Rise of temperature bears a relation to a feeling of well being. 8. Simple and malignant endocarditis are one and the same process, the difference being only one of degree. 9. Treatment does not stay the ravages of this disease.

7. **Phenolsulphonephthalein and Functional Tests of the Kidneys.**—Boyd states that until the use of this drug was discovered there was no reliable method of testing accurately the functional ability of the kidneys. In this drug we have a non-toxic substance which appears rapidly in the urine, is quickly eliminated by the kidneys without any untoward action upon them, and the amount passed is rapidly, easily, and accurately determined by the colorimeter. The time required for the test is short. The amount of dye eliminated is an accurate indication of the extent of renal impairment. There is no pathological condition of the kidney which allows increased permeability of the drug. The amount of dye passed does not depend on the amount of urine in which it is passed; forty per cent. has been recovered in five cubic centimetres of urine.

MEDICAL RECORD

March 2, 1912.

1. Charles H. Mayo: Failure of the Colon to Rotate.
2. T. Mitchell Prudden: The New York Quarantine, and Its Administration under Dr. Alvah H. Doty.
3. Alexander S. Leverty: Fulminating General Paresis with Autopsy.
4. Harvey B. Bashore: Overcrowding and Defective Housing in Country Districts.
5. Forbes R. McCreery: Report of Cases.
6. L. Bolton Bangs: Orchitis with Unusual Features.

1. **Failure of the Colon to Rotate.**—Mayo has observed five of these cases during the past two years, and in only one was the diagnosis made previously to operation. With the rapid growth of the small intestine and the slow growth of the large intestine in the fetus, a rotation of the mesentery normally occurs, and the colon, being wholly on the left side of the spine, rotates about the mesenteric axis, the cecum passing across the duodenum to the right hepatic position and then descending by degrees to the right iliac fossa, which it usually reaches toward the end of fetal life, but sometimes it does not fully reach this point until some time after birth, sometimes it fails entirely, or it may be temporarily or permanently arrested in any position during its descent. In the latter instances complications may arise: 1. It may be impossible to find the appendix at operation; 2, in the complete failure of the colon to rotate, the duodenum will be found to be movable, having a mesentery and merging directly into the jejunum uncovered by the transverse colon or its mesentery; 3, failure of the colon to rotate is a possible cause in cases of obscure inflammations in the left or middle pelvis, or in the right iliac fossa, especially in young persons; in the middle aged and older person, with left sided inflammations, the possibility of its existence should be remembered and it should be differentiated from malignancy, diverticulitis, and complete transposition of the viscera. The author has been able to diagnosticate this condition in one case. After a thorough intestinal evacuation a bismuth acacia soup was administered to the patient and a series of radiographs were made, which showed the abnormal bowel condition as disclosed by bismuth during its passage along the colonic tract.

2. **The New York Quarantine.**—Prudden gives a history of the development of the quarantine service at the port of New York during the administration of Alvah H. Doty, and notes the important discoveries made by the latter during his term of service. The author characterizes the investigation of Commissioner Charles N. Bulger, appointed for the purpose by Governor Dix, as a dismal farce so far as fairness or propriety was concerned and seriously questions the expediency of Governor Dix in the removal of so thoroughly progressive and experienced a health officer as Doctor Doty proved himself to be, or, as Prudden puts it: "The displacement of a faithful officer of the State under cover of a mock investigation and a prodigious defamatory hullaballoo."

LANCET—CLINIC.

January 27, 1912.

1. Fritz C. Askenstedt: Further Observations on Some Heart Stimulants.
2. J. F. Baldwin: Unique Biliary Fistula—Absence of Common Duct and Gallbladder.
3. Leonard K. Hirschberg: New Method of Separating Saccharose from Dextrose, Pentose, etc., when Present in the Body Fluids

February 3, 1912.

4. H. M. Richter: Pathology of Cholecystitis and Its Complications.
5. Bayard Holmes: Symptomatology and Diagnosis of Toxic (Non-infectious) Cholecystitis.
6. William Engelbach: Medical Treatment of Cholecystitis.
7. Louis Frank: Surgical Treatment of Cholecystitis.

February 10, 1912.

8. Charles T. Souther: Inguinal Hernia—Relative Teaching Value of Actual Photographs as Compared to Drawings.
9. W. D. Porter: Placenta Prævia.
10. E. Gustave Zinke: Treatment of Placenta Prævia.
11. H. G. Graham: An Improved Inhaler.

February 17, 1912.

12. C. C. Wholey: Some of the More Acute Forms of Mental Pathology Resulting from Alcoholism.
13. Mary L. Emrie: Obstacles which Tuberculosis Nurses Meet in Their Work.

1. **Further Observations on Some Heart Stimulants.**—Askenstedt calls attention to the meagre results of heart stimulants when used in the human as compared to the definite action of these drugs in animal experiments, which he believes may be due to a lessened response of the diseased tissues, to a much smaller dose employed clinically, and to biological differences. In the course of his experiments he gave 1/30 grain of strychnine hypodermically nine times, in six cases of low blood pressure, in two cases when it was about normal, and once when it was high. In seven cases no appreciable effect was observed upon the pulse rate or on the quality of the pulse. In one case a rise in pulse rate was observed and in one case a fall, but in

both cases the effect could be accounted for by other influences. In no case was there a rise in blood pressure following the injection; in one case of high pressure, in one of normal, and in one of low pressure, there was a slight fall in each. Nitroglycerin in 1/50 grain doses was given hypodermically ten times—in five cases the tension was high, in two cases normal, and in two cases low. In one case of high tension 1/25 grain was given. A lowering of blood pressure was produced in every case, lasting not less than one hour or an hour and a half, the reduction usually being from twenty to twenty-five mm. The fall of blood pressure at times was considerable, and in one case a rapid sinking of the pulse rate and the arterial tension in less than five minutes after the injection, but this profound depression lasted only a few minutes. It is evident that in cases of decidedly low tension the use of nitroglycerin is attended with great risk. The power of strychnine, atropine, and digitalis to contract the bloodvessels and increase the pressure was not observed in any of the author's experiments.

3. New Method of Separating Saccharose from Other Forms of Sugar when Present in Urine or Other Body Fluids.—Hirschberg gives the following simple method, which is easily followed: The suspected liquid, if sterile, is incubated for twenty-four hours, or, if time is an object, boil the fluid for forty-five minutes with equal quantities of decinormal solution of sodium hydroxide. Complete decomposition of all sugars except saccharose occurs. The latter remains unaffected, and may then be detected by polariscopic examination.

5. Symptomatology and Diagnosis of Toxic (Noninfectious) Cholecystitis.—Holmes, from a study of these matters, is convinced that the presence of some irritant in the mucosa of the gallbladder produces a morbid process which results in an enormous proliferation of mucous glands in this viscus; that secretion and excretion of toxic matters into the gallbladder by these glands results, which toxic matters are so absorbed by the tissues of the patient as to cause a general toxemia, and this toxemia produces a well marked train of symptoms. The production of these symptoms is seemingly due to a selective action of these toxines upon the heart and centrally located bloodvessels and upon the nerves supplying the gallbladder through the sympathetic plexus. The mucous glands of the other two portions of the biliary tract are possibly concerned in the glandular hyperactivity or possibly glandular perversion. The results of cholecystostomy and protracted drainage have fully demonstrated the relation between the symptoms and the gallbladder disease.

6. Medical Treatment of Cholecystitis.—Engelbach suggests that in the medical treatment of cholecystitis prophylaxis is most important, particularly in those infections of the gallbladder complicating known diseases, such as typhoid. Early treatment of the diseased mucous membrane of the infected gallbladder should be instituted before these infections cause obstruction of the cystic duct, calculi, or involve contiguous tissues. Urotropin (hexamethylenamine) and menthol, combined with vaccine, preferably specific vaccine, offer most promise both for prophylaxis and active treatment of acute cholecystitis. Chronic cholecystitis, on account of the extensive pathological changes in the tissue, and contents of the gallbladder and adjacent organs, is not affected by medical treatment.

8. Inguinal Hernia. Relative Value of Actual Photographs as Compared to Drawings.—Souther, in this beautifully illustrated article, demonstrates the advantage that the photograph has over the drawing in the matter of understanding and in teaching the subject of hernia.

12. Some of the More Acute Forms of Mental Pathology Resulting from Alcoholism.—Wholey concludes, from a study of the reported cases, that the early alcoholic psychoses afford excellent material for observing the mechanism underlying hallucinatory and delusional formation. Illusions are often due to an irritation of some special sense (a disturbance in the auditory canal producing a crackling or buzzing may, by the patient, be construed into voices, at first impersonal, then personal, and later elaborated into definite delusions).

BRITISH MEDICAL JOURNAL.

February 24, 1912.

1. C. J. Bond: Immunity Problem and Organic Evolution.
2. A. H. Burgess: Five Hundred Operations for Acute Appendicitis.
3. C. A. Morton: Radical Cure of Femoral Hernia.
4. E. F. Clowes: Adder Bite.
5. H. J. Clarke: Ruptured Spleen.
6. B. S. Jones: Anesthesia for Resection of the Septum.
7. H. B. Gardner: Atropine and Open Ether.
8. H. D. Rolleston: Subphrenic Abscess.
9. H. Bayon: Transmission of Leprosy to Animals.

1. The Immunity Problem.—Bond, after carefully analyzing the modes and processes in the production of both individual acquired and racial hereditary immunity, is led to the belief that there exists a most remarkable similarity between the two. In the former the process is one of variation and selection in and among cells without the destruction of the involved cells. In the latter there is a destruction of those cells which are incapable of surviving the strain of the altered life conditions with the survival of the cells which, through changes, were able to withstand the trial. This latter leads to the formation and selection of more fully adapted individual organisms during the process of readjustment to the new conditions of life. The latter was the mechanism of the acquisition of immunity in primitive times when there was no protection of the individual and when for the race to maintain its existence there was the necessity of developing a natural immunity by the process of natural selection. But in the civilized state this mechanism has been largely supplanted by the acquisition of individual immunity by either individual experience of disease aided by innate capacity for resistance or by aid of external conditions which conduce to recovery. The modern immunity is then one which is of the nature of a use acquirement. This principle of use acquirement underlies all such civilized measures as cooperation and environmental control. As these measures of sanitation, both external and internal (serum therapy, vaccination, etc.), tend to banish disease organisms from the environment and to reduce their virulence, we are led farther and farther away from the old régime of innate variation and natural selection. The necessity of being immune by nature becomes less as the possibilities of becoming immune by art

become greater. Hope for the future progress lies, then, in the extension of the method of adaptation by use acquirement and environmental control, in the improvement of environmental conditions, and the banishment of disease organisms from the human environment by measures of external sanitation and in the destruction or reduction of virulence of the organisms by vaccine therapy and chemotherapy, if they should get a foothold in the body. These are the methods of use acquirement and environmental control, and the methods by which more and more adaptation to disease on the part of the human race will be brought about. It must be remembered, however, that in both use acquirement as well as in the case of preadaptation and natural selection there must exist an innate capacity of some kind or other—a capacity of being already adapted before experience, on the one hand, or a capacity to become adapted and to learn by experience on the other. Since these are both matters of heredity and breeding it is essential in discarding the older method of natural selection that we take steps to safeguard the transmission and production of innate capacity by some measures of eugenic control.

2. **Acute Appendicitis.**—Burgess has analyzed a series of five hundred consecutive cases of acute appendicitis in which he operated, and directs attention to the following points of interest: First, that the mortality is greater on each successive day from the first to the sixth. The greatest incidence of the disease is from the tenth to the thirtieth year of age, more than half of the total occurring in these decades. There was a history of one or more previous attacks in 28.4 per cent. of the series. The mortality for the series of unselected cases was eight per cent. Three of the deaths were due to delayed chloroform poisoning, two on the first and one on the second day after operation. The most frequent cause of death was diffuse spreading peritonitis.

7. **Atropine and Open Ether.**—Gardner employs the following technique with most excellent results both as far as the course of the anesthetization is concerned and in regard to the freedom from disagreeable after symptoms. He gives 1/150 grain of atropine sulphate by hypodermic injection one hour prior to the operation. This serves to diminish the mucus in the air passages, prevents sweating and loss of heat, stimulates the respiration, and dulls the sensitiveness of the vagus to reflex stimulation. The addition of morphine has the disadvantages of apparently increasing oozing of blood from the wound and delaying the recovery from the anesthetic, as well as retarding the reappearance of the laryngeal reflex. Just as soon as the patient is unconscious he inserts a mouth prop and grasps the tongue in a clip having a finger ring. By these means he is able to maintain complete patency of the respiratory passages and the occurrence of difficult or labored respiration is prevented. After thirteen years of use of other methods of ether administration he has used nothing but the open method for the past four years and most strongly urges its adoption for all routine surgical work on account of its extreme simplicity, safety, and convenience for the patient, the operator, and the anesthetist.

9. **Transmission of Leprosy to Animals.**—Bayon seeks to answer the frequently expressed doubts as to whether leprosy can be transmitted to the lower animals by direct inoculation, by citing an extensive series of experiments from the literature. He also includes the results of his own work on the subject and concludes that: 1. Leprosy can under certain conditions be transmitted to animals, the main difficulties being the high percentage of failures and the long incubation. 2. The most suitable animals appear to be the rabbit, rat, or mouse. The resulting lesions are frequently not visible to the naked eye, and are similar to those caused by some strains of human tubercle bacilli. 3. In the rat the incubation is very long and the lesions are comparable to those seen in the spontaneous leprosy of this animal. 4. Not all leprous patients' nodules are equally infective for animals. In some cases the lepra bacilli seem to be wholly incapable of multiplying, for reasons we do not as yet know. 5. According to Stanziale's experiments the Wassermann reaction is positive in rabbits which have been successfully inoculated.

LANCET

February 24, 1912.

1. A. E. Garrod: Glycosuria (*Lecture I*).
2. G. R. Murray: Treatment of Exophthalmic Goitre.
3. D. Newman: Cystitis.
4. A. Distaso: Intestinal Flora.
5. O. Kraus: The Ileocecal Valve.
6. C. W. G. Bryan: Pyemia Treated with Specific Antistreptococcus Serum.
7. William A. Brend: Medical Provisions of the National Insurance Act (*Part III*).

1. **Glycosuria.**—Garrod, in this the first of the Lettsomian lectures, gives a very thorough discussion of the history; diagnosis; and classification, both as to variety, etiology, and pathology of glycosuria: and a discussion of potential or alimentary glycosuria. While he introduces nothing new in regard to our knowledge of these phases of the disease, his discussion serves excellently to bring together in a correlated manner that information which we do possess.

4. **Intestinal Flora.**—Distaso undertook his studies upon the intestinal flora with the hope of finding a means of recognizing the predominance of one microorganism or another by simple microscopical examination of the stools, and of thus being able to form an opinion of the way in which the flora act. He has grouped the various organisms which he has found to occur in the normal state into four classes; Gram negative or Gram positive bacilli or cocci. There are from three to seven main subdivisions to each group depending upon physical or biological differences. All of these may be identified by simple microscopical examination. As the nitrogenous matters diminish the bacteria become more abundant and the species more numerous. The large bowel contains no sugars, and neither albumin nor peptone, but only derivatives of these, and to these chemical peculiarities there is added the factor of some natural stasis of the contents with the removal of water. The bacteria then have to adapt themselves to the altered conditions, and he finds that it is mainly the indol forming organisms which predominate here. He therefore reclassifies the intestinal flora according to their functions into indol forming and nonindol forming. This allows for the fact that organisms having similar biological properties can replace one another.

Following along these lines Distaso has been able to show that the normal intestinal flora is not only not harmless but is actually detrimental and even aids in causing infection of the host. The bodies produced by these bacteria, when absorbed are toxic, and those acting upon the wall do not increase but rather tend to diminish intestinal peristalsis, and to irritate the mucous membrane. He finds the flora of constipated man to be characteristic; the total number of bacteria is less than normal, Gram negative forms are almost entirely absent, and the spores are very abundant. These bacteria are capable of causing putrefaction both in the intestine and in the test tube, and they themselves undergo autolysis in the bowel; the products of both of these processes are toxic to the host. The accumulation of the feces in the colon through the stasis, produced in part by the inhibitory action of the bacterial products, causes the intestine to fall, and thus further adds to the stasis by mechanical obstruction. This added stasis in turn increases the putrefactive processes and the absorption of their products. Removal of the large intestine as done by Lane has no harmful effect upon the individual as far as anatomical functions are concerned, and it removes all these factors associated with constipation and absorption of toxines.

5. The Ileocecal Valve.—Kraus has made experiments to determine the penetrability of this valve from the cecal side. He used sections of the cecum and lower ileum which he removed, with the utmost care, from cases of early autopsy and finds that the anatomical structure, with especial reference to the longitudinal bands of musculature, suffices to make the valve completely impassable from below. It is closed quite passively as is the india rubber gas valve of Bunsen. Mechanical rupture of a small slip from one of the longitudinal bands is sufficient to destroy the competency of the valve, for it releases the point against which the mutual pressure acts to cause passive closure. Hence the belief still so firmly held that it is possible to introduce fluids into the ileum by way of enemata is seen to be no longer tenable.

6. Antistreptococcus Serum.—Bryan's serum was obtained from himself after he had recovered from an infection acquired while opening a focus of pus in a case of pyemia resulting from the Lorenz operation. The patient from whom he became infected was nearly moribund from pyemia and had failed to respond to the use of multivalent stock vaccines and homologous vaccines from her own germ. The injection of 10 c.c. of the blood serum from Bryan caused an immediate change for the better and the fall of temperature was continual. Recovery was ultimately complete. This is probably the only instance of the use of an antistreptococcus serum obtained from man. Bryan himself was aided in his recovery by the use of an autogenous vaccine.

BULLETIN DE L'ACADÉMIE DE MÉDECINE.

January 30, 1912.

CANTAS and NETTER: Contribution to the Treatment of Cerebrospinal Meningitis.

Cerebrospinal Meningitis.—Cantas and Netter report a case in which lumbar puncture yielded only with difficulty and upon aspiration two c.c. of purulent fluid. Twenty c.c. of antimeningococcic serum were injected, convulsions taking place at the close of the injection owing to the pressure exerted. The same result occurred at a later injection. The patient's condition being serious it was decided to inject serum higher up. Puncture was practised in the space between the first and second thoracic vertebræ, and after aspiration of 1.5 c.c. of pus, 20 c.c. of serum was injected in the course of ten minutes. Prompt improvement occurred and recovery ensued, which the authors attribute to the high injection of serum.

PARIS MÉDICAL.

February 24, 1912.

1. RAYMOND GRÉGOIRE: Treatment of Abscess of the Breast.
2. SURMONT, DUBUS, TIBERGHIEN: Study of Fecal Fats.
3. CATHELIN: Error in Cystoscopic Images.
4. SCHREIBER: Nomenclature of the Nutritional Disturbances of the Nursling.
5. DESMAREST: Radical Cure of Inguinal Hernia.

3. Errors in Cystoscopy.—Cathelin points out some common mistakes in diagnosis by the use of the cystoscope, an instrument which, he says, has proved as revolutionary in the study of the bladder as the x rays elsewhere. It is the compass of the genitourinary specialist. A benign tumor is very likely to be mistaken for a malignant one and vice versa; the location is important, and the malignant growths are larger and involve the bladder structure more deeply. Calculus may be mistaken for tumor and vice versa; also a clot, or a collection of pus. Vegetating or ulcerating tuberculosis sometimes simulates a tumor, and so does a hypertrophied median lobe. A deep ulceration often looks like the orifice of a ureter; varix of the neck may simulate a polyp; and, finally, a craterlike ureteral meatus may be taken for a diverticulum.

PRESSE MÉDICALE.

February 21, 1912.

1. A. CALMETTE: New Light on Vaccination for Tuberculosis.
2. AUG. BROCA: Fracture of the External Auditory Canal.

February 24, 1912.

3. GUIBÉ: Paralysis of the Suprascapular Nerve.
4. MARCEL LABBÉ: Severe Nutritional Disturbances.
5. LAGARDE: Radiographic Paraffin Prosthesis.

1. New Light on Tuberculosis Vaccination.—Calmette points out that no nation is refractory to tuberculosis, although it was once thought so; also that the more it is spread among a given people, the commoner are the chronic forms as contrasted with the acute. Many people go through life with latent tuberculosis, which would be revealed only upon a tuberculin inoculation. Calmette thinks, therefore, that we might undertake a general protective inoculation, as in eighty-one cases out of 100, the disease attacks human beings before the age of fifteen years. The immunity or rather resistance seems to persist in a subject only if he is the victim of some tuberculous lesion. To confer immunity dead bacilli are useless, and so are bacilli of cold blooded animals or birds. The author has not succeeded in causing macroscopic lesions by the use of a bacillus originally of bovine origin, of which the waxy, fatty envelope is modified by successive cultures on glycerinated ox bile, but the inoculation causes a general febrile reaction, typhoid in its nature, followed by recovery. Animals so

treated manifest a wonderful resistance to intravenous injections of virulent bacilli. Calmette believes that, in cities at least, tuberculous infection previous to the age of five years is practically inevitable, and as long as the infection is restricted to lymphatic glands and is not too massive, it will protect the child against further infections. It is necessary to guard such a child against too frequent reinfections, and supervision should be begun from the very cradle, the diagnosis being always a simple matter with the cutireaction of tuberculin. The country air is what is wanted for such a child to avoid the long train of evils consequent upon family infection, disease, privation, strikes, etc. The author's hope is to find a method of inoculation by the stomach, which may be begun during the first weeks of life and, owing to the extreme permeability of the infant intestine, silently establish an immunity similar to those already conferred to a numerous variety of microbes which are for the future normal guests of the digestive tract.

3. Paralysis of the Suprascapular Nerve.—Guibé notes that the treatment of this condition may be medical or surgical. Medical treatment may be directed to the affected muscles, by massage, electricity, mechanotherapy, in an endeavor to restore their function, or to the assistant muscles about the joint, to enable them to replace those affected. Surgical treatment, which Guibé suggests as a novelty, may be directed either to nerves or muscles, in the former case consisting of neurolysis, suture, or a nerve graft. The indications for such an operation would be a traumatic lesion, a tumor, or a cicatrix compressing the nerve, and it would be done only if suture or extrication of the nerve were surely possible and if it were likely to restore function to the muscles. The simplest of operations is a muscle graft, which is safe as well and not likely to lead to complications.

SEMAINE MÉDICALE

February 28, 1912.

Immediate Percussion with a Single Finger. (*Anonymous.*)

Immediate Percussion.—The anonymous writer states that this method of percussion is the only one employed by Obraztzov, of the faculty of medicine at Kieff, who found it indispensable in percussing the limit of the stomach after listening to the splash, as the intervention of the plexímeter or another finger caused him to miss the line of demarcation between stomach and intestine. Subsequently the Russian found this method useful in delimiting other abdominal organs. In the thorax it is not good for examining the apices, but excellent for the detection of pleural effusions. To mark out the heart, the single finger method is superior. The patient is best in the upright position. The left hand is used to exercise necessary pressure on the wall and to move to one side fatty folds or, in a woman, the breast. He has found that both in neurasthenia and emphysema the cardiac dullness is lowered and the beat is accompanied by epigastric pulsations. He has also found a definite relation between the areas of cardiac and hepatic dullness; for example, if the former shows its upper limit at the fourth rib, the latter will begin at the sixth.

MEDIZINISCHE KLINIK.

February 4, 1912.

1. Fleischmann: Relation of the Glands to the Internal Secretion.
2. Martin Haudek: Duodenal Ulcer.
3. Wiewiorowski: Treatment of Aneurysm with Vessel Suture.
4. Johann Fabry and Edmund Jerzycki: Abortion of Beginning Syphilis with Salvarsan.
5. Weitz: Rapidly Developing Gonococchemia with Acute Liver Atrophy.
6. Otto Wille: Dry Treatment of Leucorrhea.
7. Reimers: Breathing Exercises as a Therapeutical Adjuvant in Diseases of the Nose and Related Organs.

February 11, 1912.

8. Karl Zieler: Gonorrhea as a General Disease.
9. Martin Haudek: Radiological Demonstration of Duodenal Ulcer.
10. Julius Zappert: Prognosis of Epilepsy in Childhood.
11. H. Krause: Technique of Opening Periamygdalar Abscesses.
12. Immelmann: Present Status of Röntgenotherapeutics in Gynecology.
13. Gustav Löffler: Hemorrhagic Diathesis.
14. J. Nerking: Rhodalzid, a New Rhodan Combination and Its Employment.
15. Johannes Linke: Importance of the Ovaries for the Generation of Sex.
16. W. Wangerin: Bastards through Grafting.
17. Ernst Portner: Diseases of the Bladder.

2, 9. Radiological Demonstration of Duodenal Ulcer.—Haudek speaks of the radiological diagnosis of ulcer of the duodenum. The title of his articles is somewhat misleading, as he refers to röntgenology of the ulcer. He gives the following röntgenological symptoms: 1. Retention of the contents in the duodenum with the sign of an insignificant duodenal stenosis. 2. The discovery of a pathological recess in the duodenal wall, which can be recognized as containing a very small quantity of bismuth, and can thus be distinguished from the residual contents; this fold can be also demonstrated by palpation as having a resistance which reacts to pressure. 3. The point thus demonstrated will be changed upon drawing in of the abdomen. 4. Low supermotility of the stomach. But all these symptoms are sometimes not demonstrable under röntgenology and a negative Röntgen diagnosis will therefore not exclude ulcer of the stomach or duodenum.

3. Treatment of Aneurysm with Vessel Suture.—Wiewiorowski reviews eighteen cases of so called ideal aneurysm operation which have been reported in the literature. The operation consists in suture of the artery.

8. Gonorrhea as a General Disease.—Zieler remarks that gonorrheal general infection is a splendid field for specific treatment with vaccine made from dead gonococcic cultures. Nothing definite can be said so far, as the results have not been uniform and not always good. He mentions two stock vaccines which have been very effective in his hands. But one point should not be overlooked, and that is the treatment, under such conditions, of the mucous infection of the primary gonorrhea, which should not be pushed too severely, but should be still continued with the greatest care with local antiseptics.

14. Rhodalzid, a New Sulphocyanide Combination and Its Employment.—Nerking remarks that sulphocyanide (German *Rhodan*) is found normally as sulphocyanide of sodium or potassium in the saliva of normal man, where its quantity lies between 0.003 and 0.010 per cent. He states that rhodalzid is an albuminosulphocyanide preparation which he has used successfully in patients suffering from tabes, gout, and arterial sclerosis. The "success" given by the author is not clearly explained.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

February 6, 1912.

1. FRAENKEL: Chronic Insufficiency of the Heart and Its Therapeutics with Intravenous Injections of Strophanthine.
2. SCHOTT: Omission of Systole of the Auricle.
3. IVERSEN: Theory of the Effect of Salvarsan and Arsenophenylglyzin.
4. KLAUSNER: Distant Thrombosis after Intravenous Injection of Salvarsan.
5. JAEGER: Extract of the Hypophysis as a Drug in Labor.
6. LANGE: Difficulties Resulting from Flatfoot and Treatment of Flatfoot.
7. LEERSUM: Examination of Feces.
8. KOELSCH: Total Argyria Industrially Produced.
9. MANDELBAUM: A New Plate for Breeding of Bacteria of the Typhus Coli Group from Feces.
10. GLOMBITZA: Effect of the Narcotic Remedy Adalin.
11. MESERNITZKY: Destructive Influence of Radium Emanation upon the Skin.
12. SCHREIBER: Atresia Ani.
13. HAENISCH: Castration by Surgical or Röntgen Procedure.
14. NECKER: Diagnosis and Therapeutics of Tuberculous Kidney.
15. FROMME: Pregnancy and Anaphylaxis.
16. HOLST and SCHLESINGER: Röntgen Examination of the Large Intestine with Shadow Producing Clysmata.
17. GRASHEY: Paul Ziegler.
18. EBEL: Edmund Biernacki.

February 13, 1912.

19. HOLZKNECHT and FUJINAMI: Examination of the Stomach for "Raw Motility" with Röntgen Rays.
20. STERN: Abortive Treatment of Lues with Salvarsan.
21. SCHUSTER: Anthrax and Salvarsan.
22. MUCK: Influence of the So Called Sternocleidoposition of the Head upon the Blood Circulation of the Inside of the Cranium.
23. SCHULZ: Absorption of Silicic Acid by Milk during Sterilization in Glass Bottles.
24. JÖDICKE: Zebromal, a New Antiepileptic Drug.
25. PONNDORF: Vaccination of Rabbits.
26. BERNHUBER: Typhoid Bacillus Carrier in a School.
27. SCHOEN: Strabismus Reported by the Patient Himself 120 Years Ago, and Cases of the Present Day.
28. POULSEN: A New Case of Alcaptonuria with Ochronosis.
29. FLESCH: Prolapse of the Fimbria in the Scar after Total Extirpation of the Uterus through the Vagina.
30. STRAUSS: Primary Latent Cancer of the Esophagus.
31. SCHMUCKERT: Examination of the Larynx and Fauces of Infants.
32. HOFFMANN: Panting Expiration in Aortic Aneurysm.
33. HOLZBACH: Is the General Practitioner of To-day Able to Examine Bacteriologically an Abortion of a Septic Patient?
34. RUNGE: Quantitative Measurement of the Röntgen Rays in Therapeutics.
35. BÉRANECK: Selection among the Tuberculins.
36. FRAENKEL: Chronic Insufficiency of the Heart and Therapeutics with Intravenous Injections of Strophantine.
37. EBSTEIN: Charles Bell.
38. KANNGIESSER: Attic Plague as Described by Diodorus.

4. Distant Thrombosis after Intravenous Injection of Salvarsan.—Klausner reports a case of *thrombose à distance*. The patient received an intravenous injection of 0.6 gramme salvarsan in the vena mediana cubiti of the left arm. Seventeen days later he had a sudden attack of high fever with great pain in the right thigh, where, upon examination, a thrombosis was found. This case, the author remarks, together with the cases of Gaucher and the case of Clingestein, are of great importance in the salvarsan literature.

10. Adalin.—Glombitza reports his results with adalin, a bromdiethylacetylcarbamide, which is, therefore, a combination of veronal and bromural. The author gives the following three points as greatly in favor of this new narcotic: 1. It is nearly entirely tasteless; 2, it is quickly eliminated; and, 3, the patients will not form a habit. Against its use are the following three points: 1, A certain irregularity in the effect in long continued use of large doses; 2, the possibility of toxic effects, especially in combination with other drugs; and, 3, as large doses have to be used to produce an effect, the price is rather high.

13. Castration by Surgical or Röntgen Procedure.—Haenisch defends his theory of castration by Röntgen rays, which was severely criticised by von Herff (see JOURNAL, 1912, page 249). He admits that in many points von Herff is right, but does not subscribe to his conclusions and upholds his own theory.

20. Abortive Treatment of Lues with Salvarsan.—Stern reports fourteen cases of abortive treatment of syphilis with salvarsan and advises, under all circumstances, to try such abortive cure.

21. Anthrax and Salvarsan.—Schuster has found through his experiments that rabbits can be saved from the fatal ending of an attack of anthrax by an injection of salvarsan, 0.04 gramme to the kilogramme animal weight. He says that his experiments are absolutely correct and he hopes that others will follow his lead.

23. Absorption of Silicic Acid by Milk during Sterilization in Glass Bottles.—Schulz found that even a good glass bottle will give off, by protracted use, an amount of silicic acid which is quite ponderable. If the boiling takes place for only a short time the amount of silicic acid given off in good glass bottles is very small after the second time the bottle has been used, while cheap glass, even with these precautions, will always give off a large amount. The author thinks that chronic constipation of bottle fed children should warn us and that the silicic acid will unquestionably affect, in this way, the action of the intestines. As silicic acid is also found in raw milk, chronic constipation should induce the physician to examine the milk for silicic acid.

ZENTRALBLATT FÜR CHIRURGIE.

February 24, 1912.

1. M. KAPPIS: Conduction of Anesthesia in Operations on the Kidneys and Plastic Operations on the Thorax, Particularly in Operations on the Trunk.
2. E. D. SCHUMACHER: Technique of Local Anesthesia in Plastic Operations on the Thorax.
3. F. COLMERS: Pantopon-Scopolamin Local Anesthesia in Operations on the Abdomen, Especially in Appendectomy.
4. WEHL: Tamponade of the Abdominal Cavity.

1. Anesthesia in Operations on the Kidneys.—Kappis considers the adoption of spinal anesthesia to be a great advance in operations on the numerous patients who have both kidneys diseased, as lessening the danger of postoperative nephritis due to general narcosis.

2. Local Anesthesia in Plastic Operations on the Thorax.—Schumacher gives a patient 0.02 gramme of morphine, or 0.03 to 0.04 of pantopon, one hour before operation. Then he makes a fresh one half per cent. solution of novocaine and suprarenin from the prepared tablets and uses from 100 to 200 c.c. of this solution according to the extent of the field of operation. The line of the incision through the skin is first anesthetized and then along the lines of the deeper incisions down to the intercostal spaces.

AMERICAN JOURNAL OF DISEASES OF CHILDREN.

February, 1912.

1. G. R. PISEK and T. H. COFFEN: The Polygraph as Aid in Diagnosis of Cardiac Conditions in Children.
2. CARL BASCH and ADOLPH KOHN: [illegible] Thymus.
3. F. W. SCHULTZ: Study of the Pyuria [illegible]
4. C. W. LE FEVER: Management of Squint in Children.

1. Polygraph as an Aid in Diagnosis of Cardiac Conditions in Children.—Pisek and Coffen say that since the days of Skoda there have been no startling advances in our methods of physical diagnosis, and that we are only now adding valuable information and records to those of the unaided senses by the use of scientific instruments. The task they set for themselves was to determine:

1. If satisfactory tracings could be made from children; 2, if information additional to that obtained from physical examination was possible; 3, if this information could be utilized in prognosis and treatment. The instrument used was their own modification of the Erlanger sphygmograph with the Hirschfelder attachment. With this a simultaneous tracing could be made of the pulse (sphygmogram), of the heart (cardiogram), and of the venous pulse (phlebogram). From the sphygmogram information relating to the movements of the left heart, the rhythm of the heart, and the variations and pressure within the artery were obtained; from the cardiogram, exact data concerning the heart movements, the relation of the heart to the chest wall, and certain physiological events helpful in determining the pathological state of the heart. The phlebogram is the most important record, as it indicates the activities of the right side of the heart. They were able to make satisfactory tracings with only slight modifications of the appliances to suit the smaller anatomical areas in children. Many original tracings are given with their interpretations to illustrate the article. For example. the polygraph shows that digitalis should never be prescribed when the a-c interval is prolonged, since it then only depresses the function of conductivity and accentuates any arrhythmia which is present. Regarding the function of stimulus production they found a quickening of the pulse in every case with inspiration, and a slowing with expiration (respiratory arrhythmia). The cardiac muscle in children is particularly predisposed to this disturbance. Contrary to expectations no evidences of the function of excitability were noted, and the deduction was that the myocardium in the young does not exhibit any extra systoles, even in rapidly beating hearts. They summarize the results of their studies as follows: 1. Tracings satisfactory for diagnosis can be obtained in children. 2. The polygraph offers a means of accurate diagnosis which is not afforded by ordinary methods of examination, and should be used in addition to these—it will not replace them. 3. The information obtained from polygraphic tracings is of value for prognosis and treatment. Digitalis heart block should be suspected where the pulse becomes irregular under the use of this drug. 4. Respiratory arrhythmia was found in their series with surprising frequency. This is said to be physiological, but they are led to suspect that it may frequently be misleading, and that the physician may suspect serious cardiac weakness. The irregular hearts were shown to have marked respiratory arrhythmia. They have yet to find extra systoles or auricular fibrillation in children. The use of the polygraph will not stultify physical findings; on the contrary, more careful examinations will be made, for its use enhances their value and interprets observations which have thus far been unexplained.

3. **Study of the Pyrogenic Action of Lactose.**—Schultz has studied the question whether a food component, if introduced into the intermediary metabolism unchanged, is capable of developing pyrogenic action. He reviews thoroughly the recent literature. Many observers found that the tolerance of animal organisms for lactose is lower than for any other sugar, and it sinks particularly low in diseases of the intestinal tract. Schultz's study had for its object the observation of the effect of lactose on the body temperature if introduced directly into the blood stream in varying amounts and under varying conditions, and the study of the general effect of lactose and comparison of results with those of other observers. Female rabbits were used in the experiment. The results obtained warranted the following conclusions: 1. Lactose, if given intravenously, subcutaneously, or orally, possesses no distinct pyrogenic effect, no matter in what concentration or amount given. 2. It does possess a definite though not pronounced influence on the temperature if it is given subcutaneously or orally in an animal with a diseased intestinal tract in combination with a medium containng a sodium salt, such as physiological or Ringer's salt solution. These results, though definite, are hardly so to the extent expected when one considers the pronounced effect produced clinically by the administration of lactose in similar conditions, and are far from explaining the pathogenesis of the fever occurring in alimentary intoxication.

4. **Management of Squint in Children.**—Le Fever believes that it is of the greatest importance that those who preside over the physical destinies of children should understand that squint is curable by nonoperative measures. The cure depends upon the *early* institution of the proper measures and their implicit observance. The responsibility for allowing children to become adults with eyes crossed and loss of function in one eye, must be shared by three persons: First, the parents; second, the pediatrist or general practitioner; third, the oculist. If a child is brought very young to the oculist, say at one year of age, he should congratulate both himself and the parents. He considers his treatment under five heads: 1. Correction of the hyperopia. 2. The use of atropine should be admitted only when glasses are out of the question, and until such a time as the child may be "glassed." 3. Cure of the amblyopia. 4. The fusion sense must be reestablished. 5. Operative measures are to be used only as a last resort and will rarely be necessary if the child is properly managed from the incipiency of the squint.

AMERICAN JOURNAL OF SURGERY.

February, 1912.

1. A. E. Hertzler: Abdominal Operation under Local Anesthesia.
2. S. J. Young: Local Anesthesia in Traumatic Surgery.
3. F. E. Neef: Surgical Essentials.
4. I. W. Hunter: Infertilitas in Vinculo Matrimonii.
5. H. Newhof: A Method to Facilitate Palpation of the Upper Abdomen.
6. H. H. Stansbury: Use of Aluminum Acetate in Local Inflammations.
7. A. Eastis: Traumatic Aneurysm of the Brachial Artery, with Occlusion of the Distal End. Successful Matas Operation

1. **Abdominal Operations under Local Anesthesia.**—Hertzler notes that the parietal peritoneum is sensitive to cutting, crushing, or traction, and that the gastrointestinal tract may be manipulated with impunity, providing the normal limits of peristaltic movement are not exceeded and pressure avoided, as this obviates traction or pressure on the nerves. Inflammation with exudates causes pain by pressure on the nerve filaments, this giving a more tender field. The usual preparation of the patient is unnecessary and the usual diet is continued. The part is dry shaved, iodine applied, and

excess removed with alcohol just before operation. The skin, or the skin and fascia, is then infiltrated with the anesthetic about the line of the incision. The fascia is rather insensitive and may or may not be injected. Incisions parallel to the nerves are less sensitive than those across the nerves. Inflammation calls for thorough infiltration. In exploratory laparotomy, where the general condition is bad, reducing of the nourishment is avoided by this method. The stomach even may be entered if thoroughly washed out just before operation. A dose of morphine is helpful. The length of the incision should allow of free exploration, as the manipulation of the viscera, rather than the trauma, causes shock. Catgut No. 2 is used to close the wound, and the patient is set up immediately following operation. The method is useful for gastrostomy, gastroenterostomy, colostomy, drainage of the gall-bladder, or appendical abscess. In acute walled off abscess this is the method of choice, but abscesses not attached to the abdominal wall require general anesthesia, as they are too painful.

2. **Local Anesthesia in Traumatic Surgery.**—Young declares that greater safety in traumatic surgery can be had by local than by general anesthesia, and shock avoided or limited. He thinks novocaine the drug to use. For local use in mucous membrane injuries he employs pure cocaine crystals moistened with adrenalin chloride solution, one to 1,000, the adrenalin preventing excessive absorption of the cocaine. For digital injuries, ligation of vessels, or even for amputation, novocaine is used, adrenalin being added in all except operations on the fingers and toes. For spinal anesthesia tropococaine is preferable to stovaine, as it does not cause motor paralysis. Up to 150 c.c. of a one half per cent. solution of novocaine may be used with perfect safety if sterile, and fifteen minims of adrenalin is added to each fifty c.c. of the solution just before using. Tablets can be purchased which makes the preparation of the different solutions easy. Infiltration and venous injection are applicable in nearly all cases. Injections are first made into the skin around the field. When wheals develop, a ten c.c. syringe with a long needle is pushed into the wheal, and the subcutaneous tissues are injected by slowly advancing the needle and expelling the solution drop by drop as the needle is advanced and withdrawn. In the venous method the veins are emptied by bandaging from the toes up, the arterial flow is controlled by another bandage and a vein injected with 100 to 150 c.c. of one half per cent. novocaine solution. The vein is then ligated on both sides of the incision and operation began after fifteen minutes.

3. **Surgical Essentials.**—Neef states that the new tissue which repairs a wound is not the fittest, but the most rapidly proliferating tissue, usually connective tissue with few or no elastic fibres or functioning cells. Striated muscle may be renewed to some extent from the sarcolemma, but involuntary muscle, and especially nerve cells, are never renewed. Cartilage and bone are usually repaired with like tissue. The specialization of the cell does not abolish its power to enlarge or undergo hypertrophy, but only its power to multiply by cell division. Excess scar tissue in wound healing is undesirable because it not only reduces the functional power of the part, but its lack of elastic fibres precludes elasticity and predisposes to permanent stretching. This in the abdominal wall favors hernia. In tendons or ligaments, normally without elastic tissue, repair is functionally more or less satisfactory, but in ligaments containing much elastic tissue, such as the ligamenta subflava of the spinal column, or the calcaneonavicular ligament, which gives the spring to the foot, the elasticity would be impaired or lost. From twelve to fourteen days should be allowed after laparotomy before the patient is permitted to be up and about, as this allows the scar to become thoroughly contracted. Some surgeons favor belts, while others prescribe exercises, beginning two weeks after operation.

5. **To Facilitate Palpation of the Upper Abdomen.**—Newhof asserts that elastic compression of the anterior abdominal wall is the best method of overcoming the rigidity of the upper half of the recti muscles. A flat rubber bandage is attached to the table on one side, drawn snugly across the abdomen immediately above the iliac crests, and attached to the table on the other side. It is then carried backward and forward across the abdomen two or three times, carefully superimposing each layer on the previous layer, avoiding wrinkling, and not applying firmly enough to produce pain or discomfort. Five minutes after applying, the upper recti are usually relaxed and will remain so for several minutes after the bandage is removed, but examination is usually made with the bandage in place. Epigastric tumors are made more superficial and more easily palpated by this method.

6. **Uses of Aluminum Acetate in Local Inflammations.**—Stansbury asserts that a solution of aluminum acetate is more efficacious than the commoner applications, iodine, ichthyol, lead and opium, etc., in the treatment of local congestions, such as boils, carbuncles, and especially in facial erysipelas. He has used it also with marked success in severe cellulitis and inflammatory rheumatism, and declares it the best remedy for ivy poisoning. Several thicknesses of gauze are soaked with the solution and applied to the part, covered with rubber tissue or oiled silk, and a bandage applied. It need be renewed only once or twice in twenty-four hours. Liquor alumini acetatis of the National Dispensatory is the best solution, and is made up as follows: Aluminum sulphate (N. S. P.), acetic acid (N. S. P.), of each, 300 grammes; calcium carbonate (C. P.), 130 grammes; distilled water, 1,000 c.c.

AMERICAN MEDICINE.

February, 1912.

1. Maurice Packard: Diagnosis and Treatment of Renal Tuberculosis.
2. Parker Syms: Transperitoneal Operations on the Bladder.
3. Winfield Ayres: Renal Lithiasis.
4. Charles H. Chetwood: Hydronephrosis: Etiology, Diagnosis, and Treatment.
5. Alpheus Freeman: Fats in Disorders of the Stomach.
6. LeGrand Kerr: Stomatitis in Children.
7. W. W. Vinnedge: Dichotomy, or the Division of the Fee between Physicians.
8. W. F. Waugh: Digitalis or Digitalein.

3. **Renal Lithiasis.**—Ayres says that a renal colic does not necessarily mean calculus. A diagnosis of small renal or ureteral calculus having been made, the patient should be treated expectantly for a time unless severe symptoms are caused by the foreign body. It is better to attempt to cause a small calculus to pass by local manipulations than

to resort at once to the knife. A calculus of 0.002 m. in diameter, or over, is usually best removed by the knife. Immediate operation is demanded when suppression of urine occurs as a complication.

4. Hydronephrosis.—Chetwood calls attention to a form of hydronephrosis due to distortion of the ureter, and emphasizes the importance of seeking some interior or exterior structural defect of the ureter as a cause for the renal retention, whether associated or not with undue mobility of the kidney.

5. Fats in Disorders of the Stomach.—Freeman urges the use of oils or fats in hyperacidity of the stomach. He says that it is positive that fats depress the activity of normal stomach secretion, and it appears to be true that the depressant effect exerts a good influence on hyperacidity.

LARYNGOSCOPE.

January, 1912.

1. Albert A. Gray: Problem of Otosclerosis and Allied Conditions.
2. J. A. Bacher: Applied Anatomy of the Eustachian Tube.
3. C. M. Brown: Polyp of the Pharyngeal Mouth of the Eustachian Tube.
4. Harris P. Mosher: Transillumination of the Mastoid.
5. E. Mayer: Treatment of Cicatricial Stenosis of the Larynx.
6. E. F. Ingals: Treatment of Foreign Bodies in the Esophagus.
7. Stanton A. Friedberg: Some Esophageal Cases.

1. Otosclerosis.—Gray states that the theories advanced as to the first change which takes place in otosclerosis and allied conditions are classified into those in which the middle ear is thought to be first affected, followed by the bony transformation in the capsule of the labyrinth; those of a nervous origin, in which the primary change is in the nerve structures of the labyrinth, or the auditory nerve and its ganglionic connections, with subsequent changes in the labyrinthine capsule; and those in which the essential change is in the bony capsule of the labyrinth, while pathological alterations found elsewhere in the auditory apparatus are of a secondary nature. The symptoms produced are markedly indicative of the changes occurring within the bony capsule of the labyrinth, which is usually situated in the region in front of and above the oval window. Bony changes may occur elsewhere in the capsule of the labyrinth, but the symptoms produced do not appear clinically characteristic of the condition known as otosclerosis. The study of this affection has determined the significance of hereditary influence as a factor in its causation, but the convincing facts so far obtained are not sufficient to differentiate the cases due to hereditary tendency and those developing from other causes; and the evidence so far presented is not sufficient to hold a remote ancestor who has suffered from deafness as responsible for the development of otosclerosis in some distant progeny. It has been determined, however, that from whatever cause the disease develops, local and constitutional conditions may play an important part in determining its onset and course.

2. Eustachian Tube.—Bacher determined that in the fetus the middle ear is placed horizontally, and its length from without inward is much greater than from above downward; that the round window looks downward; that the promontory is conspicuous; and that the malleus and incus are in a pocket-like recess superior and external to the promontory. The Eustachian tube is relatively wide, without any isthmus, and its vertical diameter is equal to the height of the middle ear, so that it drains the middle ear from the bottom. In a larger fetus, the same characteristics exist, but the tube is not so directly a continuation of the whole middle ear. In the adult the opening of the tube meets the anterior wall of the middle ear at a right angle and above the floor, a position which is poorly suited for drainage, and which is in marked contrast to the gradual way in which one merges into the other in the fetus. The adult tube is further characterized by an isthmus. As the result of the examination of fifteen specimens, the author determined the average curvature of the adult tube to be an arc with a radius of two cm., and states that even allowing for the play afforded by the width of the external meatus, the internal wall of the tube is endangered by the use of curettes of greater curvature.

4. Transillumination of the Mastoid.—Mosher has devised an apparatus which consists of an ear speculum of medium size, closed at both ends, with a window cut in the barrel on one side near the tip. The light carrier is passed through the centre so that the lamp comes opposite the window. An air space about the lamp prevents the speculum from heating up rapidly, and permits the instrument to be left in the ear for a minute or more before the heat is sufficient to cause discomfort. The speculum is inserted into the ear, with the window placed posteriorly, and adjusted so as to plug the meatus firmly. The auricle is then turned forward over the speculum. As the result of his observations, the author states that the zone of light obtained corresponds to two thirds of the area of the cellular structure; that the position of the lateral sinus can often be ascertained; that the extent of sclerosis in chronic suppurative conditions may be determined, and also the degree to which the antrum may be involved in any given case. Transillumination does not distinguish between an acutely congested mastoid and a mastoid filled with pus or cholesteatoma. In those cases in which the mucous membrane of the entire mastoid process is involved, a small crescentic rim of light in the tip just behind the auricle is all that can be detected, the rest of the process being dark. When the rim of light in the anterior upper part of the tip and behind the lower angle of the bowl of the auricle disappears, the whole mastoid process is disintegrated.

MILITARY SURGEON.

February, 1912.

1. H. G. Beyer: The International Hygiene Ausstellung, Dresden.
2. Mahlon Ashford: Mission of the Ambulance Company.
3. T. W. Weed: Study of the Foot and Footwear.
4. H. J. Nichols: Immediate Clinical Results of the Use of Salvarsan in the Army.
5. M. A. Reasoner: Some Dangers of Salvarsan.
6. P. S. Rossiter: Modification of von Bergmann's Operation for Hydrocele.

4. The Immediate Clinical Results of the Use of Salvarsan in the Army.—Nichols affirms that salvarsan has demonstrated its unquestionable superiority over the old method of treatment of syphilis in the army; 6.6 per cent. of the patients under vigorous, mercurial, and iodide treatment became unfit for military service. With salvarsan, immediate good effects were noted in ninety-four per cent. of the lesions, and in seventy-two per cent. the Wassermann reaction became negative within within two months. Some relapses have been observed where mercurial treatment was discontinued

after the salvarsan injection, some noted clinically, and some by recurrence of a positive Wassermann test. At present it seems that salvarsan alone terminates an infection in several treatments in the primary and tertiary stages. In the secondary stage mercury should be used in conjunction with salvarsan.

5. Some Dangers of Salvarsan.—Reasoner reports three cases in which salvarsan injections cleared up ear complications under continued treatment. This he thinks due to germs in the bony canals for the cranial nerves, which have escaped destruction, and which become exceedingly virulent, exerting their effects on the nerve tissue. He does not advise salvarsan as a routine measure. The Wassermann test cannot be relied on as a danger signal, as even when negative in these cases, the complications have developed. The disease was the cause of the symptoms and not the arsenic, as more salvarsan, supplemented by mercurial treatment, cleared up the cases. The haphazard administration of salvarsan will work harm. Forced mercurial treatment is indicated in these complications, and, in ear cases, more salvarsan. Retinal hemorrhage following salvarsan administration was traced in three cases to some exertion which increased endocranial pressure, such as blowing a wind instrument, stooping, etc.

6. Modification of von Bergmann's Operation for Hydrocele.—Rossiter makes an incision down to the tunica vaginalis and cord. The tunica is then shelled away from the scrotum and the tumor delivered onto a sterile towel. The tunica is then punctured on its lower, anterior aspect with a trocar, and the fluid withdrawn. A grooved director is inserted and the parietal coat of the tunica slit well up on the cord and then trimmed with curved scissors to within one or 1.5 centimetre of the epididymis and testicle, and one centimetre from the cord. Large bleeding vessels are tied, oozing is controlled by hot applications, and the two layers of the cut tunica are sutured together by an overhand, whipstitch, catgut suture. The testicle is returned to the scrotal sac, after irrigating sac with saline solution, and the wound closed without drainage. Recurrence is impossible.

PHILIPPINE JOURNAL OF SCIENCE

November, 1911.

1. B. C. Crowell: Addison's Disease and Adrenal Tuberculosis.
2. Hans Aron and Felix Hocson: Rice as Food: Investigation of the Nitrogen and Phosphorus Metabolism on a Diet Consisting Principally of Rice and Other Vegetable Food Stuffs.
3. Weston P. Chamberlain and Edward B. Vedder: Effect of Ultraviolet Rays on Ameba, and the Use of These Radiations in the Sterilization of Water.
4. Weston P. Chamberlain and Edward B. Vedder: Etiology of Beriberi.
5. Weston P. Chamberlain and Edward B. Vedder: Arneth's Nuclear Classification of the Neutrophiles in Healthy Adult Males and the Influence Thereon of Race, Complexion, and Tropical Residence.
6. Weston P. Chamberlain and Edward B. Vedder: The So Called X Bodies as Artifacts on Glass Slides.

1. Addison's Disease and Adrenal Tuberculosis.—Crowell publishes his observations on two cases of Addison's disease, seen in Bellevue Hospital, New York city, and on two cases of adrenal tuberculosis met with among the Filipinos in Manila. In the two clinically certain cases of Addison's disease, the adrenals were destroyed by tuberculosis and the semilunar ganglia contained chromaffin. In both of these, other endosecretory glands were the seat of pathological process. In one, hyperplasia of the islands of Langerhans was associated with adrenal and thyroid tuberculosis; in the other, one parathyroid was cirrhotic. A case of renal tuberculosis without changes in the semilunar ganglia and without recognized Addison's disease occurred in a Filipino. A second case in a Filipino with adrenal tuberculosis and intact semilunar ganglia was probably one of Addison's disease. The difficulty of diagnosis in Addison's disease in dark skinned races is great on account of the absence of pathological melanoderma and the possible presence of widespread tuberculosis. If Addison's disease does occur in dark skinned races it substantiates the opinion that melanoderma is not an essential feature of the disease, while it emphasizes its importance as a diagnostic sign. The adrenals from one case of Addison's disease contained no adrenalin estimable by the angiotonic and pupil dilating reactions.

3. Effect of Ultraviolet Rays on Amebas.—Chamberlain and Vedder show by their experiments that in a water supply the amebas, whether motile or encysted, may be killed by a comparatively short exposure to ultraviolet rays. Balantidia also appear to be destroyed by the same agency. These facts afford a potent argument in favor of the use of these radiations in the practical sterilization of water in the tropics.

4. Etiology of Beriberi.—Chamberlain and Vedder have found by experiment that it is possible to prevent the neuritis of beriberi in fowls by feeding them an extract of rice polishings in addition to a diet of polished rice. It was shown in a previous paper that cocks fed on a diet of polished rice alone contracted neuritis in an average of thirty days. It has been shown elsewhere that it is necessary for men to live at least eighty-seven days on polished rice before symptoms of beriberi appear. The disease seems to be due to the absence of some substance in the food and the experiment seems to show that this component is contained in the polishings of rice.

5. Arneth's Nuclear Classification of Neutrophiles.—Chamberlain and Vedder state that both Filipinos and Americans residing more than a year in the Philippines had a normal average of white cells per cubic millimetre. In both races the percentage of polymorphonuclear neutrophiles was decreased much below the minimum considered normal for white men in temperate regions. Probably these neutrophiles are the only actively phagocytic cells in the circulating blood. The average Arneth picture showed a marked shift to the left in the case of Filipinos and a slight drift in the same direction for Americans resident more than a year in the Philippines, which probably indicates a diminution in the phagocytic power of the blood in question. In other words the Filipino has absolutely fewer efficient phagocytes than are found among white men either in the Philippines or at home, and this may be a visible indication of a lowered resistance to infections on the part of native races. No material differences in the differential count or in the Arneth picture were observed between two groups of American soldiers, one group consisting of twenty-eight pronounced blonds, the other of the same number of pronounced brunettes.

Proceedings of Societies.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Annual Meeting Held in New York, January 15, 1912.

The President, Dr. Reynold Webb Wilcox, in the Chair.

Some Ocular Conditions Dependent upon Gastrointestinal Disturbances. — Dr. J. Scott Wood, in his paper on this subject, observed that, notwithstanding the great advances made in laboratory research and the improved methods of clinical observation and teaching, the fact remained that our knowledge was vague and uncertain when we came to consider eye affections dependent upon nutritional and metabolic disturbances. Here the same etiological problem as in the case of rheumatism, gout, and certain forms of skin disease, for instance, confronted us, namely, What are such conditions chemically or morphologically, and how do they bring about changes in remote parts of the body? So far as the speaker knew, this was still a mystery. That gastrointestinal disturbances were directly or indirectly responsible for some, and perhaps many eye diseases had, however, long been recognized, as absolutely certain, since therapeutical measures directed to faulty and deranged conditions in the alimentary canal met with corresponding improvement in the local condition. Autointoxication in its relation to the eye had received little or no attention in the textbooks, and it was necessary to go to the general ophthalmic literature for anything definite regarding it. De Schweinitz, Bull, Risley, Friedenwald, and others in this country and Elschnig, Uhthoff, and many others, in Europe had written rather elaborately upon the subject. Discussion of the differences between the various forms of toxemia, autotoxemia, infections, and autoinfections did not concern the requirements of the paper except in so far as it related to the fact of the interdependence of some ocular conditions and gastrointestinal derangements upon intestinal putrefaction and absorption. In regard to autotoxemia and its etiological bearing upon eye affections, only the enterogenous type of autointoxications would be referred to, i. e., those caused by affections of the digestive tract, leading to abnormal fermentation and decomposition, or, by abnormal changes, resulting from the presence of intestinal parasites (Uhthoff).

Affections of the Lid and Conjunctiva: Styes and blepharitis occurring in those who were flatulent and constipated, and otherwise showed evidence of intestinal putrefaction, with persistent indicanuria, might be regarded as resulting from a state of autointoxication. Phlyctenular conjunctivitis was a disease dependent more upon diet and bowel irregularities than anything else. Many of these cases, he believed, were amenable to treatment without even requiring local treatment to the eyes themselves.

Affections of the Cornea and Sclera: While in a high percentage of these the condition was due to trauma, infection from without, syphilis, tuberculosis, and malaria, many of the types of so called nutritional disturbances accompanied by corneal inflammation and ulceration apparently had back of them a toxic condition of the alimentary tract; so that the eye trouble persisted as long as the toxemia remained. This was especially the case with bottle fed infants and the children of the poor, and it seemed to him that we were too prone to rely upon local treatment here, and did not pay sufficient attention to the physical condition. Condensed milk, candy, crackers, cake, pastry, and other indigestible foodstuffs were the direct agents of fermentation and putrefaction, and consequently a great factor in the etiology of some corneal inflammations. Scleritis and episcleritis were said to depend frequently upon some form of autointoxication, and in every case where gout, rheumatism, or syphilis were excluded the cause was to be looked for in the intestinal tract.

Ocular Muscles: He knew of no authenticated cases of paresis or paralysis of the extrinsic muscles due to this cause, but if ptomaine poisoning could give rise to such paralysis, it seemed reasonable to suppose that autotoxemia might also.

Amblyopia: That many of the so called tobacco-alcohol amblyopias were associated with intestinal fermentation and putrefaction seemed beyond doubt, and the part played by gastritis and the accompanying catarrhal inflammation was interesting, although our present knowledge regarding it was rather vague. Having quoted from De Schweinitz and other authorities, Doctor Wood gave the details of a case of his own which apparently indicated that simple gastrointestinal autointoxication was capable of causing amblyopia.

The Uveal Tract: That the uveal tract should, by virtue of its rich vascular supply, be the seat of inflammations dependent upon autointoxication seemed reasonable. Since the discovery of the Wassermann and von Pirquet reactions for syphilis and tuberculosis, the etiological classification of diseases of this region ought to be much simplified, and he fully believed it would now be found that syphilis and tuberculosis, particularly the latter, would not occupy such prominent places as etiological factors in uveal disease as heretofore. That some, and perhaps many, cases of iritis, iridochorioiditis, and chorioiditis were due to gastrointestinal disturbance seemed beyond doubt, for in this class of cases perhaps more than any other were gastrointestinal symptoms prominent. By way of illustration a case was cited presenting a type of central chorioiditis in which the patient was markedly neurotic, dyspeptic, and constipated, and gave every evidence of intestinal putrefaction. In another case of central chorioiditis, in a patient of Dr. J. S. Kirkendall, of Ithaca, N. Y., the eye trouble was due to chronic fibroid degeneration of the appendix resulting from a colon bacillus infection; and here the chorioiditis was permanently cured by the removal of the appendix, an operation performed by Dr. Robert T. Morris.

In conclusion, Doctor Wood said it was an accepted belief among many ophthalmologists today, amounting almost to a feeling of certainty, that many types of corneal, sclerocorneal, retinal, and chorioidal inflammations were due directly to gastrointestinal fermentation and putrefaction, and that the resultant product of such action in the alimentary tract was a toxine which, being liberated into the general circulation, caused pathological phenomena in the eye and elsewhere.

The president, Doctor WILCOX, said that Doctor Wood's paper was a scholarly and masterly presentation of the whole subject, and one which deserved most careful consideration by practitioners generally, and particularly those paying special attention to affections of the gastrointestinal tract. It contained a vast mass of material which could be obtained only with great difficulty, and from a great variety of sources, and he therefore thought the author deserving of much praise for his painstaking labors, as well as of an adequate discussion of the paper.

Dr. ACHILLES ROSE said there was one factor which was seldom thought of, namely, the disturbance often connected with gastroptosis. Not infrequently the rectification of this condition would afford complete relief from the existing eye trouble.

Dr. NELSON L. NORTH thought that, from the standpoint of ophthalmologists, Doctor Wood deserved great credit, as there were embodied in his paper the results of so much clinical experience and of such a marvelous amount of study. There was, he said, one practical point which was worthy of consideration, the enormous increase of late in the consumption of chocolate. This article was, no doubt, a good thing in itself, but in the very great quantities in which it was given to children at the present time it was certainly productive of much evil as one of the sources of the troubles under consideration. Another point: In adults why was it that the malt liquors especially were responsible for this trouble? We sometimes found it necessary to forbid patients the use of beer, but it was plainly not on account of the alcohol in this beverage, since the spirituous liquors contained so much more of this agent, yet did not cause so much reflex irritation of the cornea and conjunctiva.

THE PRESIDENT suggested that it was perhaps the picrotoxine now so often substituted for hops in the manufacture of beer which was responsible for the trouble. It was certainly a fact that picrotoxine was capable of playing many pranks with the nervous system.

Dr. ANTHONY BASSLER said that of late the ophthalmologists, laryngologists, dermatologists, orthopedists, neurologists, and others were paying distinctly more attention than formerly to states of chronic excessive intestinal putrefaction as etiological factors in the production of disorders in the patients coming to them. When one knew the nature of the various substances manufactured in the gut, which were resorbed into the circulation, it was plain that functional and structural change in the body must take place. Among these might be mentioned cadaverine, neurine, putrescine, butyric, formic, and acetic acids, sulphuretted hydrogen, the aromatic compounds, such as indol, skatol, and phenol, and all of the toxines of the sixty or more varieties of bacteria present in the gut. In these chronic intestinal conditions more than the diet alone had to be considered, for errors of motility and secretion might have much to do with the establishment of a bacterial change. The subject was such a vast one that he could not even touch upon any one of the many various matters pertaining to it, and he wished merely to say that the delicate structures comprising the makeup of the interior of the eye, being of a highly specialized type of neurovascular combination, were, of course, severely hit in a considerable number of instances.

Dr. FRANCIS VALK said that in a number of the conditions mentioned in the paper he did not believe that gastrointestinal disturbances had anything to do with the etiology. He would certainly leave out all affections of the lid, the conjunctiva, and the cornea as due to autointoxication. On the other hand, he did recognize that many cases where the retina and other interior structures were involved were dependent upon this condition. Here we first had to exclude tuberculosis and syphilis, and thus, by a process of elimination, we were compelled to trace the trouble to the gastrointestinal tract.

Dr. A. ERNEST GALLANT said he had made it a rule to refer the patient to an ophthalmologist for examination whenever he found any eye trouble present, and in nine tenths of the cases the report was that no condition was discovered which would not be improved by the treatment of the affection for which she had consulted him (Doctor Gallant). Autointoxication was very apt to occur from the retention of feces too long in the intestinal canal, and this was largely because the feces did not have sufficient bulk; a result due to the exclusion from the food of the husks of the wheat, the skins of grapes, and other similar material. To correct the condition he had for some time been employing bran, and with very satisfactory results. This insoluble substance increased the bulk of the feces and at the same time greatly enhanced the comfort of the patient in the expulsion of the stools. It was well known that all horse and cattle men were accustomed to feed bran to their animals, and just as in these the coats were thereby improved, it was found that in the human subject the mottled appearance of the skin and dark rings about the eyes could often be made to disappear under the use of bran. He thought we could learn a good deal from the animals, and salt was something which nearly all animals craved. We did not take enough of it, especially useful when hypochlorhydria was present. It would be a good thing, he thought, to substitute such homely means for the whole pharmacopeia of new drugs.

Doctor WILCOX said that Professor Mendel, of Yale, had suggested agaragar for the same purpose for which bran was employed, and clinical experimentation in the matter was carried on by Doctor Gompertz, of New Haven. The results had been excellent, after two years' trial, but the difficulty was to get the agaragar into the patient. Gompertz recommended that it should be used in the same manner as a breakfast cereal, but its extreme glutinousness rendered this objectionable, and the only way in which he (Doctor Wilcox) could get patients to take it at all was in the dry form.

Doctor BASSLER said he had used a great deal of agaragar, giving it in half ounce doses. He was accustomed to have an ounce and a half of it cooked in a steamer with perhaps six ounces of oatmeal. This served for three doses, and was eaten with cream or fruit juice.

Doctor WOOD, in closing, said he did not doubt that the lids, conjunctivæ, and other coats of the eye were affected by gastrointestinal conditions. He knew of no more striking instance of the disappearance of a pathological condition than was

frequently to be observed in the phlyctenular conjunctivitis of children, where strict regulation of the diet and prompt bowel evacuation had been instituted. The scleral types of disease were on more debatable ground; though in those cases in which neither syphilis nor tuberculosis could be detected, and in which increased amounts of indican, urobilin, indol, skatol, and other waste products were to be found in the urine, he thought they should be logically considered as of gastrointestinal origin.

Eye Training for the Cure of Functional Myopia.—Dr. W. H. Bates read a paper on this subject, which appears in this issue of the Journal on page 529.

The president, Doctor Wilcox, said that all must have observed the large number of children now wearing glasses. Among the poor it seemed to be an object of pride that these should be of the best, and it was not an uncommon thing to see a poorly clad little girl with gold spectacles, carrying a large bundle of books. Now, if any one could obviate this state of affairs, he would certainly deserve a great deal of credit.

Mr. A. H. Yoder, lecturer on Child Sociology, in the New York School of Philanthropy, said that as a sociologist he was in entire accord with the sentiment expressed by the president. Most children were long sighted before they went to school, but if their eyes were examined some time after they had been there, it would be found that a change had occurred and that they had now become myopic. Therefore, it seemed to be evident that there was something in the school situation producing this result. According to his observation, this eye defect reached its maximum about the age of ten years, after which it began to decrease, though it might not disappear. For the purpose of correcting the myopia and its attendant evils, a method had been tried in a city of North Dakota, and the evidence in its favor was positive as far as it went. The eyes of over 8,000 school children were examined three times, and the results were gratifying. If, then, Doctor Bates had offered a simple method of teaching children how to see, we were certainly under obligations to him.

(To be concluded.)

Letters to the Editor.

EFFECT OF THE INTERNAL SECRETIONS UPON THE SECRETION OF ADRENALIN.

Easton, Pa., *March 6, 1912.*

One[1] of us (these researches were made with Dr. John C. Scott) was the first to show that the adrenal secretion relaxed and inhibited peristalsis of the intestine. Hoskins has shown that a dilution of one in 400 millions of adrenalin inhibits the peristalsis. It thus becomes the most sensitive test for the presence of adrenalin. We tested its presence by the Magnus method. We injected a few grains of the filtered solution of the different glands into the jugular vein of the narcotized cat, and drew off, as Cannon has done, some blood from the vena cava above the openings of the adrenal veins and defibrinated it. Normal blood defibrinated was then applied to a segment of the intestine of a narcotized rabbit and its peristaltic movements were recorded. Then the blood, after the injection of the glandular filtrate, was applied to the same intestine and its movements were registered. It was found that the injection of the thyroid, parathyroid, infundibulin, thymus, and pineal caused a distinct fall in tonus and inhibition of peristalsis, showing the presence of adrenalin beyond normal in the blood. Normal blood of the cat never produces this effect, but stimulates tonus and peristalsis.

Isaac Ott, M. D.

[1] *Medical Bulletin*, 1897, page 376.

New Inventions.

THE 1912 PROCTOSCOPE.

By Jerome M. Lynch, M. D.,
New York,
Surgeon, New York Polyclinic Hospital.

The first proctoscope of which we can find any record was called the rectal endoscope, and was made for Doctor Bodenhamer. It seemed fairly practical, but evidently the advantages to be gained by its use were not appreciated till almost a quarter of a century later.

Marion Sims, in 1845, and Van Buren, later on, spoke of the advantage to be gained by atmospheric pressure in ballooning the vagina and rectum. This point, too, was evidently overlooked, and it remained for Kelly, of Baltimore, to demonstrate the wonderful possibilities of the inflating power of atmospheric pressure in connection with a cylindrical tube introduced into the rectum.

Kelly devised a set of instruments for examining the rectum and sigmoid, and except for the disadvantage of reflected light, they can hardly be improved upon. The author became so familiar with the use of the Kelly instrument and reflected light, before the days of the pneumatic proctoscope, that he has used it in a great many cases in preference to the electrically lighted pneumatic proctoscope.

Previous to the pneumatic proctoscope, Dr. Frances Heuel, experimenting with an inflating endoscope, suggested the application of this instrument, and introduced the idea into proctoscopy.

Pennington, of Chicago, in 1889, introduced an instrument known as a pneumatic proctoscope. At the same time, Laws, of Philadelphia, working independently, brought out an instrument, in many ways similar to Pennington's, but possessing some advantages over it, in that he carried a light to the distal end of the tube. While this instrument was a great improvement, it possessed many drawbacks, but, as it was fundamentally correct, Laws is really entitled to the credit of having devised the first practical, electrically lighted pneumatic proctoscope. In 1902, Tuttle so modified and improved the pneumatic proctoscope that no subsequent attempts to devise a better instrument have been successful.

The next instrument to appear on the market, of practical value, is that devised by Professor Strauss, of Berlin. Dr. P. Lockwood Mummery, of London,

modified the Strauss instrument by putting a collar or ring at the distal end of the tube, to prevent injury to the mucous membrane, and at the same time was the first to suggest and carry into effect the idea of marking the tube off into centimetres.

Anthony Bassler, of New York, made some slight modifications of the Tuttle instrument, otherwise there is nothing original in Bassler's proctoscope,

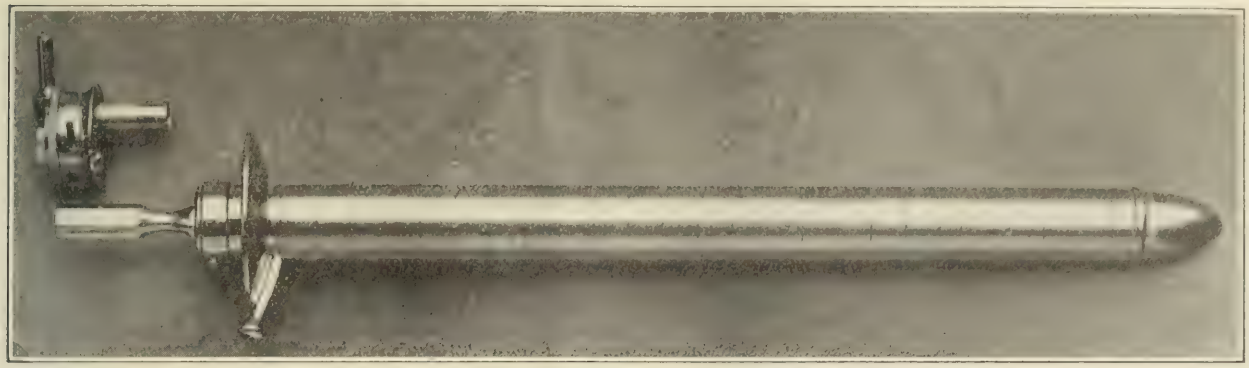


Fig. 1.—Lynch's 1912 proctoscope.

except the window with the modifications that I suggested to him; and Roberts, of Brooklyn, devised an instrument with an auxiliary tube opening obliquely into the main tube, at an angle of about 45°. Through this tube a lamp with a carrier was passed, and by this means the proctoscope was lighted. Yeomans adopted Roberts's idea by lowering the auxiliary tube, so that it was included in the collar.

Within the last five years the value of proctoscopic examination of the rectum has become recognized, and with its increased use the number of instruments have multiplied accordingly, so that now the extravagant claims of some of the inventors are amusing to those who have been familiar with proctoscopy from its incipiency. Outside of those practising proctology, however, few have a clear idea of the advantages (also the limitations) of this method of examination, because the instrument can occasionally be felt in the epigastric and right or left hypochondriac regions. Many have an idea that a proctoscope can be passed into the descending colon. This is a mechanical impossibility, as the radius of the inlet is limited by the tuber ischii on either side, the coccyx, posteriorly, and the urethra, anteriorly, making it impossible to explore the sigmoid higher than the apex.

When the proctoscope can be palpated above the umbilicus, or in the epigastrium, it is because the sigmoid is unusually long, and when the sigmoidoscope reaches the apex of the sigmoid, it pushes the sigmoid back until the mesentery is taut. Of course, if the sigmoid is straight, and has an unusually short mesentery, the sigmoidoscope can then be passed into the ascending colon, but this does not very often happen.

The following objections have been offered to the Tuttle proctoscope:

1. That it cannot be boiled.
2. That the lamps are easily burnt out.
3. That the water gets into the auxiliary tube, resulting in a short circuit.

Those objections can be readily answered.

The Tuttle instrument is delicately balanced, and requires some gentleness in handling. If, after boiling, any water remains in the auxiliary tube, it can be easily removed by means of a piece of cotton on the end of an applicator provided for that purpose.

The second objection can be overcome if ordinary precaution is exercised before turning on the current. The current should be turned into the lamp in the rheostat, and then gradually back into the two volt lamps on the end of the carrier until a sufficient amount of light is obtained.

While the author is himself satisfied with the Tuttle instrument, and uses it almost exclusively, he is aware that there are some who prefer an instrument that requires less care, and will not so easily get out of order. Especially does this apply to men living in the country, where the electric currents are of a different strength, and where a delicately balanced lamp is easily burnt out.

For this reason the author has devised an instrument with a very powerful lamp, easily removed, and not readily burnt out.

The instrument consists of a cylindrical tube, twelve inches long, one and a half inch in diameter,

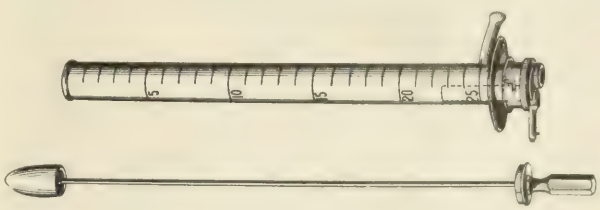


Fig. 2.—Tube of Lynch's proctoscope, showing division into centimetres.

with a collar on the proximal end, and a rounded ring at the distal end. The tube is marked off in centimetres. Into the proximal end is fitted a collar, divided into two compartments. The upper collar has a small tube, through which a carrier can be passed containing a lamp at the end. The larger circle is arranged so that a plug with a window on the approximal side fits snugly. One side of the plug has a small tube, to which an inflated apparatus can be attached.

I am indebted to Mr. Maijgren, of the Electro Surgical Instrument Co., of Rochester, New York, for help and assistance in getting up this instrument.

58 West Fifty-eighth Street.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Medical Service in Campaign. A Handbook for Medical Officers in the Field. By Major Paul Frederick Straub, Medical Corps (General Staff) United States Army. Prepared under the Direction of the Surgeon General, United States Army, and Published by Authority of the War Department. Second Edition. Illustrated. Philadelphia: P. Blakiston's Son & Co., 1912. Pp. ix-186. (Price, $1.50.)

The large and enthusiastic class of medical officers of the National Guard of the United States who were so fortunate as to attend the camp of instruction at Antietam in the summer of 1909, and hear the lectures by Major Paul F. Straub, U. S. A., were able to follow this talented medical officer with his rare aggregation of the Army Hospital Corps Company and Field Hospital, into the field and with him practically work out a theoretical medicomilitary problem, were longing for the promised publication of his lectures in book form.

This book, volume one, of 164 pages, mirrored the teachings of Major Straub in his lucid impressive style, with the signs adopted for convenience of noting position of established medical department institutions on maps and sketches with maps and charts, all of which served as a groundwork for the instruction of medical officers in camps of manœuvre, whereby they and the sanitary units in their charge might take an intelligent part in the exercises; an invaluable handbook for not only medical but all officers in the field.

Now since this first edition has been disposed of in so brief a time, a second edition of 186 pages, with revised text including new matter suggested by further experience in sanitary tactics to date, is in our hands, replete with facts, axioms, orders, and invaluable information; redrawn plates and new illustrations. Major Straub says: "In the absence of opportunity for learning from actual experience in warfare, one must be content with a theoretical study of the subject, so that all possible preparation may be made for active service. While theoretical knowledge cannot take the place of practical experience, it can at least serve as a foundation for intelligent action when the critical time arrives. There is every prospect that the study of sanitary tactics or the service of the medical department in the field will be made a requirement of the examination of every medical officer." This book will be found most useful to students at our service schools where it must sooner or later become a textbook.

The large number of distinguished men, recognized authorities in their several special branches of medicine or surgery, all of whom having received their commissions, represent *The Medical Reserve Corps Nonactive List,* and must be holding themselves in readiness to obey orders, must keep in touch with all that pertains to military service in campaign and be able, when the time comes, to appreciate what Major Straub has emphasized and printed in italics, "that, if a large number of wounded are to be taken in and cared for in very short period of time, *the transportation of the institution to the patients rather than the patients to the institution,* is a sound principle to follow when circumstances permit," because, "military authorities agree that wars of the future will consist of a series of decisive battles, following in rapid succession one upon the other, and entailing enormous numbers of sick and wounded. Such conditions will make the work of the medical department very arduous and the proper disposition of its organizations a matter of great importance."

For this one reason, if for no other, we will in no unqualified terms recommend Major Straub's book. That every medical officer should read and study this book goes without saying. He should have the book, not only in his library, but upon his desk and familiarize himself with the organization of the medical troops in the field and the lines of plans of campaign, the terms used, the means devised, and the communications by which their cases reach them from the firing line via the first aid station and next the dressing station, later the field hospital, evacuation hospital, and base or home hospital. Every commissioned officer in the service should know the exact location and functions of the medical department stations. He should be familiar with the plans of disposition of first aid, so that in time of action he may not be distracted by the usual demoralizing effect of the early casualties. He ought to know from just which quarter to expect relief.

No small amount of homage is due Major Straub by every educated soldier in our country for this addition to, not only the military medical, but the military curriculum in general.

Clinical Immunity and Serodiagnosis. By A. Wolff-Eisner, M. D., Berlin. Translated by Ray W. Matson, M. D., Portland, Ore., Professor of Histology, North Pacific College of Dentistry and Pharmacy, etc. Revised and Edited, with a Special Introduction by the Author. New York: William Wood & Co., 1912. Pp. xiv-184. (Price, $2.50.)

This is a very timely little work by a master in the special and rather arduous field it covers, and is admirably translated. It aptly meets the aim expressed by Deycke and Much that the whole science of immunity should be "so simplified in technique and terms as to enable the practitioner to apply modern diagnostics and therapeutics in his work," the author calling attention to the fact that such men as Jenner and Pasteur, Behring and Koch did not enrich us with new words, but with scientific facts that directly protect and help mankind. The author maintains that his work is "the first attempt to establish a connection between biology (particularly immunity) on the one hand, and the clinic (particularly general practice) on the other"; but we must call his attention to the fact that it was in this country that this important step was first taken, Sajous, in the first edition of his work on the *Internal Secretions* (1903-1907), having shown the relationship between the immunizing process and a large number of diseases and with the mode of action of various familiar drugs. Wolff-Eisner, however, introduces another feature of the problem, viz., the relationship between hypersensitiveness (anaphylaxis) and disease, giving hay fever, urticaria, pellagra, eclampsia, vaccination and revaccination, syphilis, pneumonia, typhoid fever, and tuberculosis as examples. While some of the examples are too weakly supported to overcome skepticism the fact remains that all are exceedingly suggestive. Timely also is the author's contention that very few research workers in the field of immunity are clinically trained—a potent source of delay in the progress of this field of work. He rightly believes that a new era is at hand in which the chairs will be held by clinically trained investigators in immunity and biology "to the betterment of science and the good of humanity."

On the whole we can commend the translation of Dr. Wolff-Eisner's work as an exceedingly valuable addition to the contributions on the subject and one eminently adapted to aid the physician and student in acquiring a sound though elementary knowledge of the subject.

Second Review of Some of the Recent Advances in Tropical Medicine, Hygiene, and Tropical Veterinary Science, Being a Supplement to the Fourth Report of the Wellcome Tropical Research Laboratories at the Gordon Memorial College, Khartoum. By Andrew Balfour, M. D., B. Sc., F. R. C. P. Edin., D. P. H Camb., Director, and Captain R. G. Archibald, M. B., R. A. M. C. Attached E. A., Pathologist and Assistant Bacteriologist. In Collaboration with Captain W. B. Fry, M. R. C. S., L. R. C. P., R. A. M. C., Attached E. A., Protozoologist and Assistant Bacteriologist, and Captain W. R. O'Farrell, L. R. C. P. and S. I., R. A. M. C. London: Baillière, Tindall & Co., 1911. Pp. 448. (Published for the Department of Education, Sudan Government, Khartoum.

Although this review is supposed to deal chiefly with tropical medicine there are many subjects of interest and importance to most physicians. In 413 pages of text an extremely large amount of information has been collected, and the alphabetical arrangement greatly facilitates the locating of any particular subject. Added to this is an index of thirty pages, which further enhances the value of the book. The articles are brief, but give the essential points and, what is of importance, give in foot notes the references to the originals from which the abstracts were made. As would be expected, those topics that are of particular importance to the men in the tropics are given most space. Ankylostomiasis receives six pages and in these a great deal of value has been introduced in regard

to its distribution, diagnosis, and treatment. Under the heading of Beriberi considerable space is given to a consideration of its etiology, particularly the influence of polished rice. Seven pages are devoted to dysentery, both amebic and bacillary, and eleven to enteric fever. Leishmaniasis takes up seven pages and ten are given to Oriental sore or, as the reviewers prefer, superficial Leishmaniasis. In this latter abstract are given methods of staining and of cultivating the organism, differentiation between it and kalaazar, diagnosis, and treatment. Pellagra receives considerable attention, particularly the work done by Sambon, who believes that the disease is a parasitic, insect borne one. To piroplasmosis much attention is also given. In the seventeen pages devoted to it we find bovine piroplasmosis very thoroughly reviewed, particularly in regard to inoculation experiments. Anaplasmosis, canine and equine piroplasmosis complete the chapter. Plague takes up fourteen pages. The results obtained in Russia by Verjbitski are given quite fully as are the conclusions of the *Report on Plague Investigation in India*, the general opinion being that the disease is transmitted by fleas. Methods of prophylaxis, especially by killing the rats, are dealt with at some length, and methods of treatment are also discussed. The portion dealing with spirochetosis consists of some sixteen pages, first taking up the organisms as they appear in man. A valuable table differentiating the types of spirochetes and the symptoms and lesions caused by them is included. Methods of transmission and treatment are briefly discussed and spirochetosis in lower animals is dealt with. In the footnotes are given many references to original articles. The review of trypanosomiasis deals with those questions likely to interest the general reader. A paper by Chaga on trypanosomiasis in Brazil is quoted rather fully. In it the author takes up the chief symptoms, the transmitting agent, the morphology, development, and life history of the parasite, and its cultivation in artificial media. The differentiation of trypanosomes, and the treatment of the disease conclude the subject. This is followed by several pages on the tsetse fly in relation to its being the agent by which the trypanosomes are conveyed from one animal to another. The habits of the fly, its enemies, and the marks of identification are given in brief.

The above mentioned articles are those to which the greatest of individual space is given, but as there are ninety-four topics reviewed, one can readily see the great value of this publication. As a book of reference it occupies a very important position and is one to be highly recommended. The press work, as is usual, is of the highest character, the paper and print being exceptionally good.

We and Our Children. By WOODS HUTCHINSON, A. M., M. D., Author of *The Conquest of Consumption, Exercise and Health, Preventable Diseases,* etc. New York: Doubleday, Page & Co., 1911. Pp. x-371.

"The highest debt, the most sacred obligation that any community owes, is to its children." These words in the preface to this book, give the keynote of Dr. Woods Hutchinson's sixteen chapters. "We" are considered only in our relations to the children. The first chapter, on the period of gestation, blows away a few time worn superstitions, and the second chapter, which ridicules many of the customs that have surrounded early babyhood, continues in the same strain. In fact the book is so full of truths perfectly obvious to the educated physician, that we fear it may wound the feelings of the public for which it is written, all the absurd but beloved beliefs of the world at large being shattered with a ruthless hand. In attacking the idea of three square meals a day, however, and pointing out that a child can eat at any time with appetite and ability to assimilate, the author seemingly forgets the already ceaseless work of the housekeeper in providing the aforesaid three meals; the child must some day submit to civilized usage. The ideas on education expressed in the chapter on Brick Walls and Growing Child are admirable and as revolutionary to accepted ideals as the rest of the book, while the work terminates with a rude dismissal of the belief that the average farm is any better a place for a child than a comfortable city home. The style of the book is characteristic in its humor and happy phraseology and we recommend the practitioner to read it before handing it over to those of his patients most in need of its admirable advice.

Der Wasser- und Kochsalz-Stoffwechsel und seine Bedeutung für Pathologie und Therapie. Von Privatdozent Dr. A. BITTORF, Oberarzt der medizinischen Klinik Breslau. Halle a.S.: Carl Marhold, 1911. Pp. 56.

In a monograph of fifty-three pages Doctor Dittorf takes up in detail the question of the metabolism of water and salt, and its bearing upon pathology and therapeutics. A short introduction reviews briefly the importance of water in the body and states also that the importance of the salts, particularly sodium chloride, is less clearly understood. There is no tissue free from it and animals that do not receive it will eventually die. The second chapter discusses the physiology of the metabolism of water and salt, the methods of absorption and excretion, the requirements and the rapidity of excretion, and the influence of voluntary changes in the intake upon the output.

The third chapter of some twenty-eight pages is devoted to the pathological side of the subject. The metabolism in fever, in inanition and cachexia, in diseases of the kidney, in diabetes insipidus and mellitus, in diseases of the heart and blood, of the stomach, intestines, and liver, in skin diseases and poisonings. The final chapter of ten pages reviews the physical, therapeutic, and dietetic influences of the assimilation of water and salt. The subject is too large a one to be dealt with so briefly, consequently one does not find an exhaustive discussion of any particular topic. The article, however, does give a very good résumé of the general question and the theories bearing upon it. The references are many as far as the German publications are concerned, but no mention is made of work done in other lands, although the author speaks of the increased interest in the bearing of this subject upon diseases of the kidney. As a brief presentation, including an extensive German bibliography, the monograph is of distinct value.

NEW PUBLICATIONS.

Brown, George Van Ingen.—The Surgery of Oral Diseases and Malformations. Their Diagnosis and Treatment. Illustrated with 359 Engravings and 21 Plates. Philadelphia and New York: Lea & Febiger, 1912. Pp. x-740.

Honan, James Henry.—Honan's Handbook to Medical Europe. A Ready Reference Book to the Universities, Hospitals, Clinics, Laboratories, and General Medical Work of the Principal Cities of Europe. With Maps of Berlin, Edinburgh, London, and Paris. Philadelphia: P. Blakiston's Son & Co., 1912. Pp. viii-261. (Price, $1.50.)

Citron, Julius.—Klinische Bakteriologie und Protozoenkunde. Mit 65 Abbildungen im Text and 7 farbigen Tafeln. Leipzig: Dr. Werner Klinkhardt, 1912. Pp. vii-172.

Stephenson, H. H.—Who's Who in Science (International). New York: The Macmillan Company, 1912. Pp. xvi-323. (Price, $2.)

Cross, M. I., and Cole, Martin J.—Modern Microscopy. A Handbook for Beginners and Students. Fourth Edition. Revised and Enlarged. With Chapters on Special Subjects by Various Writers. Chicago: Chicago Medical Book Company, 1912. Pp. xvii-325. (Price, $2.)

Bryce, Alexander.—Modern Theories of Diet and Their Bearing upon Practical Dietetics. New York: Longmans, Green, & Co., 1912. Pp. xv-368.

Hirsch, William, M. D.—Religion and Civilization. The Conclusions of a Psychiatrist. New York: The Truth Seeker Company, 1912. Pp. vii-610.

Glogner Max.—Die Nahrungsmitteltheorien über die Ursache der Beriberi, in kritischer Beleuchtung. Leipzig: Johann Ambrosius Barth, 1912. Pp. 56.

Archinard, P. E.—Microscopy, Bacteriology, and Human Parisitology. A Manual for Students and Practitioners. Second Edition, Revised and Enlarged. Illustrated with One Hundred Engravings and Six Plates. (The Medical Epitome Series.) Philadelphia and New York: Lea & Febiger, 1912. Pp. 267.

Guenther, A. E., and Guenther, Theodore C.—Physiology. A Manual for Students and Practitioners. Second Edition, Thoroughly Revised. Illustrated. (The Medical Epitome Series.) Philadelphia and New York: Lea & Febiger, 1912. Pp. viii-269.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending March 8, 1912:

Cholera—Foreign: *China* (Hongkong), Jan. 14-20, 1 case, 1 death; *Dutch East Indies,* Nov. 26-Dec. 2, 761 cases, 638 deaths; *India* (Calcutta), Jan. 14-20, 50 deaths; (Madras), Dec. 1-31, 6,557 cases, 4,130 deaths; Jan. 21-27, 15 cases, 13 deaths; *Indo China,* Jan. 9-15, 63 cases, 49 deaths; *Tripoli,* Oct. 13-Jan. 24, 2,000 cases, 1,200 deaths; *Turkey* (excluding Constantinople), April 16 to Dec. 30, 1911, 6,111 deaths; *Turkey in Asia* (Acre), Jan. 21, 7 cases, 6 deaths; *Turkey in Europe* (Constantinople), Feb. 2, 2 cases.

Yellow Fever—Foreign: *Brazil,* Jan. 1-Feb. 3, 7 deaths.

Plague—Foreign: *Brazil,* Jan. 29-Feb. 10, 2 deaths; *China* (Hongkong), Jan. 14-20, 1 case; *India,* Jan. 14-27, 24 cases, 36 deaths; *Indo-China,* Feb. 9-15, 2 cases; *Java,* Jan. 14-20, 6 cases, 4 deaths; *Mauritius,* Dec. 8-14, 2 cases, 1 death; *Straits Settlements,* Jan. 7-13, 2 cases, 2 deaths.

Smallpox—United States: *Alabama* (Montgomery), Feb. 18-24, 1 case; *Arizona,* Jan. 1-31, 20 cases; *Florida,* Feb. 11-17, 85 cases; *Louisiana* (New Orleans), Feb. 18-March 2, 14 cases; *Mississippi,* Jan. 1-31, 44 cases; *Missouri* (St. Louis), Feb. 18-24, 1 case; *New York,* Jan. 1-31, 178 cases; *Rhode Island,* Nov. 1-Dec. 31, 270 cases; Feb. 1-28, 2 cases; *South Dakota,* Jan. 1-31, 27 cases; *Tennessee* (Knoxville), Feb. 18-24, 11 cases; *Texas,* Jan. 1-31, 95 cases, 4 deaths.

Smallpox—Foreign: *Algeria,* Jan. 1-31, 2 cases, 1 death; *Brazil,* Jan. 1-20, 65 deaths; *Canada* (Quebec), Feb. 18-24, 11 cases; *China* (Hongkong), Jan. 14-20, 42 cases, 29 deaths; *France* (Marseilles), Jan. 1-31, 3 deaths; (Paris), Jan. 29-Feb. 3, 7 cases; *Germany,* Feb. 4-17, 13 cases; *Great Britain* (London), Feb. 4-10, 2 cases; *India,* Jan. 14-27, 58 cases, 20 deaths; *Italy,* Jan. 29-Feb. 17, 256 cases, 81 deaths; *Japan* (Yokohama), Jan. 22, 1 case; *Mexico,* Feb. 10-24, 5 cases, 4 deaths; *Russia* (Moscow), Jan. 21-27, 4 cases, 1 death; (St. Petersburg), Jan. 14-27, 17 cases, 6 deaths; *Turkey in Asia* (Beirut), Jan. 29-Feb. 10, 370 cases, 20 deaths.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending March 9, 1912:

Boyer, Perry L., Captain, Medical Corps. Ordered to proceed to Washington, D. C., for examination for promotion on May 1st. **Dear,** William R., Lieutenant, Medical Corps. Orders directing him to proceed to Fort Robinson, Neb., revoked, and instead will proceed to Fort Slocum, N. Y., for duty. **Duncan,** William A., Captain, Medical Corps. Ordered to proceed to Fort Oglethorpe, Ga., for the purpose of installing in the hospital at that post a new type of x ray machine. **Hart,** William L., Captain, Medical Corps. Reported for duty on February 27th with the Third Field Artillery Camp at Fort Bliss, Texas. **Mills,** R. W., Lieutenant, Medical Corps. Ordered to the Walter Reed General Hospital, Takoma Park, D. C., for observation and treatment. **Phelan,** James M., Captain, Medical Corps. Ordered to proceed to Washington, D. C., for examination on May 1st for promotion. **Rich,** Edwin W., Captain, Medical Corps. Ordered to proceed to Letterman General Hospital, San Francisco, Cal., for examination for promotion on May 1st. **Truby,** Albert E., Major, Medical Corps. Designated as Attending Surgeon, Headquarters, Eastern Division, Governor's Island, N. Y. **Watkins,** Victor E., First Lieutenant, Medical Reserve Corps. Reported on February 27th with the Twenty-second Infantry, Camp at Fort Bliss, Texas, and left Fort Sam Houston, Texas, on the same date.

By paragraph 4, Special Orders No. 52, March 2, 1912, War Department, the following named officers of the Medical Corps will report in person on Monday, April 15, 1912, to Colonel Henry P. Birmingham, Medical Corps, president of the examining board, Army Medical Museum Building, Washington, D. C., appointed in paragraph 13, Special Orders No. 243, October 19, 1909, War Department, for examination to determine their fitness for promotion, and upon completion of his examination, each officer will return to his proper station or to the place of receipt by him of this order: First Lieutenants Addison G. Davis, William R. Dear, Eben C. Hill, Daniel W. Harmon, Armin Mueller, Clarence E. Fronk, William S. Shields, William H. Smith, and Frederick S. Wright.

By paragraph 7, Special Orders 52, March 2, 1912, War Department, the following named officers of the Medical Corps will report in person on Monday, April 15, 1912, to Lieutenant Colonel James D. Glennan, Medical Corps, president of the examining board, Letterman General Hospital, Presidio of San Francisco, Cal., appointed in paragraph 24, Special Orders No. 25, January 30, 1912, War Department, for examination to determine their fitness for promotion, and upon completion of his examination each officer will return to his proper station or to the place of receipt by him of this order: First Lieutenants Rozier C. Bayly, Lee R. Dunbar, Robert W. Kerr, George H. McLellan, Alexander D. Parce, Clarence A. Treuholtz, and Arnold D. Tuttle.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending March 9, 1912:

Angeny, G. L., Surgeon. Detached from the *Lancaster* and ordered to the *Indiana.* **Baker,** M. W. M., Surgeon. Detached from the *Independence* and ordered to the *Denver.* **Brown,** E. W., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from November 29, 1910. **Davis,** R. G., Assistant Surgeon. Ordered to the Naval Hospital, Las Animas, Colo.

Births, Marriages, and Deaths.

Born.

Zalesky.—In Charleston, S. C., on Sunday, March 3d, to Passed Assistant Surgeon William J. Zalesky, United States Navy, and Mrs. Zalesky, a daughter.

Married.

Humphreys—Dyer.—In Portland, Me., on Tuesday, March 5th, Dr. George Hoppin Humphrey, of New York, and Miss Edith Bradford Dyer. **Schairer—Lee.**—In Rochester, N. Y., on Friday, March 1st, Dr. W. F. Schairer and Dr. Mildred Lee.

Died.

Burnett.—In Pawtucket, R. I., on Sunday, March 3d, Dr. Frank G. Burnett, aged fifty years. **Converse.**—In Jersey City, N. J., on Monday, March 4th, Dr. Charles B. Converse, aged seventy years. **Ely.**—In Bay City, Mich., on Saturday, March 2d, Dr. Edwin S. Ely, aged forty-four years. **Gilliland.**—In Coatsburg, Ill., on Wednesday, February 28th, Dr. William E. Gilliland, aged seventy-nine years. **Green.**—In Arcadia, Fla., on Saturday, February 24th, Dr. E. Green, aged sixty-six years. **Hamilton.**—In Lakota, Va., on Sunday, March 3d, Dr. George Stanton Hamilton, aged eighty-one years. **Harmon.**—In Cambridge, Md., on Tuesday, March 5th, Medical Director George E. H. Harmon, United States Navy, retired, aged sixty-four years. **Hewitt.**—In Lebanon, Ill., on Monday, February 26th, Dr. James H. Hewitt, aged seventy-one years. **Kensett.**—In Pittsburgh, Pa., on Sunday, March 3d, Dr. William T. Kensett, aged forty-six years. **King.**—In Denver, Colo., on Wednesday, February 28th, Dr. Walter Joel King, of Golden. **Lapp.**—In Clarence, N. Y., on Friday, March 1st, Dr. Henry Lapp, aged seventy-six years. **Little.**—In Rochester, N. Y., on Friday, March 1st, Dr. David Little, aged seventy-eight years. **Mac Ken.**—In New York, on Thursday, March 7th, Dr. A. L. Mac Ken, aged forty years. **Maxwell.**—In Fort Worth, Texas, on Sunday, March 3d, Dr. George B. Maxwell, of Attleboro, Mass., aged sixty years. **Parker.**—In Chicago, on Wednesday, February 28th, Dr. Andrew Hull Parker, aged seventy-eight years. **Rand.**—In Keene, N. Y., on Monday, February 26th, Dr. J. G. Rand, of Lake Placid, aged thirty-eight years. **Scholfield.**—In Toronto, Canada, on Thursday, February 29th, Dr. Thomas C. Scholfield, aged seventy-eight years. **Smith.**—In Kansas City, Mo., on Wednesday, February 28th, Dr. E. L. Smith, of Shelton, Neb. **Thomas.**—In Rochester, N. Y., on Thursday, February 29th, Dr. Arthur W. Thomas, aged thirty-nine years. **Walmsley.**—In New Orleans, La., on Tuesday, February 27th, Dr. Robert W. Walmsley, aged fifty-five years. **Whitaker.**—In Biltmore, N. C., on Tuesday, February 27th, Dr. A. S. Whitaker. **Winchell.**—In New Haven, Conn., on Wednesday, March 6th, Dr. Alvord E. Winchell, aged eighty-one years. **Wright.**—In Picton, Ontario, Canada, on Friday, March 1st, Dr. John W. Wright, aged fifty-four years.

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PERSONAL EXPERIENCE WITH DISEASES OF THE PANCREAS.*

BY JOHN B. DEAVER, M. D., LL. D.,
Philadelphia,

Professor of the Practice of Surgery in the University of Pennsylvania.

I am glad to be able to discuss with you a subject which has interested me a great deal and one with which I have had considerable experience, embracing twenty-two acute and 130 chronic cases.

Pancreatitis in all its forms interests the medical man as well as the surgeon. Its early recognition at the time when radical treatment promises to be most effective will depend upon the medical man, who usually sees the case first. The diagnosis of this, as of the other diseases of the upper abdomen, depends upon a correct knowledge of the pathological anatomy, which can be mastered only by seeing and studying this process in the living body. The study of laboratory methods, x ray picture, etc., may be fascinating, but counts for practically nothing in making a diagnosis of acute or chronic pancreatitis. The revelations, the result of the workings of the aseptic scalpel, have revolutionized the pathology of the abdomen, and therefore this subject is now being rewritten, and those who wish to become masters of it must witness the scalpel in action.

It is not my intention to-night to attempt to cover the entire field of pancreatitis, now grown so vast, but rather to set forth in outline certain views gained from my own experience and that of others recorded in the literature. We are only now arriving at a proper appreciation of the importance of the subject.

Pancreatitis is but another instance of that curious condition of mind blindness which has been exemplified so often in medicine. Formerly we merely saw; at last we apprehend. The diagnosis is no longer a curiosity, and we are called upon to recognize and treat the condition.

A complete understanding of the underlying cause, or causes, of pancreatitis might aid us considerably in both recognition and treatment. Doubtless both systemic and local factors have to be considered. It is probable that tuberculosis, syphilis, alcohol, arteriosclerosis, and other systemic influences play their part in initiating pathological changes in the gland. From the standpoint of surgery these are of less importance than the local factors, of which the chief is direct infection. For the production of the hemorrhagic form of pancreatitis, infection, however, does not appear to be necessary. Opie and others have observed cases of hemorrhagic pancreatitis following impaction of a gallstone in the orifice of the papilla of Vater in such a manner that the bile was injected into the pancreatic duct. Flexner has produced the disease experimentally in this manner and considered the bile salts to be the active agents. Others, however, have produced the condition by the injection of a wide range of substances, more or less irritating, into the occluded pancreatic duct. It would seem that any procedure that dams back active pancreatic secretion and forces it into the interstitial substance of the gland is likely to result in hemorrhagic pancreatitis. Certainly no one clinical cause is always responsible. Whether the hemorrhage ever occurs spontaneously from arterial degeneration is, I believe, doubtful. The pancreatic tissue is so firm, and affords such excellent support to its intrinsic vessels, that we should hardly expect spontaneous rupture. In my opinion the rupture is due to the erosive action of the pancreatic secretion upon vessel walls already weakened by trauma or by toxines whether of infective or noninfective origin. This tendency of the products of pancreatic inflammation to erode vessel walls is not confined to the initial stages of hemorrhagic pancreatitis, but is exerted throughout the course of the disease and constitutes one of its chief dangers. Thus Körte, in a recent article based on forty-four personal observations, reports six deaths from sudden massive hemorrhage from the wound occurring at intervals varying from eleven to thirty-four days after operation had been performed. In a seventh case the patient was saved only by prompt tamponing. The hemorrhages were due to erosion of the large vessels in the immediate vicinity of the pancreas, the splenic artery, which runs along the upper border, being the most frequently opened. In no other part of the body is there such a marked tendency of an inflammatory process to open the bloodvessels, and we can only ascribe it to the digestive action of the glandular secretion upon vascular walls already weakened by irritation. The involvement of the exopancreatic vessels by the later process would seem to relieve the intrinsic vessels of the pancreas of the odium of especial liability to rupture. The amount of primary hemor-

*Read before the University of Pennsylvania Medical Society, New York City, February 17, 1912.

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rhage may be astounding. In one of my cases it was so profuse as to be mistaken for a ruptured extrauterine gestation sac.

It is but seldom that a purely mechanical cause is found to account for the origin of acute pancreatitis. In my opinion, infection is the chief cause, and here also the mode of entrance and reasons for lodgment are obscure. The frequent association of disease of the biliary passages and of the pancreas has been observed by all surgeons. In my experience about fifty per cent. of all cases of pancreatitis are associated with demonstrable disease of the gallbladder or common duct.

Special interest attaches to the mode of transference of infection from the gallbladder to the pancreas. Heretofore, it has been customary to explain it on the basis of the associated terminal facilities of the pancreatic and hepatic ducts, and the relation which the common duct holds to the head of the pancreas, penetrating its substance as it does in two thirds of all cases and coursing along the posterior surface in a groove for its reception in the remaining one third. Here we have a mechanism for infection by contiguity and through the influence of the infected bile, which is being continually poured down over the mouth of the pancreatic duct and, as we have seen, occasionally forced into the duct itself. Doubtless these factors are responsible for a percentage of pancreatitis, but there is a less well known path by which it is probable that the infection is carried in the majority of instances. This is the lymph path, which runs from the gallbladder along the right free border of the gastrohepatic omentum surrounding the common duct, toward the head of the pancreas, there to anastomose with the lymphatics from that organ. That these paths exist has been shown by actual injection by Franke, and the surgeon may often see the pathological demonstration in conditions of infection. The lymph node, which is quite constantly present at the neck of the gallbladder, drains but a small part of the lymphatics of that organ. The majority drain into two nodes, one at the junction of the supraduodenal and retroduodenal portions of the common duct, one lying to the right of the pancreatic head between it and the common duct, and the other situated to the left of the head of the pancreas. Under conditions of infection, as is well known, lymph nodes appear where none is normally found. I have often seen far more than the normal number in the gastrohepatic omentum and clustered about the head of the pancreas, and particularly along the entire upper and to a lesser extent the lower margin of the gland. There is an extensive network of lymphatics upon the posterior surface of the head of the pancreas.

Since I have directed my attention to the condition of the lymphatic tributary to the pancreas, I have observed such striking evidence of their participation in the inflammatory process that I am inclined to attribute the origin of a very large percentage of all pancreatitis to this source. This conception, as we shall see, has an important bearing upon treatment.

We must not lose sight of the fact that in a large percentage of cases there is no demonstrable disease of the biliary passages from which infection of the pancreas may have occurred. Most statistics, my own included, agree in the statement that acute pancreatitis is about twice as frequent in males as in females. In view of the well known preponderance of gallbladder disease in the female sex, it is apparent that the factors which govern gallstone disease are other than those which express themselves in pancreatic infection. There is some experimental evidence in favor of the possibility of infection of the pancreas by means of duodenal contents directly regurgitated into the pancreatic duct, and I have advanced, as a cause in certain instances, the catarrhal duodenitis which would render the orifice larger and less competent to assert its valvular action. The relative preponderance of this condition in males would accord with the incidence of pancreatitis.

It is possible also that inflammatory conditions of the duodenal mucosa may be transmitted by way of the lymphatics to the retroperitoneal tissues and anastomosing pancreatic lymphatics. However, much of this is only speculative at the present time, and is mentioned only because it is desirable that these problems be kept in mind for the sake of the illumination that the critical observer may at any time glean from a fortunate clinical observation.

CLASSIFICATION AND DIAGNOSIS.

Pathologically acute pancreatitis can be classified as hemorrhagic, suppurative, and gangrenous. There is no essential difference between these forms, as they represent the successive stages of the same process. Rarely does a hemorrhagic process remain aseptic, becoming infected from the duodenum even if sterile originally, and in cases of mild severity no slough may form, but in general no clinical differentiation is possible. It suffices to speak, therefore, of the symptoms of acute pancreatitis. I have not found it possible to diagnosticate this condition in every instance. We know of no pathognomonic sign or set of symptoms of acute pancreatitis. We may with great probability infer its presence when an individual, usually an adult male in previously good health, is suddenly stricken with agonizing pain in the upper abdomen, associated with persistent vomiting of a biliary character, obstinate constipation with epigastric swelling and tenderness, and collapse; usually there are also subnormal temperature, a dusky pallor, slow pulse gradually rising, increasing general distention, all of which if unchecked lead up to a fatal termination, usually in a few days, though at times weeks may elapse or recovery ensue.

I have observed a number of cases which presented the typical symptoms of epigastric peritonitis with subsequent inflammatory swelling posteriorly and particularly in the left lumbar region. Körte has noted the same and considers it possibly the most certain sign which offers itself in the diagnosis of acute pancreatitis. Not infrequently, careful questioning will elicit a history of previous milder attacks of the same character. Or, there may be a history of discomfort in the epigastric region with more or less acute attacks of pain, cramps, belching of gas, nausea or vomiting, occasionally sour stomach, soreness of the epigastrium to pressure. These symptoms, being shared by other upper abdominal

disorders, do not in themselves constitute a diagnosis. Successful treatment will frequently demand intervention without signs in the lumbar region, and in these cases it is inevitable that the abdomen will not infrequently be opened with a tentative diagnosis of perforated upper abdominal viscera or intestinal obstruction. As the successful treatment of all conditions likely to be confused also demand early operation, it is perhaps not so much for the sake of the patient as for our own mental satisfaction that we seek for refinement of diagnosis. The Cammidge reaction has not been of assistance to me in diagnosis. Occasionally a trace of sugar may be found in the urine.

On opening the abdomen in acute pancreatitis we see sanguinolent fluid in the peritoneal cavity, infiltration of the pancreas with blood, fat necrosis in greater and lesser omentum. In chronic pancreatitis we observe enlargement of the pancreatic lymph glands, enlargement of the head and body of the pancreas, all of which makes an impression that causes the surgeon to be ever mindful of the underlying pathology in the presence of symptoms and signs belonging to either of the varieties of this disease.

There has been some discussion of the proper time for operation. My own position is this, that we should avoid operation during the primary collapse. No patient has yet recovered who was operated upon in this stage. Certain patients who belong to the class denominated as ultraacute by Mayo Robson, never rally from this stage, but die in from twenty-four to seventy-two hours. It will do no good to operate in this class, because the patient cannot endure the procedure. This is a matter of general surgical judgment. With this exception early operation is the rule, and the earlier the interference the lower the mortality. If I may be permitted to quote Körte again as the most recent contributor to this subject: "Of sixteen operated on during the first week after the beginning of the illness, eleven recovered, while five died. Of fourteen operated on in the third and fourth week, seven died. Of those operated on in the fifth to sixth week, all died." The prognosis depends chiefly on the severity of the process and the timeliness of operation, but also in no small degree upon the methods employed.

OPERATION.

As to the methods, however, we are not yet in unanimity. My own practice is to make a straight rectus or median incision in all cases except those which are clearly pointing in the lumbar region. In the latter type a lumbar incision will provide the best drainage with the least trauma. My own results lead me to commend this incision most heartily. In one case, at least a third of the pancreas came away in two sloughs. The patient recovered and has been in good health for four and a half years, though I am informed that he now shows a trace of sugar in his urine. The disadvantage of this incision is that it does not permit inspection of the head of the pancreas. If the physical signs pointed to severe damage of the head, I should open anteriorly as well, but in no case in which there are indications of lumbar tenderness and swelling should I omit the posterior incision, as I consider this the best avenue for draining the lesser peritoneal cavity and the retroperitoneal tissues enveloping the greater part of the pancreas, but more particularly the tail.

In cases which do not present the definite indications for lumbar attack the pancreas is inspected anteriorly and best as a rule through the gastrocolic omentum. It is not advisable to use the mesocolic approach, since the general peritoneal cavity is less protected from contamination when the omentum is drawn upward. The gastrohepatic omentum also is less direct unless marked gastroptosis is present. The posterior surface of the pancreas may be rendered accessible by mobilizing the duodenum. In acute pancreatitis, associated with gallbladder disease, when the operation was confined to the gallbladder, I have seen but two recoveries. One of these happened to to be the youngest patient (fourteen years) of acute pancreatitis upon whom I have operated.

DRAINAGE.

Drainage should be so disposed as to conduct the products of infection and extravasated secretions of the pancreas to the surface. The pancreas should be exposed along its length and blunt scarification made in its surface, which is then covered with gauze (I always prefer plain to medicated gauze) and this brought out through the wound. At least one tube of rubber or glass should be placed in position to carry off any fluid collections. Fluid in the abdominal cavity should be mopped away without too great insistence upon thoroughness, however, and if in quantity a tube should be inserted into the pelvis through a suprapubic stab.

CHRONIC PANCREATITIS.

The diagnosis of chronic pancreatitis is more difficult than is that of the acute form. No typical picture exists at the present time. There is no doubt that it is one of the causes of the indigestion so frequently brought to the general practitioner. Many of these cases cannot now be distinguished from the mild cases of biliary, duodenal, or gastric disease, or from chronic appendicitis with symptoms referred entirely to the upper abdomen. I have observed several striking cases in which the picture was precisely that of stone in the common duct with Charcot's well known syndrome. Only at operation was differentiation possible. With a view to discovering the more prominent symptoms of demonstrable chronic pancreatitis, I have analyzed thirty-eight consecutive operative cases. The leading and most constant symptom is pain, which was absent in only three cases. It varies from dull discomfort or ache to sharp lancinating or colicky pain quite like gallstone colic. It may be merely a sense of fullness or oppression in the epigastrium. In the majority of cases the pain is in the epigastrium, occasionally it is in the hypochondriac region, more often the right than the left, and in two cases it was referred to the lumbar region. In about one fourth of the cases it radiated to the back. There is no definite relation to eating so far as brought out in this series, a point of some negative value. Sailer states that he found the administration of a large amount of glucose for the purpose of testing the assimilation limit, particularly distressing to these patients.

But slightly less frequent than pain, is the history of nausea, or vomiting, or both. Opie has called attention to the association of chronic interlobular pancreatitis and persistent vomiting. In my series the nausea or vomiting could not be called persistent, but at one time or another it occurred in thirty-one cases. It is noteworthy that in ten cases it occurred independently of pain. This suggests that we may have here one of the causes of so called neurotic vomiting. A third important symptom is jaundice. This occurs, as is well known, from compression of the common duct by the swollen pancreatic head. It was present at the time of operation or previously in two thirds of the cases. Many cases of so called catarrhal jaundice are due to pancreatitis.

General symptoms are often marked. The existence of chronic pancreatitis to the degree that the pancreatic function is seriously disturbed, is always associated with a loss of weight. This is due to several causes: First, to restriction of the diet voluntarily, or by advice of a physician, in the effort to control the symptoms of indigestion. At times impairment of the appetite is responsible for decreased intake of food, though loss of appetite is not a frequent accompaniment of chronic pancreatitis and affords in this respect a point of some value in the differentiation from malignancy. Malassimilation of the imperfectly digested food also causes a fall in weight, as does the presence of jaundice or a more active infection with absorption of bacterial toxines. In the cases complicated by marked jaundice, this loss of weight may be rapid and extreme, and more than once such patients have been regarded as suffering with malignant disease, a fatal mistake if it leads to a decision against operation. In many instances a history of febrile attacks will be obtained and in about fifteen per cent. of my cases a definite history of chills and sweating was obtained.

The bowels, as a rule, are constipated. This should be particularly noted. The classical "frequent bulky motions, pale in color, offensive and obviously greasy" are seen only in very advanced stages of the disease.

EXAMINATION OF THE PATIENT.

The physical examination rarely affords much positive information. It is of more value in excluding other conditions. During the exacerbations there may be epigastric tenderness and rigidity. When this is true it is impossible to detect anything in the nature of a mass. During quiescent intervals, in patients with thin flaccid abdominal walls, it is sometimes possible to palpate the swollen indurated pancreas. It must be remembered that the pancreas is a movable organ, though it is commonly stated that pancreatic tumors are fixed. On the contrary, the degree of mobility of the pancreas is surprising, its loose cellular investments permitting a considerable range of motion unless fixed by malignant or inflammatory adhesions. Failure to appreciate this point has led to frequent mistakes in diagnosis. The liver and gallbladder are occasionally enlarged when the common duct is much compressed.

The blood frequently shows a secondary anemia which is seldom grave. In about one half of my cases the hemoglobin was below eighty per cent. and the erythrocytes below 4,000,000 per cubic millimetre. A moderate leucocytosis was present in a few of the exacerbations, but in general the number and numerical ratio of the white cells was unaltered.

Now as to the various tests used to determine the functional activity of the pancreas and associated organs. The gastric analysis in my experience has generally shown a slight subacidity, but no further abnormity. In diagnosis it is of no moment. In acute cases it is of course out of the question. X ray examination is equally futile.

Somewhat more information can be derived from the stools. In about twenty-five per cent. of the cases they were clay colored. It is well known that this characteristic depends, not so much on the absence of bile, as on the presence of an excess of fat or fatty acids. The tests for stercobilin were positive in all these instances, showing that bile was entering the intestinal tract. This is important and leads to the deduction that since the liver is functioning, the failure to digest the fats must be due to insufficiency of the pancreas.

Excess of muscle fibres could be found in instances of palpably deficient pancreatic secretion, but was not characteristic of the milder cases. This agrees with the finding of Steele and others, that the digestion of meat and the muscle nuclei, as carried out in the Schmidt test, is not of great value. The same statement is true of all the tests which seek to determine pancreatic activity by means of estimating the ferment activity of the gastric contents or feces. As Opie remarks: "In most instances a considerable part of the parenchyma is undestroyed and is capable of performing in part, at least, the functions of the gland."

I regret to be obliged to add my experience to the consensus against the usefulness of the Cammidge reaction. The reports of its originator were so startling as to lead to the hope that at last we had something pathognomic of pancreatic derangement. After an experience of over 500 cases in which the improved or "C" reaction has been performed, I am unable to derive any assistance from it. Whether our failure to obtain satisfactory results be due to the manner of its performance or to some other reason I am unable to say, but we have tried to carry out with exactness the detailed description of the method as given by the author.

From the foregoing it is apparent that the diagnosis of chronic pancreatitis is not an easy matter. Indeed, I am willing to state that in the majority of the mild cases it is impossible on clinical grounds, and direct inspection and palpation only can determine its existence. In more marked cases also it may be impossible, as in the cases which simulate stone in the common duct referred to previously. When other upper abdominal lesions are present, as is frequently the case, it is often impossible to extricate the symptoms due to pancreatitis from those due to the associated conditions.

DIFFERENTIAL DIAGNOSIS.

The diagnosis must depend upon the history and the physical findings. The laboratory as yet offers but little assistance. It is altogether a diagnosis of inference or by exclusion until direct inspection and palpation have been carried out. The

conditions which may be mistaken for pancreatitis, are cholecystitis in the absence of gallbladder swelling, duodenal ulcer, beginning pyloric cancer, adhesions in the pyloric, duodenal, and gallbladder regions, carcinoma of the gallbladder, of the common bile duct, and of the head of the pancreas.

The practical point is, can these be differentiated? Will laboratory methods, duodenal buckets, x ray, make the differentiation positive and absolute? I say emphatically *no*. Under these conditions the physician and surgeon who encourages his patient in the belief that he will surely solve the problem, is either a commercial gentleman, a knave, or is without knowledge. Will clinical knowledge make the differentiation? In a few instances, yes. What will make the diagnosis positive and absolute? Opening the abdomen. What is the mortality of simply opening the abdomen? That of anesthesia plus the risk of an inspiratory pneumonia. Assuming that the opposite course is followed, what is the outlook? It cannot be other than very unpromising.

TREATMENT.

Treatment is both medical and surgical; medical in mild cases, to be continued if improvement results or symptoms are at least arrested; surgical, if medical treatment fails to relieve the symptoms. I believe that many of the so called stomach complaints, catarrh, etc., are mild cases of pancreatitis that end in recovery. That these patients are benefited by a "cure" at one of the famous springs is highly probable. Too great delay is mistaken policy, since a chronic pancreatitis, when it has reached the stage of fibrous deposit, is as incapable of remedy as is cirrhosis of the liver, chronic interstitial nephritis, or gray hair.

In the surgical treatment of chronic pancreatitis, Mayo Robson occupies the same position as Fitz does to the development of our knowledge of the disease. He was the pioneer in showing that free drainage of the biliary tract, and, through this outlet, drainage also of the pancreatic ducts, would in many instances enable the pancreas to cast off the infection and resume its normal function. This is, in a nutshell, the principle of the treatment, and though it may seem roundabout, its efficiency has been demonstrated too often to admit of a question. The easiest and most advantageous method of providing drainage is by a cholecystostomy. If, for any reason, this is impractable, drainage of the common duct should be done. At times, when the closure of the common duct is complete and likely to be lasting, a cholecystenterostomy may be best, but as a general rule external drainage permits subsidence of the swelling of the pancreas and a reestablishment of the functions of the ducts. Drainage should be maintained for three or four weeks at least. It is difficult to keep the fistula from closing too soon, and in cases of marked pancreatic disease it is best to make a cholecystduodenostomy. Just how long this opening will remain patulous is a question, for I have reoperated in cases in which this operation had been performed, and have found the opening closed. It should not be forgotten, also that cholecystduodenostomy is an operation of greater magnitude and slightly higher mortality than simple cholecystostomy.

The problem of the treatment of pancreatitis when the gallbladder seems to be practically normal is a difficult one. I may say that in many of these cases close observation will show that the gallbladder is interstitially thickened and its opacity more marked. The liver may show a curious streaky appearance of its capsule, the exact significance of which is not clear to me. I have opened such gallbladders and found them to contain tarry looking bile. It is my belief that these also are cases of milder hepatic infection, with inconspicuous involvement of the gallbladder, and that drainage is efficacious in these cases as well as in those which show more advanced pathology.

The surgeon to-day makes the same plea for chronic pancreatitis as he made twenty years ago for appendicitis. Send patients early before complications create a mortality.

1634 Walnut Street.

REPORT OF PROGRESS IN SANITARY AND MORAL PROPHYLAXIS.*

By Prince A. Morrow, M. D.,
New York.

This meeting marks the seventh anniversary of the organization of this society. It is eminently fitting that a report of the progress of this movement should be presented on this occasion, the more especially as we find in this retrospect abundant cause for congratulation in the amount and character of the work accomplished, and, at the same time, the most hopeful auguries for its future success.

On February 8, 1905, a handful of half hearted men met in this hall in response to a call for a meeting to discuss the wisdom and expediency of forming an organization for the specific object of "The study and prevention of the spread of diseases which have their origin in the social evil." Only about twenty-five persons responded to this call, and the array of empty benches was so disspiriting that the meeting was adjourned to an adjacent smaller room. The movement so inauspiciously launched, started slowly, hesitatingly, then advanced with more certainty and courage, later boldly and more aggressively, until now it has gained recognition and respect, and achieved no small measure of success. It may be said of this society as of the patriarch of old: "With my staff alone, I crossed over this Jordan, and now I am become two bands." Rather we might say twenty bands, for, as a direct outgrowth of this movement, there have been established twenty organizations with similar aims and purposes throughout the country, with two branches of this society in Syracuse and Buffalo.

In addition, societies are being projected or are in process of formation in several cities.[1] The growth of this movement has extended beyond the seas. The New Zealand Society of Sanitary and Moral Prophylaxis was organized through the efforts of this society in 1910.

*Read at the meeting of the American Society of Sanitary and Moral Prophylaxis, January 6, 1912.

[1]Since this report was read societies in Massachusetts and Southern California have been added to the list.

The work of this, the parent society, has been chiefly along educational lines— through public meetings and conferences, the circulation of educational literature, and through lectures. Two of its regular meetings have been held in connection with the New York Association of Biology Teachers, and one joint meeting with the New York County Medical Society.

During the last winter the efforts of this society were directed to two specific objects: First, the repeal of the obnoxious Clause 79 of the Page bill, and second, securing health department control of venereal diseases in this city, both of which were successful.

There has been a steady growth in the membership of the society. In the year 1911 295 new members were added to the list. Not only America, but Europe, Asia, and Africa are represented in our list of members. An active interest has been created in Japan, and two of the society's educational pamphlets have been translated into Japanese. The work is being done largely through the efforts of the Y. M. C. A. in Japan.

The demand for our literature is large and steadily increasing; 45,000 copies of pamphlet No. 6, *Health and the Hygiene of Sex,* have been printed, and another 5,000 is now in the hands of the printer, making 50,000 altogether. Over 25,000 copies have gone to the freshman classes of various colleges and universities, and we have received from the presidents of many of these colleges the most enthusiastic commendations of its value, and assurances of the good it has done. 28,000 copies of No. 1, *The Young Man's Problem,* 10,000 copies each of Nos. 2 and 3, 27,000 copies of No. 4, *The Boy Problem,* and 15,000 copies of No. 5 have been printed, and, for the most part, circulated.

There has been a large demand for the four page circular setting forth the objects and aims of the society and the facts which furnish motives to this movement. Nearly 200,000 of these have been printed, and a recent order for 50,000 came from the State of California. In addition, 20,000 copies of the leaflet on the *Need of Instruction in Sex Hygiene* have been printed.

One indication of interest in this movement is the demand from hundreds of libraries for the *Transactions* of the society. This is due not alone, it is believed, to the intrinsic value of the papers and discussions, but because they furnish the record of a movement which has excited general interest throughout the entire country.

The *Journal of Social Diseases,* which was intended to serve as the official organ of all the societies, is now established on a permanent basis. The earlier numbers are out of print, and the demand for the *Sex Hygiene* number (October, 1911) was so large that two additional printings have been required.

There has been a great demand for lectures. The society has now ten regularly appointed lecturers. One of the most valuable fields of this lecture work has been found in the meetings of the mothers of the pupils of the public schools. The Public Education Association, under whose auspices these lectures have been conducted, have recently notified the principals of all the public schools in the city that the lecturers of our society are now available for this purpose. Our lecture work is unfortunately restricted by the limitations of the lecture funds.

THE PENNSYLVANIA SOCIETY FOR THE PREVENTION OF SOCIAL DISEASE.

Many large meetings of men, women, and boys, segregated or mixed, have been addressed in various cities throughout the State by the secretary on the subject, The Relation of the Citizen to the Control of Social Diseases. A branch organization has been established in Williamsport. A large meeting was held under the auspices of the Pennsylvania State Medical Society at Harrisburg, and the movement thus formally endorsed by the State medical society.

A woman's advisory board has been added to the effective forces in the field. An effort is being made to enforce the laws already upon the statute books relating to the quarantining by the health board of persons afflicted with any contagious disease dangerous to the community, the enforced hospital treatment of any person afflicted with contagious disease who cannot be properly treated at home, and the reporting to physicians by the board of health of persons laboring under a contagious, pestilential disease, and the enforcement of laws relating to disorderly houses. It has been found that only one hospital in the State opens its doors to patients suffering from social diseases.

Several editions of 25,000 copies of a circular of information for women have been printed and distributed. A complete set of negatives for the preparation of lantern slides has also been made, illustrating the many extragenital symptoms caused by social diseases.

A public conference on sex hygiene was directed by this society under the auspices of the Philadelphia Child Welfare Planning Conference, November, 1911. A permanent exhibit illustrating the need of instruction and methods to be employed will be used in the work throughout the State. An entering wedge has been inserted, at least in Philadelphia, with a view to the introduction into public schools of intelligent graded teaching in normal sex hygiene.

An effort is being made to secure an endowment fund of $50,000, as far as possible in endowment subscriptions of $1,000 each, to carry on the work of the society.

CHICAGO SOCIETY FOR SOCIAL HYGIENE.

The literature of this society consists of a sixty-four page pamphlet entitled *The General Need of Education in Matters of Sex,* a pamphlet entitled *The Sexual Necessity,* and four leaflets: *Sex Hygiene for Young Men, Family Protection, Community Protection, Prospects and Retrospects.*

Requests for this literature have been received from 150 colleges, 400 Y. M. C. A.'s, besides a number of churches, schools, settlements, women's clubs, army and navy people, business people, and others.

Work has been taken up along similar lines by several groups of people here in the city, who are cooperating with our organization.

The first was the Chicago Women's Club, which has taken up the subject especially from the standpoint of the protection of mothers and children and the proper training for children.

A union meeting of ministers, organized as the Illinois Vigilance Association with a view to working along moral legislation and law enforcement lines, for the suppression of the white slave traffic and the reduction of open or notorious vice.

Later, the Chicago vice commission appeared as an outgrowth of the difference of opinion between the Illinois Vigilance Association speakers and people interested in the subject from the standpoint of municipal government responsibility in the matter.

The result of the women's club work has been to introduce the subject into the National Federation of Women's Clubs, the State Federation of Women's Clubs, of a woman physician addressing women's clubs, church associations, and other groups of women, on numerous occasions for the past four years.

The result of the Illinois Vigilance Association work has been a wide publicity, a good deal of prosecution and law enforcement, and some State and national legislation for the suppression of white slave traffic and similar crimes.

The result of the appointment of the Chicago vice commission has been the publication of the *Vice Commission Report.*

Chicago public schools have, within the past year and a half, made an effort to teach the high school pupils something of the subject of social hygiene.

THE MARYLAND SOCIETY FOR SOCIAL HYGIENE.

The secretary reports that the society has held two public meetings; attendance, 1,600. Meetings for boys and men, 41; audience, 1,050. Meetings for women and girls, 25; audience, 1,550. Total: 68 meetings; attendance, 5,200.

Six thousand copies of literature have been distributed. This, however, does not indicate all the work of the society, as the character of the work has been such as to influence a great many people and to produce much thought and discussion upon the subject from physicians, clergymen, teachers, social workers, and others interested in the public welfare.

Other details will be given by Doctor Hooker in the paper presented this evening.

ST. LOUIS SOCIETY OF SOCIAL HYGIENE.

An address given before the St. Louis Medical Society by invitation was adopted by the committee as an official utterance, and twenty-five thousand copies have been sent

to carefully selected lists of names, such as the membership of the civic league, the women's clubs, the ministers and teachers, the City Club, to the 6,850 names given in the Blue Book's list of members of clubs in the city, to 8,000 of the members of the Citizen's Industrial Association; and 1,000 were distributed at a meeting of the Central Trades and Labor Union.

The press of the city has supported our campaign through editorial endorsement, and one paper printed an open letter to the fathers and mothers of St. Louis, urging them to give their children the instruction in matters of sex they ought to have. We have also published and distributed thousands of four page circulars as follows: *The Delinquent Girl,* containing typical cases from the report of a Juvenile Court Probation Officer, with recommendations for improving the situation; *A Plain Talk with Boys on Sex Hygiene*; *A Straight Talk with Employers and Leaders of Organized Labor*; *Effect of Venereal Diseases on Young Men.*

The medical members of the executive committee and the president of the society are authorized lecturers and have responded to such requests as have been made for addresses on the part of the parents' societies, clubs, schools, etc.

Our only legislative efforts have been to encourage the city government to pass a bill authorizing a commission to examine the dance halls and report with recommendations for legislation intended to free these places from evil influences now prevalent.

SPOKANE SOCIETY OF SOCIAL AND MORAL HYGIENE.

A series of seven circulars has been published: 1. *The Need for Education in Sexual Hygiene* 2. *A Frank Talk with Boys and Girls about Their Birth.* For children from six to ten years of age. 3. *A Straight Talk with Boys about Their Birth and Early Boyhood.* For boys from ten to thirteen years of age. 4. *A Plain Talk with Boys about Their Physical Development.* For boys approaching and during puberty. 5. *Sexual Hygiene for Young Men.* 6. *A Plain Talk with Girls about Their Health and Physical Development.* 7. *Sexual Hygiene for Young Women.*

Thirty-three thousand copies of these circulars were issued for the first year. During the next year many phases of work were exploited. The committee on local conditions investigated public dance halls in the city. Their report was brought to the attention of many parents at subsequent public meetings, as a warning of the dangers of these places.

As a result, the executive committee inspected the penny arcades frequented by boys and men, and finding many of the pictures grossly objectionable, reported conditions to the mayor, who ordered the proprietors of the arcades to submit all pictures to the committee for inspection. This was done, and eventually resulted in the appointment of a board of censorship over these exhibitions.

Public meetings have been held from time to time as one of the chief means of education.

Through the cooperation of the board of education, the superintendent of schools and the principals of the schools, the most successful work of the year was made possible in the present meetings conducted by the society in various school buildings. Eleven buildings were utilized for this purpose with a total attendance of about 825—an average of 75 at each meeting. The high school principal invited the society to present its work to the faculty, and as a result a meeting of 250 persons, parents of the students, was held.

Another important work has been the distribution of literature. Eighty-three thousand copies of the circulars mentioned were printed the first two years and had wide circulation. Designed for use in Spokane and vicinity, they have gradually come to be known throughout this and foreign lands as the result of notices given them by various magazines and publications. In one year, 900 letters asking for them were received,—these representing universities, colleges high schools, normal schools, women's clubs, Y. M. C. A.'s, Y. W. C. A.'s, church and Sunday school organizations, publishing houses, moral and social reform societies, army posts, W. C. T. U.'s, rescue homes, and many individuals in private life.

There have been numerous requests for our literature from other parts of the country, including Canada, England, Spain, Alaska, and India. Some have purchased them in quantity, and all together, about 3,500 copies have been sent out. The public libraries of Washington, D. C., and Los Angeles, Cal., have requested our circulars to be placed in those libraries.

The third annual report shows that the work consisted, during that year, largely of an educational campaign. The parents' meetings were continued and numerous other meetings held. Addresses were made at several of the lodges, before the chamber of commerce (one of the most enthusiastic meetings of the year), before the Spokane County Nurses' Association and the Y. M. C. A., the W. C. T. U. and mothers' meetings, while the Liberty Park Improvement Club invited the society's speakers to one of its sessions.

Effort was made to secure the interest of the churches in this work, with good success. A beginning was made in giving instruction to the young, addresses having been given to the boys of the high school, to the entire student body of Spokane College, etc.

A new feature was the out of town work, particularly a lecture at the Parent Teacher Conference at the State Normal School at Cheney, since which time the society has cooperated with the Normal faculty in the work dealing with social hygiene. The society also conducted meetings in other surrounding towns with a total attendance of about 3,600 people.

The most tangible result of the society's effort is that in reference to the normal schools of Washington. Largely through the influence of the society the State Board of Education has incorporated in the curriculum of the normal schools, beginning with the fall term of 1911, a course in sexual physiology and hygiene. This course consists of eighteen classroom periods, and is required of all students who expect to graduate.

In complying with the State law the following recommendations of the principals of the normal schools have been adopted:

First.—That the State require each student who takes the secondary or a diploma in the State normal school to earn one credit in sex and moral hygiene.

Second.—The school gives a series of talks to the summer school students who are entered in the physical training classes. In the fall of 1911 all students asking for secondary or advanced diplomas were given two periods a week for one semester. The students are expected to take notes and take part in the discussion. They expect to get out a bulletin every month for distribution, and the teachers over the State write this school almost daily, asking for information. They have never given instruction to mixed classes,—women physicians instructing girls and men instructing men. Talks have also been given to boys by Dr. J. G. Harbison, of the Spokane Society of Social and Moral Hygiene; although the boys have no regular courses, they probably will have next year. The subject is treated in a general way, first from the biological standpoint, second the pedagogical, third the sociological. The pathological aspects are treated relatively to the above three divisions—frankly, but without undue emphasis.

During the year the society went on record as unalterably in favor of suppression and eradication of prostitution, and opposed to the establishment or maintenance of a restricted district.

Efforts are being made toward presenting the work to the labor unions for consideration; also toward extending it to other cities.

SOCIAL HYGIENE OF PORTLAND, ORE.

The publication committee has issued two leaflets, one setting forth the need, importance, and method of the work —the other, No. 2, being entitled *The Four Sex Lies.*

The committee has scheduled a series of forty-four parents' meetings, to begin November 9th, invitations to these meetings being printed and enclosed in envelopes and given by the teachers to the children to take home to their parents. About sixty were present at the first meeting and one hundred at the second. Others will be held later.

The committee on social hygiene are preparing a group of lantern slides to be used by the lecturers. A committee on Y. M. C. A. and education has outlined a plan involving the education of the entire Y. M. C. A., both boys and men, and will use both lectures and printed matter in their work. They have held one fathers' meeting, which sixty-five men attended.

The committee on public education has planned to give lectures and to distribute printed matter through the cooperation of women's clubs, the public library, insurance

companies, and through the cooperation of employers in department stores, factories, railway and street car companies. The assistance of a business men's committee has been secured in order to have the cooperation of employers.

A lecture has been given before an organization known as the "Big Stores," which has an audience of about one hundred. Groups of students in business college, Y. M. C. A., military academy, etc., have been addressed. Also meetings of business men have been held. The committee has also undertaken to review a large number of books with a view of selecting and classifying the best.

COLORADO SOCIETY FOR SOCIAL HEALTH.

The secretary reports that this society has used the literature of the other societies for distribution. Considerable work has been done in securing the enactment by the Colorado legislature of drastic law in dealing with the *maquereaux* throughout the State. Arrangements have also been made for having sexual hygiene taught in the schools. A questionnaire letter addressed to each minister in the State is now being issued, asking for their cooperation in instructing the people in a careful and definite way as to the prevention of social diseases.

CALIFORNIA SOCIETY FOR THE STUDY AND PREVENTION OF SYPHILIS AND GONORRHEA.

The secretary reports that while the society has not been able to continue work as aggressively as they had wished, partly because they lack the funds and partly for other reasons, they have accomplished some good work.

Some of the members of the society have been called upon to address various clubs and societies, and public meetings have been held. Steps have been taken, indirectly through the influence of the society, toward the education of young people attending the public schools. The State Board of Health has cooperated with the members of the society and has established a bulletin which has added greatly to the interest of the society's work.

DETROIT SOCIETY OF SOCIAL HYGIENE.

The work of this society has been a campaign designed to awaken the people to the needs of scientific education on sex hygiene.

Addresses before public meetings were followed by lectures to small groups of men, boys, women, factory women, and girls by a local lecture corps of twenty men and women physicians. More than a hundred of these talks have been given. Pamphlets have been issued on the following subjects: 1. *A Word to Parents on Sex Hygiene.* 2. *To the Girl Who Does Not Know.* 3. *A Plain Talk with Boys.* 4. *Some Plain Facts for Young Men upon Sexual Matters.* About 30,000 leaflets have been printed, the most of them distributed, partly gratis and partly paid for.

Meetings have been held in conjunction with the Wayne County Medical Society. At one of these meetings the subject was: Shall Venereal Diseases Be Reported to the Board of Health? The consensus was that the diseases were dangerous and communicable, and should be under board of health control. Other organizations of men and women in Detroit were asked to include in their programmes for the year some discussion of the subject of sex hygiene, with a view to improving conditions along social, moral, hygienic, legislative, and law enforcement lines.

INDIANA SOCIETY OF SOCIAL HYGIENE

The Indiana State Board of Health has three or four lecturers in addition to the commissioner of health, Dr. J. N. Hurty. These lecturers, combined, give from five to twenty lectures a week during the fall, winter and spring, and some lectures during the summer. They have also issued a pamphlet, 100,000 copies of which have been printed. They work in connection with the Y. M. C. A., with churches, with women's clubs, civic and business organizations, or any group of people desiring information. The lecturers are in the pay of the State board of health, and the traveling expenses are paid by the State.

MILWAUKEE SOCIETY OF SOCIAL AND MORAL HYGIENE.

This society was organized several years ago and has been working locally. Some of the members are interested in rescue and reform work for girls, and have devoted more of their time to that than to the society proper. A substantial membership, and is working effectively.

THE WEST VIRGINIA SOCIETY OF SOCIAL HYGIENE.

The secretary reports that the society has held six public meetings, the audience varying from fifty to three hundred people at each meeting. Several hundred copies of the society's literature and the literature of other societies have been distributed. The bulletin of their organization shows the membership of medical and nonmedical people, including the Governor of the State. In addition to the society's work, Dr. S. L. Jepson, editor of the *West Virginia Medical Journal,* has given a number of lectures upon the subject of sanitary and moral prophylaxis. These lectures have been delivered in nine of the principal cities of the State, and the total attendance has amounted to 2,350.

CONNECTICUT SOCIETY OF SOCIAL HYGIENE.

During the last two years the society's membership has increased from 600 to over 800. It has published four leaflets on Sex Hygiene, viz.: 1. *General Statement.* 2. *For Young Men.* 3. *For Young Women.* 4. *Information for Persons Having Venereal Disease.* Over 60,000 copies of these were distributed. Some of the leaflets have been translated into Italian, French, and Polish. Every physician of the State has received copies of leaflet No. 4 for distribution to his patients. One thousand copies of the report of the New York grand jury in "the white slave traffic" have been distributed. One thousand copies of the series of educational pamphlets published by the American Society of Sanitary and Moral Prophylaxis have been distributed free or by sale. A large number of the various approved books on sex hygiene have been sold, and many of these books have been lent to people unable to buy them, after the manner of a circulating library.

The society has established over twenty local educational committees in the various towns of the State, and these committees have been responsible for over 100 lectures on the subject of sex hygiene.

THE TEXAS STATE SOCIETY OF SOCIAL HYGIENE.

The society has published some booklets. The work so far has been educational and in cooperation with the State Medical Association and the women's clubs throughout the State. The society is actively and successfully engaged in the introduction of the teaching of sex hygiene into the schools, colleges, and universities of the State. "We are dealing with the larger question of race culture, and, of course, show the relation of the venereal peril to this question."

NEW JERSEY SANITARY ASSOCIATION.

This society, recently organized, has made arrangements for holding meetings in different parts of the State, to arouse enthusiasm and induce men and women to join in the effort to control the spread of social diseases. The first of these meetings has been arranged in conjunction with a section of the Mothers' Congress of the State, who are interested in child welfare and infant mortality.

SEATTLE SOCIETY OF HYGIENE.

Too recently organized to report active work.

THE MEXICAN SOCIETY OF SANITARY AND MORAL PROPHYLAXIS OF VENEREAL DISEASES.

This society was inaugurated under the auspices of the Academy of Medicine of Mexico.

The society's first step was to start the magazine, *The White Cross,* with the object of putting into popular form information on the dangers of syphilitic, venereal diseases to the family, society, and the nation.

It published and distributed widely Doctor Fournier's pamphlet, called *For Our Sons When They Are Eighteen Years Old.*

An interesting original work by Mr. Roumagnac, entitled *Regulated Prostitution: Its Inconveniences, Its Inutility, and Its Dangers,* was read and discussed in several meetings.

On the society's initiative the Spanish Benevolent Society established a free clinic for syphilis and blennorrhagia, and the School of Jurisprudence inaugurated a series of lectures for the young students.

On the society's initiative, the serious and reputable journals began a campaign against the pornographic press which gave timely good results.

At the society's request permission was given by the Department of Public Institutions and Fine Arts to hold lec-

tures in the night schools for adults, in the normal schools for teachers, and in the manual schools for men and artisans. This work is now in progress.

As a result of a discussion whether venereal and syphilitic diseases should be a legal bar to marriage the society has placed before the Revisory Committee of the Civil and Penal Code the necessary proposed reforms, and the committee has the matter under consideration.

I have read only the more salient features of these reports to indicate the various directions in which this work is expanding, the agencies utilized, and the methods which have been employed.

I may now refer briefly to the influence of our propaganda in creating a public sentiment in favor of this work, especially in enlightened centres.

It was recognized by those who inaugurated this movement, that in the prophylaxis of a class of diseases which both social sentiment and professional ethics have always united to cover up and conceal, the first and most essential condition was that the public should recognize their existence and understand their significance. The keynote of this campaign was sounded as—education of the public. The chief features of this educational policy have been publicity of the extent and dangers of venereal diseases and sex instruction.

What are some of the most apparent and at the same time the most significant signs of progress in this field?

1. The change in the spirit and practice of the medical profession in sharing its knowledge with the public—the break with the policy of silence and concealment. It may be fairly claimed that this society was the first to bring the discussion of these diseases into the open, to pronounce their names before mixed audiences of men and women, and to place this class of infections on the same plane of publicity as other infectious diseases dangerous to the public health.

2. The change in the attitude of the public toward the sex problem. We find that the present day is marked by an openmindedness on the part of the public, a receptivity to the knowledge of the facts which furnish motives to this movement, an intelligent recognition of the significance of these facts, which is in striking contrast with the indifference, the apathy, and the hostility, even, on the part of the public, which formerly prevailed. In many social circles this formerly forbidden topic is now discussed with a frankness, a candor, and a competence which has never before been known in social history.

3. Among the most encouraging signs of progress is the change, I might more truly say, the revolution, in pedagogic and social sentiment toward the question of the introduction of sex teaching in schools and colleges, as well as in the home. This society has always regarded the instruction of young people in the laws of hygiene and sex, as the most important and valuable feature of its educational programme, and also the most difficult, as it ran counter to deep-seated convictions and prejudices fortified by generations of heredity and training. It is gratifying to report that a wide breach has been made in this wall of conventional prejudice.

Those of you who were present at the joint meeting of this society with the New York Association of Biological Teachers in October last will remember with what practical unanimity the question of introducing sex teaching in schools and colleges was accepted as constituting an integral part of a rational education. It was so definitely accepted, that it was deemed superfluous to discuss its importance or practicability; the only question was one of matter and material. The number of "Social Diseases" containing the papers and discussions at that meeting was recently sent to 1,200 presidents of colleges and universities, and to superintendents of public education with an accompanying letter asking their opinion relative to—

1. The importance of educating young people in the physiology and hygiene of sex.

2. The practicability of introducing sex teaching in schools and colleges.

3. The matter and method of the proposed instruction.

Within the few days that have since elapsed, nearly two hundred and fifty replies have been received. With few exceptions, there was the most unqualified endorsement of propositions one and two.

The need of such teaching is pronounced "imperative," "vital," "indispensable." "The most vital question civilization has to answer. When rightly answered, a number of other difficult social problems will have become nonexistent." "Its value cannot be overestimated." "Of the most vital importance to the physical as well as to the moral and spiritual uplift of the race." "Such education is the surest safeguard of youth." "An intelligent and reverent understanding of sex will cleanse the world of the defective conditions of humanity, physically, morally, and spiritually. Many a life is wrecked because of the ignorance of these vital principles of physiology and hygiene. Many a human being spends a life that is worse than torment, because he has not received the right instruction," etc.

In reply to question three, there was generally expressed some doubt as to the wisdom or expediency of introducing this teaching until the problem of the subject-matter and methods of such instruction and the age at which it should be given, had been worked out, and teachers had been prepared to do this teaching wisely and effectively.

This practically unanimous endorsement of the teaching of sex in schools and colleges was a revelation and a surprise. Seven years ago scarcely an educator in this country would have had the courage to lift his voice in favor of such a radical innovation upon our established system of education.

As stated in the report of the Spokane Society, the Board of Education of Washington has made sex teaching mandatory in all the normal schools of that State. No student in one of these schools can apply for a certificate or diploma who has not completed a full course in this department.

A collective investigation which is now in progress but not yet completed, undertaken by a committee of the National Education Association, shows that in 138 schools and colleges in this country personal and sex hygiene is systematically taught. The subject is reported as "required" in 55, "elective" in 15, and in 66 there was no specific reply to the question. In 88 schools, classes are separate; in 23, mixed. Physical examination is required in 87.

4. Public sentiment is undergoing a change in reference to the treatment of the problem of the social evil. Many years ago I voiced the sentiment of many students of this problem in stating that we would never deal rightly or effectively with the social evil until we recognized that the prostitute is not so much a culprit or criminal as a victim of bad social and economic conditions. In all measures dealing with the social evil, the woman has been regarded as the chief offender against morality, and the responsible cause of the spread of the diseases of vice. No one can study the unilateral measures which have been employed without reaching the conclusion that reglementation as a sanitary measure is a complete failure, and as a police measure, a rank injustice.

The revelations made by the Chicago Vice Commission, showing the appalling extent of commercialized graft as a factor in the ruin of young girls, and their entrance into a life of shame, and the exposure of the economic conditions which impel so many thousands of them along the path to prostitution, have placed an entirely different light upon this question. The significance of these facts has begun to penetrate the social consciousness as never before. There has developed what Jane Addams terms "a new conscience in regard to an ancient evil."

Then, too, there has been a marked change in social sentiment in relation to the toleration of public houses of prostitution. Many are asking whether prostitution is such a necessity, so indispensable a condition of our social life as has been pretended. With the sweeping away of the physiological fallacy of the "sexual necessity for men," it naturally follows that what is not a necessity for the individual is not a necessity for society, and that the State cannot be justified in tacitly tolerating public provisions for satisfying the so called sexual needs of its men.

Public sentiment in many communities is gradually crystallizing into the conviction that in dealing with social evil it is no longer a question of segregation in restricted localities, of repressing its open manifestations, but rather a question of suppressing all public houses of prostitution.

We are beginning to recognize that there is no worse sophistry than the historical generalization of Lecky, that the prostitute serves as the protector of the home by furnishing an outlet to the passions of men which would otherwise be directed to pure women; it is as absurd as the idea that the diseases of vice are the best guardians of virtue.

Now, as to the accomplishment of the specific purpose for which this society was organized, it may be stated that there is every reason to believe that one phase of this prophylactic work has yielded most gratifying results, viz., the limitation of infections introduced through ignorance into marriage. Moreover, there is every reason to believe that the amount of immorality in young men, especially in colleges and universities, has been materially reduced through lectures and the distribution of educational literature. Persons qualified to know have expressed the opinion that immorality in the student classes in many colleges and universities has been reduced within the past three years twenty to forty per cent.

This report of progress would be incomplete without reference to the union of the various societies in this country into a national organization, under the title of The American Federation for Sex Hygiene, which was accomplished in St. Louis some eighteen months ago. Efforts have been thus far chiefly directed to placing this federation upon a sound financial basis. Five thousand dollars was raised as a preliminary fund to be expended in securing a large endowment fund which would enable the federation to begin the important work opening up before it on a broad, comprehensive basis, and to do the work in a big, effective way. Twenty-five thousand dollars a year for three years has thus far been pledged to the federation.

66 West Fortieth Street.

SOME REASONS WHY INCIPIENT PULMONARY TUBERCULOSIS IS NOT DIAGNOSTICATED.*

By John H. Pryor, M. D.,
Buffalo, N. Y.

Until recent years there was little opportunity to obtain proper treatment for an early case of pulmonary tuberculosis, and there was some excuse for a failure to make a diagnosis while the disease was in its incipiency. Now accommodation for the relief of that class is constantly increasing, and the time is approaching when quite a large percentage thus afflicted in this community will secure the care which has been long delayed by ignorance, apathy, and a confusion of opinions.

IMPORTANCE OF EARLY DIAGNOSIS.

The results of sanatorium treatment emphasize the vital importance of early recognition, if apparent recovery or lasting arrest is to be expected. Complaints concerning delay in admission to institutions and the occasional unfortunate effects of consequent hardship because of insufficient provision, will become less general and insistent as the great need of special hospitals becomes more manifest. No influence will hasten the supply of adequate facilities so much as the detection of pulmonary tuberculosis at the earliest possible stage, and a demand that the patient should receive a chance for recovery equal to those suffering from other maladies. There is no room for discussion relating to the need of hospitals for the incipient and the advanced. The necessity for greatly increased accommodation for both classes of patients is too glaring. There must, however, be two separate types of special hospitals designed for different purposes.

Why an infected individual should be more or less neglected until he or she becomes hopelessly incurable and has long been a source of danger before relief and segregation are made possible in a special hospital, has not been clearly explained by the advocate of a late and incomplete plan. The right time to discover the manifestation of pulmonary tuberculosis is when there is promise of recovery, and the time to teach prevention is when

*Read before the Buffalo Academy of Medicine on January 9, 1912.

there is little or no danger. We might as well admit that it is often impossible to secure effective prevention when the case is no longer a closed one.

Training in a well conducted sanatorium can be, and in the majority of instances is efficient and trustworthy. At last an intelligent appreciation of the difficulties met in attacking an infectious disease in the homes of the afflicted, surrounded by manifold unfavorable social and hygienic conditions, seems apparent, and there has never been such bright promise of success, provided the period of rational action continues long enough without interruption. Is it not surprising to observe how the mass of the medical profession has suddenly reached an agreement that we must build special hospitals for consumptives? The fact is not realized, however, that we are simply following an old precedent, and advising a plan of campaign adopted hundreds of years ago to stamp out leprosy in Europe, when thousands of hospitals were built to relieve and segregate, and disappeared when no longer necessary. The chief danger now will be a cessation of activity in the right direction—while an enthusiastic, so called progressive group run away for a time to chase an alluring new treatment, or one revived with modifications, which *seems* to be beneficial in some manner, so very occult and mysterious that it is difficult to describe even by the expert in juggling with new terms and tests, or by lengthy, tiresome reports which often show a pathetic ignorance or disregard of the natural clinical history of a disease. As a matter of fact, hospitals for incipient cases are being built about as fast as they can be filled, and there must be improvement in diagnostic proficiency to reach a fair percentage when help is most competent. Five years ago about one per cent. of the incipient cases in New York State received sanatorium treatment. There has been a decided increase since, but only a small fraction of the total number are detected during the early stage.

LACK OF SPECIAL TRAINING.

The transcendent importance of prompt recognition is certainly not appreciated generally. This is revealed in many ways, but the low percentage of truly incipient cases in hospitals specifically devoted to their care, is sufficient proof that few are found when they should be removed from the ranks of the fresh recruits. In reciting some reasons why the manifestations of beginning pulmonary tuberculosis are undetected, the fault must lie largely in inadequate or improper instruction in medical schools, and the almost inexplicable lack of attention given to the simplest and most dominant requisites in textbooks. It is very difficult and often impossible to form an idea as to the extent of cavity formation or the size of a cavity, yet the physician will often attempt this and believe in his facility, when the task of making an early diagnosis is far easier to accomplish and the findings are so much more accurate.

The material at special dispensaries and hospitals is not used as it should be for instruction, and yet no feature of medical education should be more forcibly emphasized for the welfare of humanity. Many graduates of medical schools have never seen or examined a patient suffering from incipient pulmonary tuberculosis, and their manner of searching a chest when opportunity is offered constitutes a complete confession of inexperience with modern methods. Even the latest textbooks on pulmonary tuberculosis make scant or no mention of several procedures which have changed the whole aspect of the problem and greatly reduced the difficulties which existed until recently. Special proficiency has been limited almost entirely to a few experts, who have for various reasons given much attention to the earliest signs discernible. There are indications, however, of the more general adoption of certain refinements in physical diagnosis, and there is less skepticism expressed concerning the ability to pronounce a lung tuberculous before the disease is so far advanced that all the old classical signs are present in great profusion. Nor is there any room for doubt that the ratio of errors has decreased and the percentage of early cases detected has decidedly increased. Many more patients apply at the proper time for admission to sanatoria and the proportion of rejections is much smaller than it was three years ago.

CAUSES OF ERRORS.

The discussion of the causes of failure in the diagnosis of a slight tuberculous invasion of the lung is based upon cases observed while working in a sanatorium, dispensary, and day camp, and in examining patients for admission to sanatoria and in private practice. Only the common predominating causes of failure are mentioned.

One is tempted to ask for clemency while referring to inaccurate and incomplete clinical histories, but that must be mentioned as one of the initial delinquencies. It is surprising to study the history of many physicians obtained at home, and to compare it with one extracted at Ray Brook. They often read like different stories and the evidence is so much more direct and conclusive at the State hospital. To cite a few discrepancies which occur through hurry or carelessness: The family history is often incomplete or valueless if careful, judicious questioning is neglected. It is desirable to know what members of a family and what others, in a home or workshop, have died of pulmonary tuberculosis, and who has or has had the disease. To conclude that tuberculosis is not inherited does not dismiss evidence which strengthens suspicion and watchfulness. The last word concerning predisposition, defective resistance, and latency has not been said. Occasionally the death rate from tuberculosis in a family is tragically high and cannot be explained at present. Nor is it at all necessary that the members should all reside in one supposedly infected home or contract the disease in that one locality. The writer has seen one instance where the father and mother lived to old age and their thirteen children, who left home in early life, all died of tuberculosis in different parts of this country before any of them had reached the age of thirty-five years. The tendency must not be disregarded. Inability to find the exact words of a quotation attributed to Moxon obliges a reference from memory: "It is as important to know what kind of a patient the disease has got as to know what kind of

a disease the patient has got." But the chance for infection in the home and the extent of time and closeness of contact are very essential if information is to be a safe guide.

CONSIDERATION OF SYMPTOMS.

We have no means of estimating susceptibility and must rely upon the weight of probability. A large percentage of patients will allow the phsician to record a faulty and more or less misleading history of early symptoms, because the incipient consumptive has few complaints and rarely any pain or discomfort. Invasion and progress are insidious, and symptoms are often very slight or unnoticeable. As an illustration, hemoptysis is the most startling and significant, and yet sometimes the patient will not mention its occurrence, if trifling. Unfortunately, hemorrhage does not appear frequently enough to attract attention to the chest. In my experience it occurs in about ten per cent. during the early stage, and occasionally the assumption that the blood came from the lung leads to error. One should be quite confident that the cause cannot be found by examining the nose, throat, tongue, and gums before unduly frightening a patient or giving advice which has more than once caused decided hardships. That hemoptysis may occur once or repeatedly as a result of cardiac disease, particularly of the mitral valve, and also at the menstrual epoch, must be remembered. Nevertheless, hemoptysis is the most reliable symptom of tuberculous implantation we possess. Several times I have found bacilli in a small amount of blood in closed cases.

How much reliance can be placed upon other symptoms in a truly early diagnosis? Many times very little. The loss of weight may be very slight if not dependent upon other causes. Furthermore, there should be some approximately accurate method of determining an actual loss. Shall we make the comparison with the normal or average weight or that of one month previous? Age, growth, worry, grief, loss of sleep, apprehension, and other factors play a large part in the conclusion. The patient's memory may be faulty or the weight has been unknown for an indefinite period. If the loss is slight the time of day may explain it and finally a difference in the scales, particularly if the slot machine has been used, may account for all discrepancy. When there is doubt and the patient remains under observation, the only sure method is to weigh the individual at intervals on one scale yourself. There is a great deal of thoroughly unreliable and worthless comment upon losses and gains in weight, and its significance as a symptom in really incipient pulmonary tuberculosis is much overestimated.

The chief value and meaning of cough as a symptom is to invite or force an examination of the chest. It certainly is not in any way distinctive in the beginning stage of tuberculosis. Like other symptoms made classical by textbooks, it was observed and studied during what are now known as late manifestations. When hacking dry cough is present it is usually due to an irritable pharynx or nervous habit, provided pleurisy and bronchitis are absent. To test the matter, visit a sanatorium for incipient consumptives where cough is discouraged and the inmates are taught that it is mostly unnecessary, and observe the absence of this symptom. The relation of cough and other symptoms to pulmonary tuberculosis seems to be that the disease may be the cause or that it may be associated in the etiology, and an attempt to gain definite knowledge of its existence should be plainly obligatory. This is particularly true if the cough continues long and is intractable. About four fifths of the incipient and moderately advanced patients complain of a cold and cough which have lasted for months and which no home remedies or doctors' medicine seem to help. Hemorrhage or cough inclines the patient to consult a physician and he or she is entitled to a thorough examination. Those symptoms offer him the chance to recognize slight lesions if he is competent, but there is no use disputing the fact that a cough mixture or an anodyne is frequently the only thing received by the one with the cough.

While daily elevation of temperature may accompany an incipient invasion, any degree of fever is often absent unless the process is quite active, has made considerable advancement, or is encouraged by exercise. The diagnosis can frequently be made sometime before any rise of temperature is perceived. This symptom is occasionally absent until the disease is well advanced and a considerable part of a lung extensively involved. The amount of fever is often out of all proportion to the size and character of the lesion and may be a very unreliable guide to the gravity of the malady. It is overlooked or undiscovered much more than any other symptom, and the diagnosis may be delayed indefinitely because a proper method is not employed to detect its presence. As a rule with few exceptions, the morning temperature is of no value and simply misleads the observer. The temperature should be taken every two hours between 10 a. m. to 8 p. m. for several days, and if this cannot be accomplished any other way, a member of the family or the patient should be assigned that duty after instruction, and record it carefully. In most instances it will suffice to observe the temperature at 3, 5, and 8 p. m., but rarely patients are found who show several degrees of fever at noon or after luncheon and a normal temperature at all other hours. Arrangements should be made to conduct an examination in the afternoon or evening. Again, one or two minute records under certain conditions will prove fallacious. If the patient is in a cold room, or visits the physician's office after exposure to cold air, it may require five or ten minutes for the mercury to reach the degree of heat indicated in the mouth. The influence of exertion must be considered, and it must not be forgotten that at the time of menstruation the degree of fever is sometimes temporarily increased from one to three days. Slight daily temperature, when no other cause can be found, confirms and prolongs suspicion and when accompanied by other symptoms named, establishes a rather strong probability that definite signs may be present or may be expected in the course of time. Fever, cough, and loss of weight may continue for weeks, however, associated with influenza, infection, or other diseases of the lungs. This is particularly

true of abscess, sacculated empyema, or recurrent empyema. There are few more puzzling problems in clinical medicine than the differential diagnosis between these conditions. When they are suspected, the examination of the blood may or may not furnish assistance. The point to emphasize is, that all symptoms must not be interpreted beyond their meaning and they constantly assume less importance the earlier the diagnosis of tuberculosis is made.

DEPENDENCE UPON APPEARANCE OF BACILLI.

Doubt or uncertainty is removed finally by demonstrating the tubercle bacillus in the sputa or characteristic signs in the chest. By one method we discover that an open, rather advanced process is tuberculous, by the other that a small, infiltrated area usually still closed is present at an earlier date. There are physicians who still wait for the appearance of bacilli, and quite frequently time is lost by still using laboratory technique which should be discarded. One microscopical examination may follow another with a negative report, when a twelve or twenty-four hour sample of expectoration, properly mixed with water and liquor potassæ, or carbolic acid, and washed to produce a clear centrifugalized sediment for examination, would reveal the bacilli promptly.

There is a danger which should be mentioned at this time in criticising or condemning too sweepingly the waiting for the appearance of bacilli. In pneumonia, and particularly of atypical character, mixed infections and central or basic inplantations, the finding of tubercle bacilli is at times our only reliable source of knowledge. This is also true in some cases of chronic or subacute bronchitis in children and the aged. When one has learned to rely upon physical signs, instances are very exceptional which call for diagnostic confirmation in the shape of bacilli or other tests. All attempts to obviate dependence upon physical diagnosis have failed.

TUBERCULIN REACTIONS.

So far as pulmonary tuberculosis is concerned the tuberculin reaction is of very little or no positive value. This statement is applied unhesitatingly to the various methods devised. Experience has accumulated and enough time has elapsed to reach some definite conclusions concerning them as a clinical aid. If it is admitted that every person who exhibits a reaction has or has had a tuberculous focus somewhere in the body, what does that signify when calmly and reasonably considered from a clinical standpoint? We are compelled, if the intention is to be helpful and any interpretation leads to advice, to locate and estimate the gravity of the trouble. To reach a decision that any local manifestation of disease is tuberculous because a reaction can be obtained, is certainly not indefensible if we consent to the view that an old quiescent infection elsewhere may account for it. There is something illogical and incongruous about the whole proceeding and it becomes more manifest when we search for an active process. If we submit without respectful dissent to the assertions that a reaction establishes a trustworthy basis for the most extravagant statements in regard to the prevalence of tuberculosis in childhood without corroborating proof, let us realize and be thankful that so large a proportion of children reach maturity. Some years ago the injection of tuberculin as a test had its vogue, and the enthusiast can now report the blunders due to unrestrained credulity and lack of judgment. During recent years a response to the Calmette, von Pirquet, or Morro test has repeatedly been deemed sufficient to reach astounding conclusions and led to ridiculous advice, without any, or totally inadequate clinical verification. The time seems to have arrived for pronounced skepticism and a demand that patients shall not be subjected to a test, however harmless, unless the physician has at least a crude idea of its purpose and the distinct limitations of its significance. This mild protest is called forth by considerable irritating experience and unfortunate effects upon patients' welfare, which win no praise for the medical profession.

During the last three years, individuals have been recommended for admission to hospitals for incipient pulmonary tuberculosis and ordered away from home when a reaction was definite. No other clinical history supported the opinion. Enlarged cervical glands accompanying and following various infections of the throat, have been pronounced tuberculous and often removed, when time would have sufficed to show the fallacy of the unwarranted conjecture. Tonsils have been remorselessly excised by radical methods largely on the pure assumption that they were tuberculous because a test was successful. Much unnecessary distress, worry, and apprehension have been caused by arousing suspicion of pulmonary disease and this has come about occasionally because the application of a rather new test is easy, the result tangible and diagnostic acumen avoided. To speak plainly, these reactions have occasionally been employed as an excuse for interference and some mutilation and it is just possible that a commercial instinct has been stimulated, which at times finds prolonged exercise in the use of a routine tuberculin treatment, often ludicrously futile or inert, at least so far as faulty technique is concerned. Finally, a good many people who gave a reaction five, four, and three years ago, and were assigned a place in the tuberculosis groups, seem to get along pretty well and enjoy good health. The rôle of anaphylaxis is one thing and clinical entity another. When their appropriate lines are confused the effect may be disappointing and amusing.

DEFINITION OF INCIPIENCY.

The original definition of incipiency, adopted by the National Association for the Study and Prevention of Tuberculosis, has proved very satisfactory and generally acceptable. The later modification seems subject to one note of partial disapproval. While the limitation of infiltration to one lung has been extended to one or both lungs, thus allowing an increased number to be classified as incipient cases and modifying statistical reports, the opportunity to drive home the lesson, that one apex may be involved for a considerable time before the other is demonstrably affected, is unfortunately lost in many instances. But the definition has had enormous educational value and promoted uniform accuracy. The description answers for practically all

who seek a physician's advice. It does not, however, apply to cases discovered by examining the exposed. This fact should be made prominent now to promote further progress.

EXAMINATION OF THE EXPOSED.

The next important step in advance is to introduce and disseminate the practice of seeking the early case by a rather new method, remarkably slow in acceptance even by those especially qualified. It affords the latest and most promising field of study and development of any procedure. A diagnosis can often be made for an indefinite time before any symptoms appear. The signs may be plain when there is no apparent departure from health revealed, and this constitutes the earliest possible recognition of pulmonary tuberculosis at its inception, provided recent available knowledge is acquired. These statements are based upon six years' experience and some of the results were presented in a report made in 1908.[1] A classical illustration of what might be accomplished by attempting to trace one infected individual to another was cited to show that one tuberculous nurse in an institution led to the examination of others, and, of the thirteen employed, eleven were found to have pulmonary tuberculosis in some form. Eight of these nurses were entirely unsuspected and six were symptom free. This example is offered as the most striking proof of unsuspected infection and its discovery through examination of those exposed, to be found in medical literature. This method has been employed for several years at the local dispensary and day camp and accounts very largely for the remarkably high percentage of incipient consumptives found and sent to sanatoria devoted to their care.

The advanced case should lead the way to a detection of the early one, and the opportunity seized to study true incipiency. Among the poor and the dispensary class of patients, other victims will be found in the home in about thirty per cent. of instances. Symptoms have at times been absent, with the possible exception of cough, from two to nine weeks after the diagnosis had been made.

Infection of others among the well to do is much less common, for obvious reasons, but it is surprising how many times distinct evidence of disease can be discerned in members of a family where exposure has been close and long continued. Nor can we exclude communicability among the intelligent and supposedly careful, as evinced by an examination of the family of a consumptive physician where three of five had incipient disease. The great difficulty is to secure consent of the individuals and the cooperation of attending physicians in prosecuting the investigation. Repeated examinations over a period of months may be necessary, as the time of infection and its slow development is very uncertain. Of those observed, a diagnosis was made in one third of the patients after the consumptive in the home had died. The husband or the wife of the afflicted person is the most frequently stricken and after them the sister or daughter.

[1]The Importance of an Early Examination of Those Exposed to Tuberculosis. John H. Pryor, M.D., *New York State Medical Journal*, May, 1908.

Examination of the exposed occasionally furnishes an excellent opportunity to observe the signs of a quiescent or healed lesion which had been entirely unsuspected. Quite recently, the wife and sister of a deceased consumptive who sought examination because long exposure had induced apprehension, and both presented evidence of healed or quiescent lesions with retraction, consolidation, and pleuritic crackle. What has made inception of slight infiltration reveal itself in this previously unrecognized group? Simply the adoption of auscultation with cough as the most reliable and dominant procedure we possess. That addition to the art of physical diagnosis has revolutionized clinical research along a certain path and will be considered later.

PHYSICAL SIGNS.

Several reasons why the chest will not tell its secrets when physical diagnosis is employed have been reiterated many times. Not enough time has been spent in learning normal sounds and educating the ear to pathological variations. The chest is not always stripped, particularly in women, and unexposed regions are overlooked. Not enough time is consumed or patient effort allowed. A knowledge of regional anatomy has been neglected or forgotten. The tip of the apex of the lungs is slighted and its height and the extent of its excursion are not fully realized. No blunder is more common than that which springs from ignorance of the dividing lines of the lobes and the regional demarcations. It is astounding how disease is deliberately located in the upper and lower lobes posteriorly, and in the axillary regions, without any regard for anatomical division or land marks. As a result of observation during the last seven years, based upon the examination of over 2,000 consumptives, the following areas of localization have been the first and most frequently involved as exhibited by physical signs.

LOCALITY OF INVASION.

The initial appearance of signs occurred in the apical regions in ninety per cent. and in the right apex compared with the left in the ratio of sixty

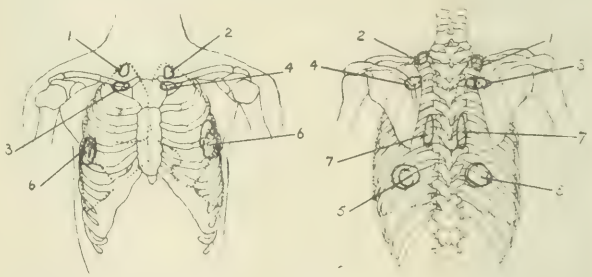


Chart showing regional anatomy of pulmonary lobes and their dividing lines with comparative frequency of location of invasion, as revealed by physical signs in incipient tuberculosis.

and forty. The upper lobes and upper part of lower lobes posteriorly were first involved in ninety-five per cent. of all cases and other localities five per cent. A chart is submitted to show the regional anatomy of the lobes of the lungs and their dividing lines, with points of comparative frequency in localizing perceptible invasion.

Evidently about ninety per cent. of incipient consumptives exhibit the first evidence of disease at the apices and in a large majority of these the first evidence is found above the clavicles. When tuberculosis is associated with, or follows pneumonia, pleurisy, or bronchitis it is very apt to be manifest in the lower lobes, and mixed infection is so common that only waiting and patient observation will permit a delimitation of the extent of lung involvement.

A chief reason why sounds escape attention, is to be found in the mistaken notion, certainly not corrected in textbooks, that breathing during the examination is to be natural. Little if any improvement is to be gained until the patient is taught and made to breathe deeply. This often requires time and persistence. One unaccustomed to the extra exertion may become dizzy, and intervals of rest may be necessary. The breathing should be through the mouth, not only to secure forcible respiration, but also to distinguish more plainly the variations in the respiratory murmur. In true incipiency, with slight involvement and little or no consolidation, the lungs are searched in vain. Later, râles that are quite distinctive may appear, and the change in pitch and character of breath sounds and the transmitted whisper and modifications of the percussion note may be perceptible. These signs, as a rule, denote consolidation and the advancement of disease to a rather small but fairly defined area.

AUSCULTATION WITH COUGH.

Now, instead of depending upon them alone, add auscultation with cough, and when practice has led to some facility the preeminent reason for past failures becomes apparent. This method has been used by a few more or less effectively for about seven years. The textbooks and special treatises on pulmonary tuberculosis either give it a passing reference, or do not mention it at all. There is scarcely any literature pertaining to the auscultated cough, and the value of cough in eliciting a response from otherwise silent regions seem to have been forgotten since the time of Laennes. Dr. A. H. Garvin has lately contributed an excellent article on the subject and describes lucidly the relative importance of the cough in the respiratory cycle.[2] The purpose of the cough is to bring out audible fine crepitating râles which are not otherwise heard. It is questionable whether the opening and distention of atelectatic patches alone produces the fine râles. Abnormal moisture and a catarrhal condition may also be required. Certainly we can reach a decision as to dryness or moisture in a diseased lung by employing cough at the proper phase of respiration to a degree entirely impossible by other means. Unless the effect of cough is produced, the extent of disease is, as a rule, a hidden secret.

When mistakes are made in locating affected areas, or in the true amount of lung tissue attacked, it is practically always due to the neglect or imperfect use of cough as an aid in diagnosis. When disease is advanced and softening has developed, a cough introduced at any time during respiration may be sufficient to elicit large and small râles, but this is not true during the early stage of implantation. The best time is at the end of expiration and next at the end of inspiration. Occasionally, if bronchitis is present, the sibilant breathing and râles due to that cause may partially or entirely smother the sound of fine crepitation, and then cough at the end of inspiration may be preferred. Many times the patient must be taught to cough in conformity with the desire of the examiner. It need not be loud, explosive, or continued, or the sounds may be thus obscured or not audible. With experience the patient after several examinations becomes an educated cougher. Those who have visited resorts or been inmates of sanatoria quickly reveal the fact by the trained manner of coughing. The examiner soons learns to ask for the cough at the right instant. One of the most important points to remember is, that in numerous instances very deep forcible breathing and repeated cough for a considerable period may be necessary to produce characteristic râles in any profusion. They are apt to appear in showers when the affected patch is sufficiently distended several times. When these usually distinctive râles are heard, at the apex or over a small area of the lung, they indicate beginning tuberculosis disease with so few exceptions that the diagnosis may be practically always safely declared. Corroborating signs and symptoms should be included when reaching a conclusion, but a decision can be and often must be given when they are absent and continue to be absent for days and weeks. Practically the only, and certainly the chief source of error, to be eliminated, is the possibility of mistaking similar or somewhat similar râles which arise in the course of influenza. During seasons of the year when influenza is prevalent caution should be exercised, and the best plan to pursue is to wait, withhold judgment, watch symptoms, and examine repeatedly to detect the continued presence of fine râles and their extension.

All that has been said concerning the sign described by auscultation with cough, applies with almost complete significance to the apices. When related particularly to involvement of considerable area at the base alone, obviously the presence of pneumonia, and especially bronchopneumonia, with mixed infection, must be excluded or included in the problem.

Finally, if tuberculosis of the larynx is associated with the pulmonary form, and the act of coughing with a closed glottis has been lost, the employment of the procedure is difficult or impossible.

No apology is offered for another paper on a trite subject, because much repetition seems to be necessary. An effort has been made to consider the common, every day causes of failure to diagnosticate a very prevalent disease at the right time. It is not difficult when one learns the way, but two methods not properly appreciated must be generally adopted if progress is to be assured.

The closing words of advice are: Examine those exposed, and make auscultation with cough the chief aid in physical diagnosis when endeavoring to detect the earliest signs of pulmonary tuberculosis.

26 Linwood Avenue.

[2] Auscultation of the Cough, A. H. Garvin, M.D., *New York State Medical Journal*, November, 1911.

PLASTIC ROENTGENOGRAPHY.

By William H. Dieffenbach, M. D.,
New York.

In the New York Medical Journal for December 7, 1907, was published a preliminary report of a new and modied method of making Röntgen or x ray prints, and since that period further experimentation has verified the statement that this method would prove of value, particularly where fine detail was desired. Since that publication, plastic röntgenograms of numerous osseous lesions have been made, thoracic and alimentary plates have been experimented with, and the subject of calculi studied. At this time it is proposed to submit a few prints of renal and vesical calculi to demonstrate the success of this method.

The prints demonstrate the existence of calculi and show details of shape and structure better than can be seen stereoscopically or otherwise, and they make diagnosis of these lesions easier, particularly for such physicians who have not had much training or experience in the interpretation of Röntgen shadows.

For the benefit of those of the profession who may desire to test this method the technique is herewith submitted:

1. Lumière x ray and slow plates are employed.

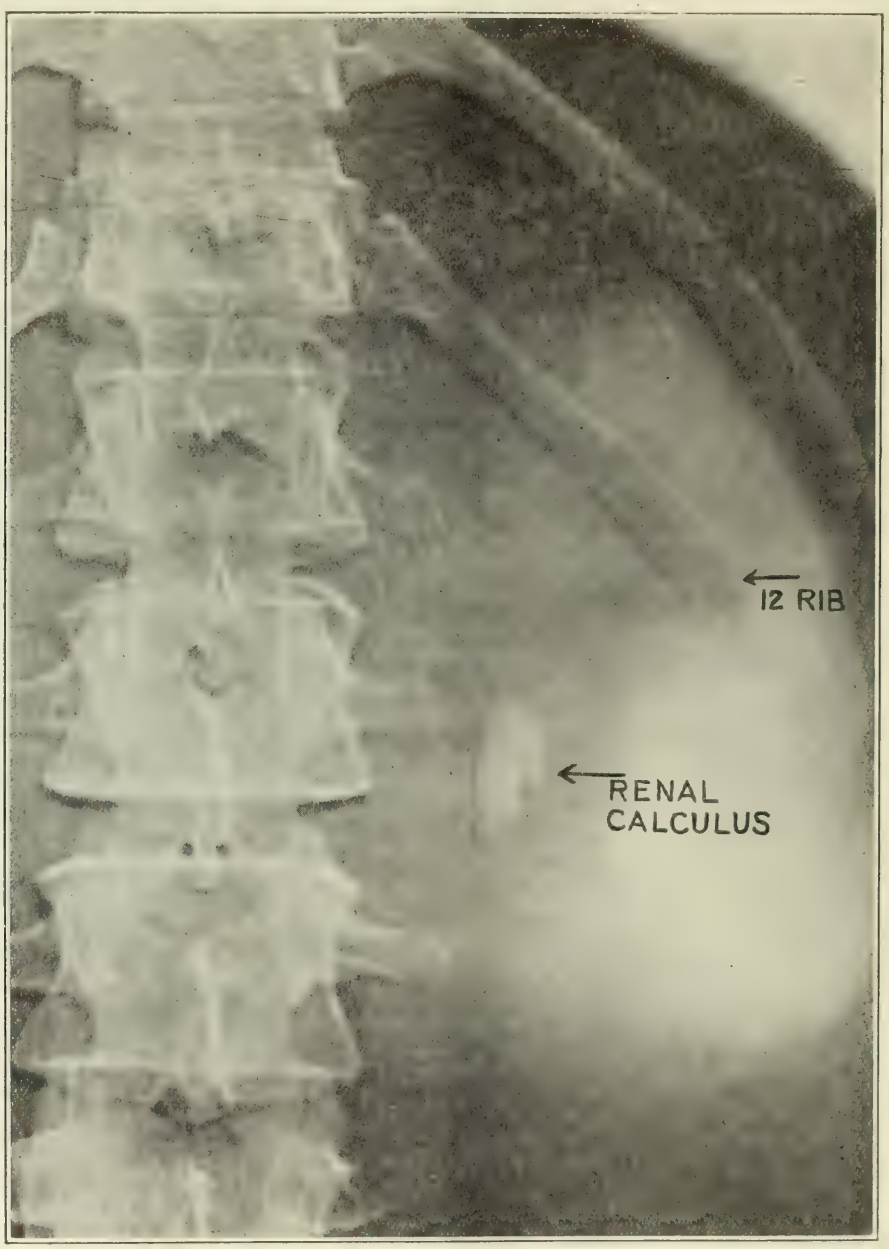


Fig. 1.—Renal calculus.

2. Heavy anode tubes, 6-8 Benoist penetration, are used, exposure depending upon the lesion to be rayed. With the solace apparatus we expose from two to eight seconds for calculi, while one to two seconds' exposure is given to thoracic or small joint pictures. Instantaneous work is not favored, as it

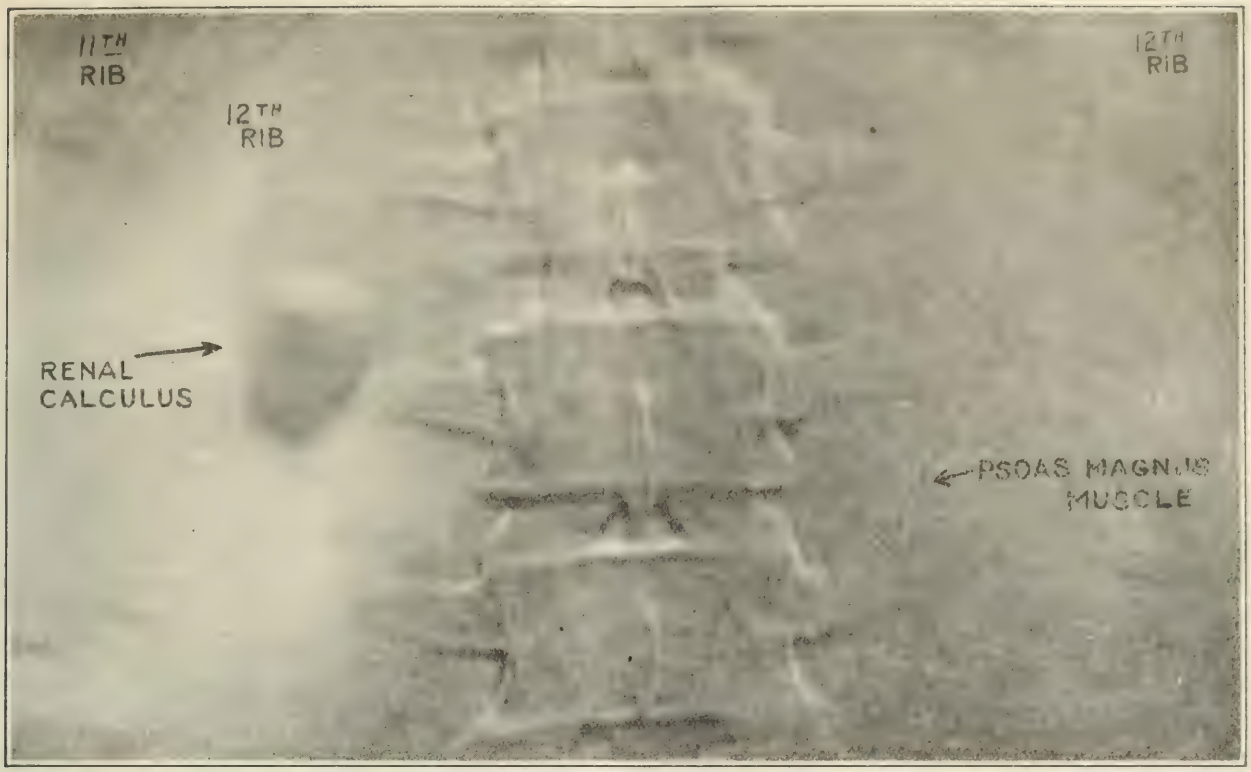


FIG. 2.—Renal calculus.

has been found that detail is often lacking in the plate upon too rapid exposure, while a second or more of exposure does harm neither to the tube nor to the patient. The meter is usually held at 30 m. a. through the tube.

3. Indirect rays are eliminated as much as possible by the use of the compression diaphragm and the Loofa pad filter.

4. The plate is developed, fixed, washed, and dried in the usual manner, excess of contrast in development being avoided.

5. A positive is next made from the negative plate, using a slow plate and exposing same in the printing frame carefully. Fogging is avoided and the attempt is always made to secure equal density.

6. Both plates, when dry, have their glass surface carefully cleaned and these are then placed together, making the outlines register *accurately* by holding



FIG. 3.—Calculus in bladder.

them up to a good north light. When good approximation has been secured, the plates are firmly bound together with lantern slide binders.

7. These joined plates are now placed in the printing frame, using the *positive side to print from* and employing a slow bromid glossy paper (carbo and portrait argo). Exposure is regulated according to the character of the light, the frame being placed at an angle of forty-five degrees in a north light.

8. The paper is next developed in an antifriction developer, rinsed, fixed in a fresh hypo bath, and when washed is ready for mounting.

If permanent records on plates are desired *another plate* must be made from the plates as above described (instead of paper) and the prints can be subsequently secured from a fourth plate taken from the third. Thus plates one and two, as described above, furnish plate three; from plate three the fourth plate is secured, and the latter is the permanent record for subsequent prints.

This latter detailed technique (excepting differences in exposure) is the method originated by Dr. Béla Alexander, of Hungary, to whom due credit is herewith accorded. The technique as described, including the eight steps of procedure, is our usual laboratory method.

1748 Broadway.

A CASE OF QUADRUPLE INFESTATION AND THE OCCURRENCE OF AMEBA IN THE STOOLS OF APPARENTLY HEALTHY INDIVIDUALS.*

By Randle C. Rosenberger, M. D.,
Philadelphia,
Professor of Hygiene and Bacteriology, Jefferson Medical College; Lecturer on Hygiene, Woman's Medical College; Director of Clinical Laboratory, Philadelphia Hospital.

Case. J. S. White, aged twenty-five years, Russian, laborer by occupation, was also a prize fighter. Admitted to hospital March 24, 1911. Complained of pain in the chest, developed a typical attack of croupous pneumonia. Physical signs showed croupous pneumonia of left lung, intense consolidation of left upper lobe and less intense of lower lobe, with acute fibrinous pleuritis and enlarged spleen. The blood examination showed hemoglobin seventy per cent., red cells 4,200,000, white cells 9,000. Polynuclear sixty per cent., small lymphocytes fourteen per cent., large lymphocytes twenty-one per cent., eosinophiles 6.5 per cent., basophiles one per cent. Examination of feces showed the presence of three ova, *Ascaris lumbricoides, Tricocephalus trichiuris, Fasciola Buski, and Balantidium coli.*

This case is reported chiefly on account of the presence of the last named ovum. It is also interesting because of the presence of *Balantidium coli,* which was observed in great numbers while no history of dysentery or diarrhea could be obtained. There was no history of jaundice past or present in the case and no pain or discomfort in the region of the liver. It is unfortunate that only one blood examination was made, as the patient left the hospital after recovering from pneumonia.

The ovum of *Fasciola Buski* measured 130 by 76 micra, very thin shell; some showed a well marked operculum, while others did not. Keeping feces in water at body temperature for a period of several weeks, failed to develop any further stage of the parasites.

I am indebted to Dr. Thomas G. Ashton for the privilege of reporting this case. When first reported, it was thought that the ovum was one of *Fasciola hepatica.* Since that time attention was called to the fact that it might be *Fasciola Buski.* Dr. Henry B. Ward, of Urbana, Ill., made this suggestion and a critical study of the ova of both parasites was kindly made by Dr. Allen J. Smith, who is convinced that the ovum is of *Fasciola Buski.* I hereby tender my appreciative thanks to Dr. Allen J. Smith for his great interest and help.

*Read in part before the Pathological Society, Philadelphia, May 25, 1911.

The presence of ameba in the intestinal canal of those apparently healthy has been recently brought out by several investigations. Craig has found ameba in the stools of soldiers recently returning from our tropical possessions in as high as fifty per cent. of cases, and even in healthy individuals or those suffering from diseases other than dysentery.

If the stool is examined without a purge having been given, the findings will usually be negative, but if a purge is given, ameba can be very easily



Fig. 1.—Showing the three ova.

demonstrated. It is a well known fact that bacteria of various kinds are harbored upon the mucous surfaces of the body and it does not appear unlikely that animal parasites may also be carried or harbored in the intestinal canal or in different organs. It is well known that a great many people in the South harbor the malarial parasite and others harbor the ova of the hook worm, without presenting any symptoms of disease at the time.

The *Lamblia intestinalis,* ameba, and *Balantidium coli,* according to Daniels, can grow asexually by fission in the intestinal canal for years and pass off as encysted forms, while occasionally we get clinical evidence of the presence of the organism in either an attack of dysentery or formation of a liver abscess.

Musgrave and Clegg have repeatedly found ameba in the stools in those dying of diseases other than dysentery, in the Philippines. On the other hand, Kartulis, Koch, and others maintain that ameba are not present in the intestinal canal or feces of those in apparent health.

Two years ago, while studying cases of pellagra in the insane department of the Philadelphia General Hospital, a systematic examination of the stools of one hundred and six individuals was undertaken. Following the procedure recommended by Craig of administering a purge, two grains of calomel followed by two ounces of Epsom salts, were given each patient and the first stool or two discarded

and a portion of the fluid stool was obtained for study.

Dr. Samuel Stern, then physician to the insane department, very kindly assisted in the work, and the cases selected by him consisted of various types of insanity in individuals who had been in the institution from three weeks to ten years, and one or two had been in over twenty years. Curiously, none of these patients was afflicted with diarrhea or dysentery.

A drop of the stool was placed upon a slide and examined in the ordinary routine manner, without warming the slide or without recourse to the warm stage microscope. In all but one stool, or in 105, cells could be seen which possessed an ectoplasm and endoplasm, nucleus and ameboid movement which one could not help but diagnosticate as ameba. None contained red blood cells. The ameba were smaller than those I have found in frank cases of amebic dysentery, and I believe that they represent the ameba coli. In several hundred other specimens not obtained by a previous purge no ameba or encysted forms were obtained.

In a third series of cases, mostly of semisolid stools, over one hundred were very carefully examined by Doctor Woodruff, then a student assistant in the laboratories of the Jefferson Medical College Hospital. In a few, spherical hyaline bodies were observed which resembled encysted forms of ameba, but in none of the specimens were ameboid cells demonstrable.

No purge was given in this last group of cases. It appears from this small group of several hundred specimens, that, if apparently healthy individuals be given a purge, ameba can very easily be shown to be present in the majority of instances.

In a number of these cases the test for occult blood was positive, using the guaiac test with hydrogen peroxide and turpentine and gasoline (Benedict's test). No excess in meat diet was evidenced in any case.

THE PREPARATION AND USE OF THROMBOKINASE.

By Lawrence W. Strong, M.D.,
New York.

(From the Laboratory of the Manhattan Eye, Ear, and Throat Hospital.)

The use of fresh serum for the control of hemorrhage, based on the work of Weil (1), is to-day well established. The inherent obstacle in the procedure is, that to control what is often a local condition, a systemic treatment is used, where obviously the doses must be enormously great to overcome the dilution produced by injection into the blood stream.

Weil himself showed that fresh blood serum increased the coagulability of the blood, and that the use of serum locally at the point of hemorrhage favored clotting. Artus allowed salt solution to run over tissues and found that it subsequently hastened clotting in proportion to the frequency of its exposure to the tissue. Bernheim (2) shows that there is a substance present in each of the three walls of bloodvessels which hastens clotting.

Morawitz's theory of the coagulation of the blood, which is the commonly accepted one, is that the cellular elements of the tissues produce the ferment body thrombokinase. Thrombokinase plus calcium salts plus thrombogen make thrombin, the fibrin ferment of older writers. Thrombin plus fibrinogen makes fibrin.

Howell criticizes this theory in that it assumes that both thrombin and kinase are ferment bodies. He states that thrombin is not destroyed in solution by boiling, and, unlike catalytic agents, it is used up in definite proportions in its combinations.

Howell's theory is that corpuscular elements (blood plates, leucocytes), form prothrombin; prothrombin plus calcium salts (and other possible conditions), makes thrombin. Thrombin plus fibrinogen makes fibrin.

The difference in the two theories is that Morawitz affirms a preferment, thrombokinase, which Howell combats. Recently Howell has modified his theory by the assumption of antithrombin, a substance present in the circulating blood which holds the prothrombin in combination and prevents its conversion or activation into thrombin.

When the blood is shed, the disintegration of the corpuscles (platelets) furnishes thromboplastin, which combines with the antithrombin and liberates the prothrombin. The thromboplastin of this theory corresponds to the thrombokinase of Morawitz, so that in regard to the presence of a ferment body both theories are in accord.

Batelli (3) presents a method of extracting this body from the tissues, the essential feature of which is precipitation of the aqueous extract by acetic acid, neutralizing by sodium bicarbonate, sterilizing with alcohol, and evaporating in vacuo at 37° C.

The idea that the tissue juices might furnish a body which would hasten clotting, and that this might be of more service than fresh blood serum in the control of hemorrhage, led the writer to follow the method of Batelli, leaving the question of its nature as a ferment for later consideration. The technique as modified by the writer is as follows:

Sheep's lungs are taken direct into sterile towels, and the larger bronchi are removed to avoid as many bacteria as possible. The lungs are then ground in a meat grinder and soaked in twice their volume of sterile water for an hour; 1.5 c.c. glacial acetic acid for every litre of extract is then added, drop by drop, with constant stirring.

A white flocculent precipitate results, which is immediately collected by centrifuging. The free acetic acid is removed by washing thoroughly with salt solution. The centrifuge tubes are then filled with alcohol and the mixture is again centrifuged thoroughly, when the alcohol may be decanted and the nearly dry precipitate may be spread on crystallizing dishes and rapidly evaporated at a low temperature in vacuo. Dryness will be secured within 12 hours.

Scrape off the resultant brownish powder and seal in sterile tubes.

Test sterility by several plants in bouillon for 48 hours.

TESTS.

Several preliminary tests showed that rabbit's blood in test tubes containing a few flakes of the powder, clotted more rapidly than blood alone. A series of tubes was made:

1. Contained a few flakes of the powder, thrombokinase.
2. Same, heated dry to 60° for one hour.
3. A like amount of charcoal.
4. A like amount of calomel.
5. A like amount of bismuth.
6. A like amount of tannic acid.
7. Empty.

Equal quantities of rabbit's blood drawn by cardiac puncture were added to the foregoing.

Nos. 1 and 2 clot in two minutes firmly.
Nos. 3 and 7 clot in four minutes.
No. 4 clots in five minutes.
No. 5 clots in eight minutes.
No. 6 was not firmly clotted in ten minutes.

Another test of the thrombokinase and charcoal showed the former clotting in forty-five seconds, the latter beginning to clot in one and one half minute.

Another specimen of thrombokinase prepared from liver showed clotting in three and one half minutes while the control had not clotted in five minutes.

All these tests, while rough, invariably showed more rapid clotting with the thrombokinase than with any other foreign body. Several other tests showed that the powder, heated dry, did not lose the property of hastening the coagulation of blood.

Another specimen moistened with salt solution caused clotting in one minute. Same quantity moistened and heated to 60° for thirty minutes, clotted in two and one half minutes.

Test tubes perfectly clean, coated with neutral oil. Glass syringe and needle similarly cleaned and coated:

Tube 1, few flakes sample A., thrombokinase.
Tube 2, few flakes sample B., thrombokinase.
Tube 3, empty.

Cardiac puncture of rabbit; equal amount of blood in each tube.

Tube 1, clots in two minutes.
Tube 2, clots in three minutes.
Tube 3, clots in fifteen minutes.

Similarly prepared tubes and syringe.

Tube 1, few flakes sample C. moistened with salt solution.
Tube 2, ditto, heated at 70° C. for thirty minutes.
Tube 3, equal amount charcoal.

Cardiac puncture of rabbit. Arterial blood added in equal quantities:

Tube 1, clots in one minute.
Tubes 2 and 3, clot between seven and eight minutes.

Similarly prepared tubes and syringe:

Tube 1, few flakes sample D. moistened with salt solution.
Tube 2, ditto, heated at 70° C. for thirty minutes.
Tube 3, charcoal.

Cardiac puncture as before:

Tube 1, clotted in one minute.
Tube 2, clotted in four and one half minutes.
Tube 3, clotted in three minutes, not firm; three and one half minutes, firm.

Similar experiment:

Tube 1, few flakes sample E. moist.
Tube 2, few flakes sample E. moist and inactivated at 60° C. for thirty minutes.
Tube 3, empty.

Similar puncture:

Tube 1, clots in one minute or under.
Tube 2, clots in two and one half minutes.
Tube 3, clots in two minutes.

These last experiments were devised in order to avoid the production of thrombokinase by injury to the vessel walls in withdrawing the blood, and further to delay clotting as long as possible in order to test the activity of the artificial product.

The last three tests show that our powder contains a body which in the moist state is inactivated at 70° C. for 30 minutes.

It is this evidence of a ferment body which leads to the use of the term *thrombokinase* for the powder.

Similar preparations were made from spleen, liver, bone marrow, endocardium, and aorta. Parenchymatous organs, however, have too much nucleoproteid for practical uses. Experimentally these did not work as well as preparations from the lung.

Acetone was also used as a dehydrating agent, but it appears to injure the ferment.

The powder has been used clinically with success by many operators in nose and throat work. The question of its efficacy in hemophilia leads to a brief consideration of the etiology of that condition. Wolf and Henry, writing on hemophilia, regard the functional insufficiency of thrombozyme (thrombokinase of Morawitz), as its sole cause.

While Morawitz believes thrombokinase to be secreted by the cells of all tissues, Wolf asserts that thrombozyme is the specific product of a certain number of well defined cells, derived from an embryonal anlage very clearly differentiated, the cords of the vascular area, of which the central cells become the blood cells and the peripheral form the vascular endothelium.

Normal clotting, according to Wolf, depends first on the affinity of thrombozyme, thrombogen, and fibrinogen, and second on the anticoagulating influence of antithrombin. The affinity of the first three is augmented by any cause which diminishes the solubility of any of them.

Wolf regards the disruption of leucocytes and platelets, during the coagulation, as the effect of coagulation, not its cause. This cellular disruption allows part of the cellular content, the thrombozyme and thromboplastic agents, to escape into the serum. This forms the basis of treatment of hemorrhage by fresh serum. After the injection of several c.c. of fresh serum in hemophilia, Weil observed the definite arrest of hemorrhage after some hours, coinciding with an increased coagulability of the blood withdrawn.

Welch also noted the efficacy of fresh serum in hemophilia. Weil attributed hemophilia to deficiency of thrombin, while Wolf has shown that the thrombozyme (thrombokinase) is lacking. In practice, the powder, thrombokinase,has been of service in both sporadic and hereditary hemophilia, as appears in the following reports:

CASES.

Case I (Dr. R. J. Held). H. M. H., male, twenty-five years. Brother and mother bleeders. Patient gave same history. Acute involvement of frontals required operation, resection of septum. Bleeding very profuse and continued despite packing for forty-eight hours, when it moderated. Packing then removed, hemorrhage started afresh and notwithstanding anterior and posterior packing continued for four days. On the sixth day, packing was removed and nose irrigated and sprayed with adrenalin, for the bleeding now was furious. As soon as the bleeding let up slightly from the adrenalin, thrombokinase was applied and the bleeding ceased for two days, when it started very slightly. Thrombokinase again applied. hemorrhage stopped and did not recur. No packing in nose after application of thrombokinase.

Case II. H. E. S., male, thirty-three years old. Distinct family history of bleeding. Right middle turbinate removed for acute frontal sinusitis. Hemorrhage same evening very marked, notwithstanding packing of nose, administration of calcium lactate and adrenalin would not stop for four days. Hemorrhage ceased after insufflating thrombokinase in nose.

Case III (Dr. F. E. Miller and Dr. A. P. Cole). Mrs. A. B., fifty-six years. Right nasal obstruction from large mass filling right nasal cavity, involving turbinate, antrum, both frontals, ethmoids, and sphenoid. Diagnosis, papilloma. Operation, cocaine and adrenalin anesthesia. Before operation the slightest probing or sponging caused

persistent bleeding. Every step in this operation was followed by profuse hemorrhage until thrombokinase was used. The field was instantly cleared of blood. This was applied after each advance in the operation and with its aid the nasal cavity was entirely cleared of the mass. "The point of greatest importance was that the thrombokinase stopped the bleeding instantly."

Case IV (Dr. F. L. Hill). Mr. I. R., aged fifty-three years. Suffered from an attack of acute nephritis, three months before I saw him. He gave a history of being a strong drinker, and said that he had had occasional hemorrhages from his nose, but not of very great amount. On April 6th, he started to bleed profusely from his nose at 11 p. m., and when I saw him he was losing blood rapidly, so that I packed both nostrils with gauze tightly. This stopped the bleeding for a time. Five hours later the blood began to flow again, coming through the packing. I repacked the nose and took him to Doctor Kopetzky's office. Doctor Kopetzky removed the packing and tried to see the bleeding point, but was unable to do so because of the rapidity of the flow. Adrenalin was tried, but did not stop the flow, and finally some crystals of thrombokinase were applied on an applicator tipped with dry cotton. Within the next few minutes the bleeding was under control and the patient left the office without any packing in his nostrils.

Case V (Dr. T. J. Harris). A. B., female, fifty years old. Always healthy. Five weeks before entrance epistaxis occurred. Started with a rush as patient stooped to tie shoes. In spite of medical attention bleeding recurred at intervals. Patient admitted on account of failure to check hemorrhage. Examination of nose showed no ulceration. At 2 a. m. woman was complaining of pressure and blood was running down throat. A large clot of blood, three inches long removed, dry cotton applied, and then thrombokinase; at once bleeding stopped.

Case VI (Dr. L. A. Coffin). Boy of seven years; general oozing from whole tonsillar fossa after tonsillectomy which could not be controlled by tannic acid, adrenalin, and pressure. Controlled in three minutes by thrombokinase.

Case VII (Doctor Selfridge, of San Francisco). "I had a very severe case of bleeding for an hour after an adenoid operation, and used the thrombokinase you sent me. I was able to stop the bleeding with it when the holding of sponges did not control it."

Case VIII (Dr. Crosby Greene, of Boston). A case of spontaneous epistaxis in a man. The nose had been plugged anteriorly by the physician without success. A loose packing with thrombokinase dusted on it was successful in controlling the hemorrhage.

Doctor Van Wagenen has already published cases in which he has used thrombokinase successfully.

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SECRET DIVISION OF FEES.*

By Robert E. Coughlin, M. D.,
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The writer does not wish it to be understood that he is in favor of *fee splitting*. Such a practice is wrong in principle and in fact. What he wishes to convey is that a man may be perfectly ethical, yet cold, selfish, and probably unjust. A little sincere thoughtfulness for the family physician is in order at all times. In this light I make my plea for the general practitioner.

In a consideration of a subject of this kind, we are apt to believe that because a physician is purely ethical he may be just, and because a man may not be purely ethical he must of necessity be very unjust. The contrary may be the case, however, as a recital of the following instances will show.

At the outset, let me state that all the persons concerned in these incidents were honorable, upright men, and not practitioners who were planning to deceive any one. They acted as their conscience dictated and their actions speak for themselves.

A few years ago, a young physician was actively engaged in building up a practice in a rather poor but growing neighborhood. He was called to attend a patient who had some obscure condition which at first appeared medical, but later became surgical. He advised the family to call in a surgeon of their own choice, which they did. After a careful examination of the case by the surgeon, the latter decided that an operation was the only means to save the life of the patient. He also said his fee for the operation would be a certain amount and that he would not operate unless the same was placed in his hands prior to the operation.

The family did not have the fee demanded and were at their wit's end to decide how they were to procure the money. After a good deal of delay they finally were able to hand the surgeon over his fee, which they succeeded in borrowing from their neighboring friends. The operation was performed and with very good success. All this time the family physician was little thought of, as he successfully carried the patient through the different stages of anesthesia. Probably the surgeon noticed this, for when he was about to bid the family good bye, with a commanding gesture, he said: "Pay your doctor for his services." One might compare him with *Alice's Adventures in Wonderland* when Alice was at the table during a mad tea party. "'Have some wine?' the March Hare said in an encouraging tone. Alice looked around the table, but there was nothing on it but tea. 'I don't see any wine,' she remarked. 'There isn't any,' said the March Hare. 'Then it wasn't very civil of you to offer it,' said Alice angrily." How very like our surgeon friend when he said "Pay your doctor," when they had no money to pay him with and the surgeon knew it. Like Alice, the family physician might have said: "Then it wasn't very civil of you to tell them to pay me." To sum up, the patient fully recovered, the surgeon was paid his fee, and the family physician was forgotten. So much for a surgeon who was selfish, but thoroughly ethical.

Another instance may be related where the family physician was attending a very difficult, tedious confinement case. He had lost hours of sleep and rest, had denied himself many comforts so that his patient might not be neglected. After many hours an obstetrician was called in, and through his careful manipulation of the forceps, while the patient was under an anesthetic which was administered by the family physician, a successful delivery was accomplished. Before leaving the house the obstetrician was asked his fee which he received after graciously making a reduction of twenty-five per cent. While returning home with the family physician he solicitously asked the latter how much he was to receive for his services. When told that twenty-five per cent. of what the obstetrician had asked was all he expected to receive the former said: "Why you must receive twenty-five per cent. of what I asked, and I insist on paying you this amount for your as-

*Read before the Educational Alliance, April 23, 1911.

sistance in the case; when you receive the other twenty-five per cent. from the family, we shall have received the same amount and we shall have done the patient no harm or injury." To recapitulate, the patient fully recovered, the obstetrician or consultant was paid his fee, and, after turning over a certain amount to the family physician, was satisfied with the balance. The family physician received double the amount he expected to receive and was satisfied. Strictly speaking, however, neither of these gentlemen was really ethical, though the patient only paid for both their services the regular fee of the consultant alone.

Which man was the more selfish? Which was the more philanthropic? Which man had his patient's interest more at heart? Which man was the more ethical? Which man was the more just to all concerned? These are the facts and I leave them for you to pass judgment on among yourselves.

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THE EXTENSION OF THE REGISTRATION AREA.

By Hugh Arbuthnot Brown, M. D.,
Washington, D. C.

Mortality statistics were first collected by the Federal government, through the Bureau of the Census, in 1850, and from that date, at each decennial census, to and including 1870, such statistics were collected wholly, and, at the three succeeding censuses, for the most part, in connection with the general enumeration of population. The results obtained by this method were, however, extremely unsatisfactory, it being early recognized that immediate registration of deaths—and not enumeration often months after the occurrence—was the only method by which complete and accurate data could be secured.

The inadequacy and unreliability of returns secured by the system of enumeration were fully appreciated by the various superintendents or directors of the census and commented upon by them in their reports. Even in 1850 the superintendent of the census, Hon. J. C. G. Kennedy, in his report dated December 1, 1851, to Hon. Alexander H. H. Stuart, then secretary of the interior, says:

> To trace the effect of the wide range of physical features and natural productions upon the human constitution and faculties, presents to every reflecting mind an interesting field of research. Likewise, to investigate the influence of mental occupations and industrial pursuits, and of the wide diversity of climate—from the highlands of Maine to the everglades of Florida—upon the persistence and duration of life, is an object of permanent (sic) importance, not only in a scientific, but in a commercial and national point of view. For all such inquiries, the returns of 1850 furnish facilities, less satisfactory indeed than would have been given by a permanent system of registration, but far superior to those hitherto available.

In the report of Superintendent De Bow, dated November 10, 1853, appears the following candid statement:

> The tables of the census which undertake to give the total number of births, marriages, and deaths in the year preceding the first of June, 1850, can be said to have but very little value. Nothing short of a registration system in the States will give these data with even approximate truth; and, where such a system has been best established, difficulties have continually occurred, requiring a very long period of time to be removed. Against all reasonings, the facts have proved that people will not, or cannot, remember and report to the census taker the number of such events, and the particulars of them, which have happened in the period of a whole year to eighteen months prior to the time of his calling. It might be possible to obtain the facts for a single month.
>
> Upon the subject of the deaths no one can be deceived by the figures of the census, since any attempt to reason from them would demonstrate a degree of vitality and healthfulness in the United States unparalleled in the annals of mankind, and, in coming down to details as well as in the aggregates, contradict all science and experience. The truth is, but a part of the deaths have been recorded, varying for sections from a very small to a very large part of the whole.

In the *Compendium of the Seventh Census*, prepared by Superintendent De Bow in 1854, he states that "the true number of deaths in the Union for 1850, considering it a sickly year, could not have fallen short of one in every fifty persons for all classes, which would swell the total deaths of the census from 323,272 to 463,839." This would have increased the crude death rate from 13.9 per 1,000 of population, on the basis of the returns, to twenty per 1,000—a rate undoubtedly much nearer the truth. Superintendent De Bow also states that "the National Medical Convention has frequently and earnestly recommended registration systems to all of the States."

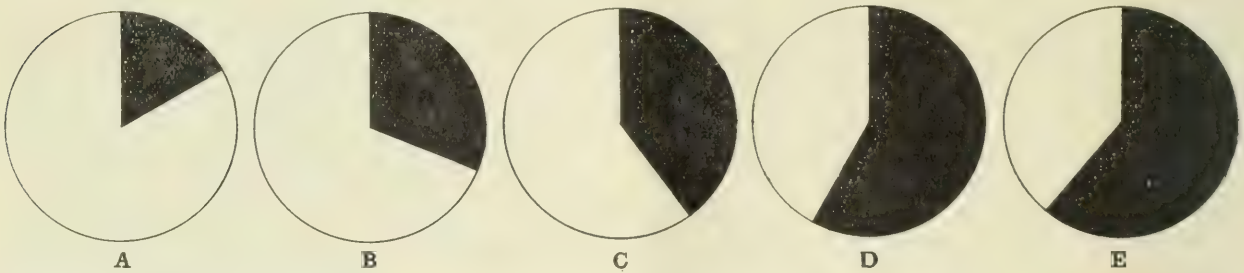


Fig. 1.—Showing development of registration area: *A*, original registration area; *B*, registration area of 1900; *C*, of 1906; *D*, of 1909, and *E*, of 1911, which does not include Kentucky, admitted since.

In the *Mortality Report for the Census of 1860* it is frankly admitted that "this report is far from being as complete as desirable, because the primary bases on which it rests are imperfect, the reports of mortality first given to the marshals being incomplete. It is very apparent that the whole number of deaths which occurred in the year was not furnished."

It is also pointed out in this report that an enumeration of the mortality can result in nothing but

inadequacy in the returns, as "the number of facts reported out of any number that have existed must diminish with the lapse of time since their occurrence."

Dr. Francis A. Walker, the distinguished superintendent of the census of 1870, in the *Report on Vital Statistics* for that year, makes the following statement:

If the value of the statistics of mortality in a census of the United States, taken under existing laws, depended upon the return of substantially the whole body of deaths occurring during the year covered by the enumeration, the results would not be worth the space occupied by publication, much less the expense of collecting and compilation. At no one of the three censuses taken under the act of May 23, 1850, has the aggregate number of deaths returned by the assistant marshals risen above two thirds of the number of deaths probably occurring during the year of enumeration, as that number is deduced from the experience of other countries, from the experience of sections of our own country having an established system of registration, and from the ascertained law of the national increase.

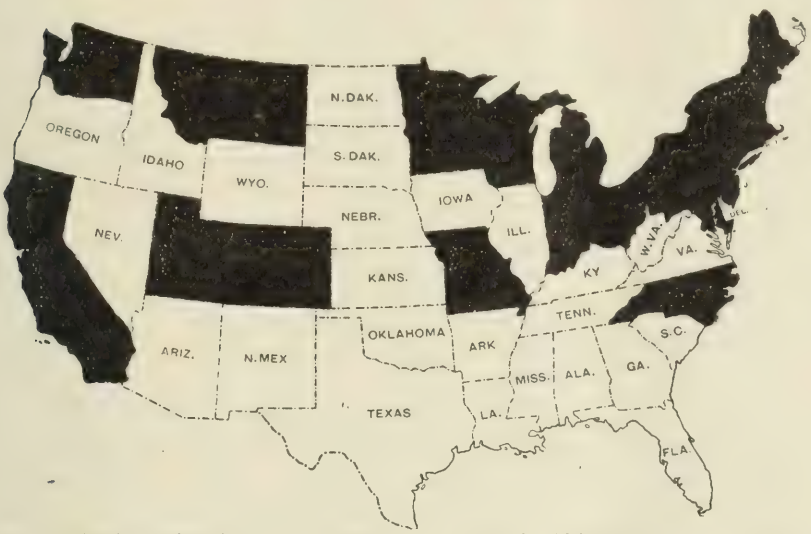


FIG. 2.—Showing registration in 1911, Kentucky not included, which has now been admitted.

A similar statement is made by Dr. John S. Billings, who prepared the reports on vital statistics for the censuses of 1880 and 1890, as follows:

The fact that it is impossible, in any large community, to collect complete and reliable data with regard to births and deaths by means of an inquiry made only at the end of the year for which the data are desired, is well known to all who are practically familiar with the subject of vital statistics; and the experience of the United States census furnishes no exception to this rule. The results of each of the four censuses in which an attempt has been made to ascertain the number of persons who died in the United States during the preceding year, have shown that the enumerators did not obtain and record more than from sixty to seventy per cent. of the actual number of deaths.

An idea of the character of some of the returns may be gathered by the following examples: "Tecis," "Spinalgitis," "Colory in Phantum," "Colria fontim," "Cholor Rhear Infantum," "Hasphmar," "New Money fever," "Struck in the aire sells," and "Yaller ganders of the Liver." As Doctor Billings says, "It is evidently unsafe to lay too much stress on the scientific accuracy of the diagnosis by the same reporter in other cases, even although the spelling may be more nearly correct."

In the opening paragraph of the *Report on Vital Statistics for 1890* appears the following statement:

The data used in this report, and contained in the appended tables, differ in completeness and accuracy for different portions of the United States. The majority of the States had no satisfactory system of registration of deaths during the census year ending May 31, 1890, and in these States the only record of deaths for that period which could be obtained was that furnished by the enumerators as the result of inquiry in each family, supplemented to some extent by reports from physicians, as will be explained hereafter. It is well known that a record thus obtained is imperfect, the deficiency ranging from twenty to fifty per cent. in different localities, and being greatest for the earlier months of the year for which such record is made.

In 1900 it was again pointed out by the Bureau of the Census that it was impossible to secure accurate returns through a system of enumeration and that "the remedy for the defects referred to can be supplied only by the adoption of an accurate system of registration in all areas where the only data now obtainable are by enumeration."

Laws for the registration of deaths had, however, been passed by certain States and municipalities by the middle of the century, and in 1880 the results obtained by such State and municipal registration were made use of by the census bureau and the first "registration area" was established.

The registration area, as defined by the Bureau of the Census, "embraces those States and separate cities accepted as having approximately complete (ninety per cent.) registration of deaths based upon the requirement of compulsory burial permits," and the following essentials of efficient registration are given by the Bureau in the *Physicians' Pocket Reference to the International List of Causes of Death*, which, by the way, every physician should write for, if he has not already received a copy.

1. *Immediate registration* (deaths before interment, births within ten days and not, compulsorily, less than three days in rural districts).
2. *Standard certificates* (copies on request).
3. *Compulsory burial or removal permits* for deaths, and some effective *check* on the accuracy of registration for births (by deaths of infants under one year, special enumeration, newspapers).
4. *Efficient local registrars* properly compensated (twenty-five cents) for each certificate registered and returned in compliance with law only, and so distributed that the least possible inconvenience will be caused physicians and undertakers in filing certificates.
5. *Sole responsibility for registering deaths and obtaining burial or removal permit in advance of interment upon undertaker or person disposing of body* and *sole responsibility for registering births, within the time limit set by law, upon the attending physician or midwife* (parent in absence of such attendance).
6. *An efficient State registrar, with full power and responsibility to enforce the law, in direct connection with the local registrars* (any county official intervening in any capacity between the State registrar and local registrars means failure of the law).
7. *Prompt monthly returns of the original certificates from the local registrars to the State registrar*, with report of *"No births"* or *"No deaths"* when such was the

case, and *official statement of completeness of registration or report of delinquents.*

8. All this is useless to secure complete legal records and statistics of the highest practical value unless *penalties are provided in the law, and those penalties are enforced.*

The original registration area comprised the States of Massachusetts and New Jersey, the District of Columbia, and the cities of Baltimore, Brooklyn, Charleston, Chicago, Cincinnati, Cleveland, Indianapolis, Louisville, Milwaukee, Nashville, New Orleans, New York, Philadelphia, Pittsburgh, Providence, Richmond, San Francisco, St. Louis, and Wilmington. For the balance of the United States the statistics were secured by enumerators in connection with the enumeration of the population. This original registration area comprised a population of 8,538,366, or seventeen per cent. of the total population of continental United States, and contained but 15,611 square miles, or only one half of one per cent. of the total land area.

At the next decennial census in 1890 the area was increased by the addition of Connecticut, Delaware, New Hampshire, New York, Rhode Island, and Vermont, besides certain cities in nonregistration States, and comprised a population of 19,659,440, or 31.4 per cent. of the total population. In 1900 (the census year ending June 1st), two other States, Maine and Michigan, were added, which, with the registration cities in nonregistration States, brought the population of the registration area up to 28,807,269, or 37.9 per cent. of the total population. Delaware was excluded from the area because of inadequacy of the returns.

Beginning with the calendar year 1900, under the authority of section 8 of the act of March 6, 1902, annual mortality statistics have been collected and published by the census bureau, and the additions to the registration area have been more rapid. Indiana was now accepted as eligible to the select list and the estimated population of the area was increased to 30,765,618, or 40.5 per cent. of the total for the country as a whole.

No other States qualified for admission until 1906, but in that year California, Colorado, Maryland, Pennsylvania, and South Dakota were added, and the estimated population of the area jumped to 41,983,419, or 48.9 per cent. of the estimated total population of continental United States. There were no additions until 1908, when Washington and Wisconsin proved to the satisfaction of the census bureau that registration of deaths in their areas was substantially complete, and with their admission the estimated population rose to 46,789,913, or 52.5 per cent. of the total population—for the first time in the history of the growth of the area comprising over half of the estimated population of the country as a whole.

In 1909 Ohio was taken in and the estimated population increased to 50,870,518, or 56.1 per cent. of the total estimated population of the country at large. In 1910 another large increase in the area occurred by the admission of the States of Minnesota, Montana, North Carolina (comprising, however, only municipalities having a population of 1,000 or over in 1900), and Utah. With these large additions the estimated population of the area rose to 53,843,896, or 58.3 per cent. of the total for continental United States, and comprised 1,045,627 square miles, or 35.1 per cent. of the land area of the country as a whole. South Dakota was dropped from the list of selected States because of incomplete registration.

In 1911 the area was increased by the addition of Missouri and Kentucky, and comprised twenty-three States, the District of Columbia, and thirty-seven cities in nonregistration States, the estimated midyear population amounting to 59,214,000, or sixty-three per cent. of the total estimated population of continental United States. The land area of the registration area in 1911, excluding that of the thirty-seven cities and including the entire area of North Carolina, amounted to 1,154,535 square miles, or 38.8 per cent. of the total land area of the United States.

The following table shows the population of continental United States and of the registration area from its origin in 1880 to 1911, inclusive, with the percentages of the total population comprised within this area, together with the area in square miles at the various years during that period, and the percentages which this area represented of the total area of continental United States (2,973,890 square miles in 1910).

Year.	Population of Continental U. S.	Registration area—Population—Number.	Registration area—Population—Percent. of total.	Registration area—Area—Square miles.	Registration area—Area—Per cent. of total.
Census year—					
1879-1880....	50,155,783	8,538,366	17.0	15,611	0.5
1889-1890....	62,622,250	19,659,440	31.4	89,274	3.0
1899-1900....	75,994,575	28,807,269	37.9	174,684	5.9
Calendar year—					
1900.....	75,994,575	30,765,618	40.5	210,569	7.1
1901.....	77,747,402	31,370,952	40.3	210,569	7.1
1902.....	79,365,396	32,029,815	40.4	210,569	7.1
1903.....	80,983,390	32,701,083	40.4	210,569	7.1
1904.....	82,601,384	33,345,163	40.4	210,569	7.1
1905.....	84,219,378	34,052,201	40.4	210,569	7.1
1906.....	85,837,372	41,983,419	48.9	601,960	20.3
1907.....	87,455,366	43,016,990	49.2	601,960	20.3
1908.....	89,073,360	46,789,913	52.5	724,052	24.4
1909.....	90,691,354	50,870,518	56.1	764,792	25.7
1910.....	92,309,348	53,843,896	58.3	1,045,627	35.1
1911.....	93,927,342	59,214,000	63.0	1,154,535	38.8

The accompanying map[1] shows the State included in the registration area in 1911. It does not show certain registration cities in the nonregistration States, returns from which are included in the reports of the bureau of the census and which comprised, in 1910, a population of 6,036,130, or 11.2 per cent. of the total estimated population of the registration area.

While this steady increase in the size of the registration area, with its attendant increase in population, is a matter of congratulation, there yet remains a tremendous amount of educational work to be done before the United States can stand on the same plane in the matter of vital statistics with the other civilized nations of the world. While it is undoubtedly true that physicians as a rule appreciate the importance of complete and accurate vital statistics for the country as a whole, the public and the State law makers must be educated to a like appreciation of the vast importance of such statistics, in order that laws may be passed in those States which are not yet included in the registration area, providing for an adequate system of registration, preferably based on the model law recommended by the American Medical Association, the

[1]Since this map was prepared, Kentucky has been admitted to the area for 1911.

American Public Health Association, and the Bureau of the Census.

In this age, when careful records are kept in all States of pedigreed animals, it is certainly not unwarranted to urge those States still outside the pale of registration to pass and enforce such laws as will entitle them to admission and ultimately extend the area to include the entire continental United States.

306 Fourth Street, S. E.

THE DOWD PHOSPHATIC INDEX IN RELATION TO DISEASE OF THE EYE.*

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Doctor Howe, in his second volume on *Diseases of the Eye*, page 135, says, in speaking of the effect of ocular muscles on the nervous system: "Normal eye muscles when used to excess, or those which are imperfectly balanced, frequently give rise to fatigue which is local or general; fatigue which, commencing in the eye, extends to other parts of the body." Unconsciously he strikes the key note of this paper when, continuing, he says: "The point is that in some persons the residual energy is small all the time"; further on, "When fatigue does not disappear with rest, when it becomes a condition constantly apparent, and when it is associated with various other disturbances, it is usually called neurasthenia." In these cases he can give us little or no hope, and quotes one author who has said, "neurotic they are born and neurotic they die," and in a later paragraph: "In a word, while it is undoubtedly true that the ocular muscles do exert some effect upon the nervous system, we must exercise constant care not to confuse a simple coincidence with what seems at first glance a relation of cause and effect."

Such are the cases I wish to deal with, to try and point out some way of investigation, and to give some ideas which seem possible and which in practice have proved valuable and encouraging.

The paper before us may be said to consider the metabolism of the nervous system with certain attempts to measure and regulate nervous energy produced, and exerted at various times, and under varying conditions by the human organism.

The following four or five paragraphs are so apt that I have taken them from an article by Sir Dyce Duckworth in the *British Medical Journal* for May 27, 1911:

> It must be frankly admitted that as yet this theory is mostly empiricism, yet I wish to affirm that much of the best medical practice is still empirical and that a great physician is a great artist.
>
> The large part of the practice of medicine is still, and probably will be for a long period, an art, although founded on many branches of science.
>
> Let us have a right conception of the term empirical. No less an authority than Sir William Hamilton has defined it in these terms. "Experience founded on observation alone."
>
> As applied to a legitimate practice of medicine in these days it cannot be said that empiricism is experiment or experience without science, for the phenomena of disease are now carefully studied by many men well trained in scientific methods, and the results of treatment are no less rigidly noted as a scientist would note them.
>
> We take note of dogmatic opinions issuing from the laboratories in regard to the action of drugs, and articles of diet which in some cases completely contradict the experience of clinical experts.
>
> For example, we find a condemnation of alcohol as food and remedy at the hands of physiologists who have no clinical practice or experience of the treatment of morbid conditions in their fellow creatures. The physician replies that he is sadly aware of the ill effects of alcohol when improperly used by man, and the toxic and deadly effects in large doses when used on small animals, but in clinical practice he finds it exceedingly useful for his patients in certain conditions.
>
> In like manner we are told that strychnine has no action on the heart, and that aconite is of no avail in reducing the frequency of the pulse, but in clinical practice good results come some how in the use of these drugs.

We cannot afford to abstain from or discard a useful method until the precise explanation is revealed to us, and we must not forget that empiricism has often anticipated science in medicine. Still, it is possible to be too empirical, as it is to be too scientific in medicine, and I present this paper knowing that while the scientific points are not what they should be, the therapeutic results have more than borne out the value of the procedure about to be given you.

While the metabolic process of the muscular system, to speak generally, are measured by the amount of urea excreted, the metabolic process of the nervous system may be estimated by the amount of phosphorus, in various combinations, found in the urine.

Phosphorus is an important constituent of the nervous system, and a relative increase of phosphoric acid is due to an increased metabolism of the nervous system.

Phosphoric acid occurs in the urine as acid sodium phosphate and acid calcium, and magnesium phosphate to the amount of about two grammes daily. It is more abundant after an animal than a vegetable diet. The amount increases after a midday meal until evening, and falls during the night until next day at noon. It is partly derived from the alkaline and earthy phosphates of the food and partly as a decomposition of lecithin and nuclein. In certain fevers, and in organic disease of the nervous system or bones, and in diabetes, it is increased, while during pregnancy and after the use of alcohol and ether it is diminished.

In considering this subject, we do not refer to phosphates appearing in freshly passed urine, nor to the earthy phosphates, but in speaking of the phosphates we refer only to the alkaline phosphates which are precipitated only by an alkaline solution. (The earthy phosphates are in such small quantities that they may be ignored.)

Dealing with the physiology of the nervous system, we must assume that the nerve cells are prepared for their work or usual outlay of energy by food or substances that nourish them, and in common with other systems of the human body, there is a large reserve of nutriment that may be called upon in times of need. We have two kidneys when one will do the work; we have two lungs when one

*Read at the meeting of The Ophthalmological Club, Buffalo, December, 1911.

is sufficient, and as the muscles have a reserve store for times of stress, so it is with the nervous system.

The substances concerned in the nourishment and upbuilding of the nervous system include chiefly lecithin, nuclein, and phosphorus. Nuclein is a complex body found in the yolk of eggs, and is present in all cell nuclei. Lecithin is a highly complex fat containing a nitrogenous substance in which phosphorus is present. It is a constituent of every cell, its universality showing its indispensability to life.

Metabolism of the nervous system shows itself by the presence of phosphates in the urine as end products of nuclein and lecithin. The amount of phosphates in the urine depends greatly upon the decomposition of nuclein and lecithin.

We have an increase of phosphates excreted when there is a hyperactivity or irritability of the nerve cells, and in this state, if carried to an extreme degree, it will in time deplete the reserve store of nerve nutriment and cause a decrease in phosphates excreted, showing itself in a relative amount of systemic prostration, or what may be called neurasthenia. This is well shown in cases of nervous excitement, continuing for days or weeks in subjects taking little nourishment, where the phosphates are greatly increased, showing that the reserve store is called upon. Nerve sedatives will check this excessive metabolism of lecithin and nuclein, as shown by decreased phosphatic elimination.

Phosphates in the urine show a decrease when there is no surplus of nuclein and lecithin for the nervous system. Even with increased nervous irritability there is a decrease, and the crystals themselves are altered in size and shape. So we may have the following stages or types:

1. Normal output of phosphates with normal size and shape of crystals, showing the metabolism of the nervous system in health and normal conditions.

2. Excessive output of phosphates, shown by a high phosphatic index, an increased metabolism of the nervous system due to hypersensibility, or irritability of nerve cells; the crystals are generally small in size.

3. Decreased output of phosphates shown by a low index, a condition due to a lack of nuclein and lecithin reserve.

4. We may also have a normal amount of phosphates, but the crystals are light in weight though normal in size, showing an ill regulated nervous balance wheel.

Amorphous crystals are found at times, and show a degeneration of nerve tissue.

The phosphatic index was determined after a prolonged series of observations on the urine of many hundreds of different persons in a normal state of health. The urine, after much experiment, used to determine the phosphatic index was the second sample, or that passed about ten o'clock in the morning, of a normal specific gravity, reaction, amount, total solids, etc.

Using a test tube holding 30 c.c., 20 c.c. of urine was placed within and 8 c.c. of Tyson's alkaline solution added. The mixture should change to a milky character at once, varying in degree of density according to the amount of phosphates present. The test tube should be placed aside for ten minutes. The phosphates will sink according to their specific gravity; if normal and well formed, they sink rapidly, whereas if small, light, and immature they fall slowly, even at times remaining stationary, causing a general turbidity throughout the whole fluid. If normal, in ten minutes they sink to the bottom, occuping a space that can be filled by 5 c.c. of fluid. This is the average of several hundred patients in a perfect condition of health, and is known as *the phosphatic index*. If the phosphates occupy a larger space than 5 c.c. normal index, it is known as a plus index, if less, a minus index.

The size and weight of the precipitate are important factors. It may fall to a normal index, but in appearance the sediment is fluffy, light in color, and easily moved about on agitation of the test tube. When normal, they settle like fine sand, and agitation of the tube does not disturb them. In the former condition, or where they will not sink or only partially so, being fluffy, they must be considered as deficient.

Phosphates precipitated by Tyson's solution appear fern shaped, but the crystals vary in size. The usual size is about five-eighths of an inch in diameter, but according to the condition of the nervous system, they may be only one eighth of an inch relatively when viewed with one eighth inch objective. The size of the crystals is quite important. In those cases where there is an excessive amount, they may appear very small, and these are the cases which show increased nervous excitement. They are small where there has been a continued drain on the residual reserve of nuclein and lecithin.

The apparatus used for taking the phosphatic index is known as the Dowd phosphatometer, and the theory as described is that observed and worked out by Dr. J. Henry Dowd, and for the phosphatic index he deserves whatever credit there may be due.

CONCLUSION.

The phosphatic index measures the amount of nervous energy present in the organism.

A high index will note a condition of irritation or a want of adjustment of the nerve cells.

A low index shows a lack of nutrition of the nervous organism, a using up of the reserve, and a condition below par.

A high index calls for nerve sedatives, valerian, or bromide of gold and arsenic.

A low index calls for food, eggs, etc., and the administration of phosphorus and strychnine.

The urine should be that passed about ten a. m., the second in the morning.

The crystals should be examined for size and quality.

In any functional disorder or one accompanied by organic lesions, the phosphatic index is of the greatest value as a guide to treatment.

In all cases look to assimilation and correct any intestinal putrefaction shown by an excess of indican.

CASE I. Rev. Mr. B., gradually going down hill for a year or more. The principal symptom was an irritability

of the bowels, occurring after any effort using nerve force, such as a sermon, speech, or presiding at a meeting, when he would have two or more watery evacuations of the bowels. He consulted many physicians and was at one time under the care of Doctor Musser. The prevailing diagnosis was mucus disease of the colon. He came to Buffalo weighing 160 pounds and consulted a prominent man who made an x ray examination and diagnosticated displaced kidney and a ptosis, or kinking of the transverse colon. Unwilling to undergo the operation advised, he was led to consult Doctor Dowd, who found a low phosphatic index, irregularly formed and small crystals. In two months under treatment he has gained twenty pounds with loss of all abdominal symptoms.

Later on I examined his eyes and found:

R. $\frac{20}{15}$ + D.75 Sph = $\frac{20}{10}$.

L. $\frac{20}{15}$ + D.75 Sph —1° Base Down = $\frac{20}{10}$.

Glasses were prescribed, and another ten pounds were added in the next month; he now considers himself a well man, is in perfect health, and has not taken medicine in months.

The pathology of this case may be considered as hypersensibilitity of the nervous system, with lowered tone, acting reflexly on the bowels and causing the condition known as neurasthenia described in the first part of the paper.

When this condition was much improved, the added glasses removed another factor, causing nerve waste, and thus completed the cure.

Case II. Mrs. B., aged twenty-six years, had been under my care for ten years or so, her refraction remaining the same.

R. $\frac{20}{20}$ + D.37 Cyl. axis 90° = $\frac{20}{20}$.

L. $\frac{20}{20}$ + D.37 Cyl. axis 90° = $\frac{20}{20}$.

The muscles show orthophoria.

This lady had an excitable nervous temperament and her eyes were a constant source of trouble. She could not read longer than fifteen minutes at a time and close work soon caused eyestrain. Several months ago she consulted me, but I could advise no change in glasses. She consulted an abdominal specialist who found a floating kidney and a chronic appendicitis. She refused to be operated upon. When she returned to me, I took the phosphatic index and found a 100 per cent. plus for which I ordered the bromide of gold and arsenic.

In a few weeks, between two and three, she reported that she felt better than she had in years, and her eyes were giving her no trouble.

This seems to bear out the contention that a high index means a highly excitable nerve condition and an imperfect balance of nerve energy.

Case III. Patient in the Sisters of Charity Hospital under the care of Doctor De Cot, attending ophthalmic surgeon. For a year or more he had been treated by different oculists for keratitis (the diagnosis of which was correct), by mercury, and salicylates with no result. More out of curiosity than belief, his phosphatic index was taken and found to be minus, showing a much lowered nerve condition, that is, the residual was far below normal. A combination of phosphorus, cannabis indica, nux vomica, and ignatia (known as Dowd's tonic) was given and in a short time the patient made a complete recovery.

This case should teach us an important lesson, viz., all cases of keratitis, as we have heretofore been taught, are due to but three causes, syphilis, rheumatism, or tuberculosis.

329 Franklin Street.

Therapeutical Notes.

Nervous Cough.—Robin (*Bulletin général de thérapeutique,* January 15, 1912) suggests the use of the following:

℞ Potassii bromidi, ...10.00;
Aquæ laurocerasi destillatæ, ...10.00;
Syrupi ætheris (Fr.), ...30.00;
Aquæ valerianis destillatæ, ...110.00.

M. Ft. solutio. Sig.; A tablespoonful to be taken when the attack comes on. Use no more than three doses in the twenty-four hours.

Stomach Cough.—This usually appears after the evening meal. For this Robin (*Bulletin général de thérapeutique,* January 15, 1912) suggests that a tablespoonful of the following be given when the coughing spell begins:

M. fiat solutio.

℞ Cocainæ hydrochloridi,
Codeinæ, ...āā 0.05 grammes;
Aquæ chloroformi, ...40.00 grammes;
Liquoris calcis, ...160.00 cubic centimetres.

Bacterin Treatment in Pulmonary Tuberculosis.—George Sanders (*Medical Record,* February 24, 1912) uses a combination of bacterins consisting of the various organisms that produce suppuration and other concurrent affections in tuberculosis. Specifically the combination of bacterins used by him consists of streptococcus, 50 millions; staphylococcus, 500 millions; *Bacillus communis coli,* 100 millions, pneumococcus, 100 millions in each c.c. of solution. The dose injected is one half this amount, thereafter increased or decreased according to the condition of the patient. A slight negative phase following the injection seems to be followed by better results than if none appears. Tuberculin treatment should not be undertaken when the patient is feverish (from secondary infection). By means of the bacterin treatment we are able, first, to overcome the secondary infection and thus allow further treatment through the injection of tuberculin.

Antityphoid Vaccination.—D. J. Davis (*Journal of the American Medical Association,* February 24, 1912) advises a modification of the vaccine in such a way as to avoid the occasional rather severe reactions. He begins with a small dose, giving 250 million or even less. Such a dose causes some local reaction, but almost no general reaction. The second dose may then be double the first (500 million) and the third one billion. If it should prove necessary heavier doses might be given. Severe reactions should be avoided for several reasons. If a smaller initial dose is given the local soreness will be less and the general discomfort, headache, depression, etc., will largely be obviated. It would not, therefore, be necessary for the individual to stop work for a period (twenty-four hours) following the injection of the relatively large doses now given, as it sometimes is at present. Should there be any truth in Wright's negative phase theory, a small initial dose would tend to eliminate any possible danger.

Post Partum and Hysterical Retention of Urine.—Edwards (*British Medical Journal,* January 13, 1912) has found these cases very generally relieved by the administration of an enema.

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THE DEATH DEALING INFLUENCE OF HIGH COST OF FOOD SUPPLIES.

Doubtless the most lamentable feature of the steadily increasing cost of food supplies is one which so far has received but little, if any attention, viz., its influence upon the resisting power to disease of those who are obliged to adjust their diet list to their limited earnings. The prevailing belief is that the material increase in wages, which has been so marked a factor of modern economics, has fully kept pace with the increased cost of foods, but the special message of President Taft transmitted to Congress a few days ago shows the fallacy of this doctrine. It showed not only that the excessive cost of staple commodities was world wide, but that even where there had been an advance in wages, it had failed to reach the advanced cost of the necessaries of life. The brunt of the deficiency must naturally fall upon the vast majority of the population—that which already, in point of sanitary surroundings, is most exposed to all the evil conditions which render the body an easy prey to infection.

While the hundreds of millions of people who inhabit Asia, India, and the Indian Archipelago are able to subsist and perform considerable hard labor on a diet composed almost exclusively of rice, it is well known that their resistance to infectious diseases of all kinds is extremely limited, and that the death rate of infections among them is very large. This is because rice is extremely poor in the most important food constituent, albumin (5.56 per cent.) and in nucleins—both important factors in the genesis of antibodies—though relatively very rich in carbohydrates (about eighty per cent.) upon which muscular activity mainly depends. It supplies, in other words, the pabulum of our physical power, but it fails to contribute that which promotes the genesis of our defensive constituents. Indeed, it is mainly of substances rich in albumins, meat, eggs, and other animal foods, that our immunizing mechanism is built. The vegetarian negroes of the Kameroons live about forty years and succumb readily to disease, while their omnivorous kindred, the Masaïs, reach old age and are rarely ill. Under normal conditions the European fares better on a vegetarian diet and may attain old age; but even he, especially if exposed to unhygienic environments, yields readily to contaminating influences owing to deficiency in his blood of germicidal substances.

Deficency of food as efficiently predisposes the body to infection. Epidemics are well known to follow famines. That underfed individuals are exposed to tuberculous infection is as fully established as is the fact that a copious diet is an all important feature of the treatment of the developed disease. Metchnikoff has shown that the blood of the underfed individual is deficient in immunizing substances; we know that inadequately fed dogs promptly succumb to infection; that poultry readily become diseased when underfed. Briefly, many experimentally demonstrated facts are available to attest the absolute dependence of the bodily resistance to disease upon the intake, not only of sufficient food, but also of those foods which best supply the blood with antibodies.

If the unwarranted high cost of food supplies is analyzed from this viewpoint, it will be found to bear mainly upon those articles of diet which constitute the fabric of immunity, i. e., foods rich in albumins. Steadily the sweatshop slave, the overburdened, and the weak are driven to reduce their intake of defensive values, and thus to enhance the death dealing influence of the scourges to which they are exposed.

The Presidential special message to Congress has thus a far greater meaning than even the faithful worldwide inquiry upon which it was based portends. The President recommends that an international commission be appointed to trace to their causes the high prices of the necessaries of life and to suggest remedies. Should such a commission be authorized by Congress, let us hope that its members will realize that they are dealing with a question which, besides its bearing upon general economics, involves the very existence of a multitude of human beings.

THE EPIDEMIC OF SEPTIC SORE THROAT.

There have been reported from time to time epidemics occurring in European cities which have been characterized by sore throats of peculiar virulence. Sometimes these sore throats have been believed to be due to the influenza bacillus and at other times they have been traced to the milk supply. The first experience of this kind appeared in Boston last spring, and this epidemic was studied by Richardson and others, who found that the great majority of cases occurred in the users of the milk from one certain dairy. More recently the disease has been reported in Chicago by Davis and Rosenow, and there is also a recent report by Müller and Seligmann of an epidemic which occurred in Berlin. For the past few months the disease has also been prevalent in Baltimore, Maryland, and it has been so entirely different from anything which has been met with in previous years that a few words of description may not be out of place. In the Boston epidemic most of the cases occurred in adults, and children were almost exempt; in the Baltimore experience the greatest proportion of cases occurred in children and even young infants, and while there was a considerable number of cases among adults, the disease, as a rule, was not as severe in them as in the younger patients.

The cause of the disease is a streptococcus, which may be demonstrated in exudates or in smears from the throat, or from the organs *post mortem*. In the smears it occurs usually as a diplococcus, or as a streptococcus in short chains. In cultures it appears as a streptococcus. The disease is apparently transmitted in two ways—by the milk supply and by direct contact, and it occurs in small household epidemics, usually all, or nearly all the occupants suffering more or less with the disease, while there will be one or two very severe cases. The onset of the disease is rather sudden, often with high fever and with sore throat, sometimes the picture of follicular tonsillitis, sometimes with a tonsillar exudate rather closely resembling diphtheria, and sometimes with a diffuse dusky redness of the entire mucous membrane. After a few days the disease usually remits, which is followed in a day or two by a recurrence of all the symptoms and a marked swelling of the cervical lymph nodes, so that the name of bubonic sore throat has been suggested. The fever lasts from a week to three weeks or longer, and there is usually considerable prostration. There is a marked tendency to complications of various kinds—formation of abscesses, erysipelas, otitis media, meningitis, peritonitis, and gastritis being the most frequent. Sometimes the joints are swollen and painful, and the patients old enough to talk complain of headache and soreness of all the muscles. Another curious manifestation is edema of the eyelids, accompanied by a very slight conjunctivitis; this edema is frequently unilateral. There is also frequent marked involvement of the nose and the accessory sinuses. In some instances the disease comes on very suddenly, with very high temperature, 105° and 106° F., or even more, and marked prostration; in these cases there is usually some disturbance of the bowel, occasionally symptoms suggesting peritonitis. These cases are often fatal, death taking place from failure of the respiration or the circulation, due to the intense toxemia. In other cases there is merely the picture of a continued fever, with slight angina, the fever lasting in some instances four weeks. In these cases the temperature is characterized by marked remissions. The disease may be differentiated from typhoid by the Widal reaction, and the spleen is not enlarged, or only slightly so; the liver may be slightly enlarged. The blood shows leucocytosis, involving chiefly the multinuclears.

The treatment of the disease is rather unsatisfactory; patients should be isolated, and as a preventive the milk should be boiled. The treatment is along general lines, and the most successful measures are those which tend to support the strength of the patient and keep up the nutrition. Fresh air in the sick room and careful nursing are also important. As a rule, severe purges should not be used. Surgical interference is often necessary for involvement of the ear, or for abscesses, or for the peritonitis, but in most of the peritonitis cases toxemia is so great and the patient's condition so alarming that laparotomy offers but little hope of relief. The lymph nodes should not be incised unless there is definite pus formation, as, notwithstanding the fact that they reach an enormous size, they practically always subside without suppuration. Cold applications may be made locally, or such sedatives as lead water properly diluted, or belladonna ointment may be used.

JOHN RUHRAH.

DOCTOR WILEY RESIGNS.

After twenty-five years of service as chief chemist of the United States Department of Agriculture Dr. Harvey W. Wiley has resigned his office. During this quarter of a century there has been a wonderful development in the importance of the position occupied by him and in the amount and character of the work carried on under his direction. When Doctor Wiley came into the service there was no bureau of chemistry. Under his supervision there has grown up a large and important bureau, requiring the services of hundreds of expert chemists and of a thousand employees, quartered in handsome and extensive laboratories which are equipped

with the most elaborate modern appliances for carrying on investigations covering a wide range. These investigations include studies in nutrition, in sanitation, in pharmacology, in bacteriology, in metallurgy, and in œnology; the examination of soils, of water, and of building material, and in fact cover almost the entire range of human interest and endeavor.

The work which has brought Doctor Wiley most prominently before the public has been in connection with the Federal food and drugs act of June 30, 1906. Bills covering this field had been introduced several times into Congress and at least one bill had passed the House, but failed of passage in the Senate before the act of 1906 became a law. Doctor Wiley and his opinions played an important part in the formulation of this legislation. After the law was enacted, as chairman of the board he was charged with the preparation of regulations for the enforcement of the act, which was virtually placed in his hands. What he has done both in enforcing the law and in exciting public interest in it and gaining public support for it is well known to every physician. The public in general and physicians in particular feel under a debt of gratitude to Doctor Wiley for his services in awakening the public conscience to the evils of adulteration.

Naturally, in enforcing a law intended to prevent deception in the manufacture and sale of food and drugs, Doctor Wiley has frequently come into conflict with usages which by long practice had come to be sanctioned, but which under the law had to be discontinued. He has always been outspoken in his condemnation of any practices calculated to deceive the user as to the quality or value of the drugs and foods amenable to the act. He has sometimes antagonized powerful interests and his views have in several important matters been overruled, either by the courts, as in the Johnson cancer cure case, or by executive authority, as in the appointment by President Roosevelt of the Remsen referee board. But in spite of these errors he has won the sympathy and the enthusiastic support of the mass of the people and of the medical profession, who will regret his retirement to private life and who will regard it as a distinct loss to the best interests of the country.

EXPERIMENTAL TREATMENT FOR LEPROSY.

Since Biblical times men have tried to eradicate that curse of humanity, leprosy. But without avail; it has not been possible to exterminate the disease, and the only protection against it has been strict isolation. And this is the only weapon we have, even to-day. But the last fifty years have brought us much nearer the goal than we ever were before, thanks to the late Hansen's discovery of the lepra bacillus. The aim now is to find a form of treatment which will at least ameliorate the condition. Dr. T. Lindsay Sandes, a well known writer on this subject, who is the government bacteriologist at the Robben Island Leper Asylum, gives a condensed report on some of the diets, drugs, and preparations tried by him in the asylum. His communication appears in the *Journal of Tropical Medicine and Hygiene* for March 1, 1912. He speaks of "Jagger's root" cure, extract of the thyroid gland, vaccine treatment, preparations of arsenic, and salts of iodine. All these either have no effect at all, or are even dangerous. Furthermore, he tried various drugs, among them lead, silver, and quinine; these three with no improvement, and radium bromide with ultimate local improvement. The last in his list is chaulmoogra oil; here he states that the treatment is undoubtedly slow and not very satisfactory, but in his experience superior to any other known remedy or reputed cure for leprosy, but it has to be used vigorously and for a prolonged period. The oil was administered by mouth in capsules containing five drops each, and in some cases for three years. He reports on twenty-seven patients, all with at least slight improvement, many with considerable improvement, and some even with arrest approximating cure. A second table contains his results under administration of the oil *per os* and hypodermically. Here we have twenty patients under observation, up to four years. The injections varied between 3.5 and 7.75 cubic centimetres, one centimetre containing about sixteen drops. Here we also find improvement, but not as marked as when the oil was administered by mouth only. Doctor Sandes emphasizes the fact that the treatment must be prolonged, five years or more, it must be as far as possible continuous, and the exhibition of the oil should be pushed gradually to the extreme of receptivity. Surgical assistance should always be ready and its value cannot be overestimated. To expect sudden amelioration from the oil is to look for disappointment. The scholarly author is very energetic in his recommendation of chaulmoogra oil.

INCREASED PAY FOR PUBLIC HEALTH SERVICE OFFICERS.

On June 20, 1911, the United States Senate passed a bill providing for an increase in the pay and allowances of the commissioned medical officers of the United States Public Health and Marine Hospital Service, which had been introduced

into the House of Representatives and is now in the hands of the Committee on Appropriations. It is understood that this committee is to make a report on this measure on March 27th, when the matter will come before the House of Representatives for final action.

It is much to be hoped that this action will be favorable, for no body of men has done more or better work for the public welfare than the officers of the Public Health and Marine Hospital Service. The act providing for this increased pay is rightly entitled, An Act to Promote the Efficiency of the Public Health and Marine Hospital Service, for the reason that the service is suffering from an insufficient supply of recruits because of the inadequate pay offered. The table of pay and allowances of the service was adopted fifty years ago, and is totally inadequate in view of the great increase in the cost of living during the past half century. Moreover, the medical corps of the army and the navy and even of the revenue public service, which like the Public Health and Marine Hospital Service is under the direction of the Department of the Treasury, offer more liberal compensation, though in none of these are changes of station, involving expense, so frequent as in the Public Health Service. These changes involve extra expense for the medical officer.

A comparison of the tables of pay in the different arms of the service named show that in the Public Health Service the medical officer gets from $672 to $2,150 a year less than do the medical officers of a corresponding grade in the other arms of the service. There is no reason for such a disparity except the mere oversight of Congress to remedy it. We feel confident that the bill will be enacted without opposition, removing a grave injustice under which these officers have suffered and making it possible for the Service to continue to command the services of the highest type of medical officers.

A NEW FORM OF SALVARSAN.

It is authoritatively announced that Professor Ehrlich has succeeded in perfecting a new form of salvarsan, his famous "606," which overcomes many of the difficulties of use and objections as to after effects of the original preparation. The improvement consists of a method of making the drug completely soluble in distilled water without the addition of alkalies, and the solution thus made is neutral, or normal in reaction, thus obviating both tedious preparation and injurious effects. The chief cause of the failures to secure beneficial results from the use of salvarsan and of the injurious after effects produced from its use by unskilled practitioners is due directly to the difficulty of making a solution of the drug. The solution must be alkaline, and if too much alkali is used the resulting mixture will cause both pain and irritation of the tissues when injected. The new form is to be placed on the market as Neosalvarsan as soon as the commercial problems connected with its manufacture and distribution are solved, the stability of the new compound, and its efficacy having been positively established by a series of tests and observations extending over several years. Neosalvarsan, in addition to its neutral reaction and non-irritating effects, can be used safely in larger doses than the old salvarsan, one of the drawbacks to the use of the latter being the amount of alkali required for its solution and the consequent destruction of tissue around the site of injection.

JAPANESE TREATMENT OF SYNCOPE.

A method worth noting which they term *Knatzu* is employed by the Japanese, according to the *Scientific American*, for March 2d, in the treatment of severe fainting spells. It consists in striking repeatedly with the closed hand—doubtless the padded external edge of the palm—the most prominent of the vertebræ at the base of the neck, the seventh. Whether the successive shocks produce reflex contraction of the general arterial system and thus cause resumption of the cerebral circulation or not, the fact remains that the normal action of the heart and consciousness are restored. The patient is then seated and his arms are given a rotary movement which—possibly by causing traction on the deltoid or reflexly, enhances the circulatory and respiratory activity. He is also required to walk to increase the circulatory activity in the lower extremities, a precaution which, from the Japanese viewpoint, prevents recurrence of the syncope.

AN EXCELLENT MINOR CHARITY.

The Women's Municipal League of the City of New York has issued an appeal to householders to help the drivers of the ash carts in the department of street cleaning by securing ash cans not greater than fourteen inches in diameter, and by filling these cans not higher than six inches from the top. Heavier loads have frequently led to hernia in the drivers, even the more robust of them. Here is an opportunity to exercise genuine charity with a very trifling outlay.

Medical Law.

I. THE RIGHT TO PRACTISE MEDICINE AND SURGERY.

The Supreme Court of Arkansas in the case of State v. Gallagher, 143 S. W. Rep. 98, has recently held that a chiropractor does not violate the practice of medicine act of that State.

By section 5241 of the act it is provided that "every person who shall practise or who shall attempt to practise medicine in any of its branches or who shall perform any surgical operation for any person within this State, without having first complied with the provisions of this act, shall be deemed guilty of a misdemeanor . . ."

By section 5243 it is provided that "any person shall be regarded as practising medicine, in any of its departments, within the meaning of this act, who shall append 'M. D.' or 'M. B.' to his name; or repeatedly prescribe or direct, for the use of any person or persons, any drug or medicine or other agency for the treatment, cure, or relief of any bodily injury, deformity, or disease: Provided that nothing in this act shall be so construed as to prevent any person from administering domestic remedies without receiving any compensation therefor, and nothing here shall apply to the so called midwife."

The question considered by the court was whether "chiropractic" was an "agency" within the meaning of the act.

Upon this point Mr. Justice Kirby, speaking for the court, said:

Upon the familiar rule of construction—the doctrine *ejusdem generis*—this general term "other agency" must be limited by the meaning of the special term drug or medicine preceding it and can only include agencies of a like nature as those designated by said words. . . .

The practice of medicine act was designated for the protection of the public against all those who are not learned and skillful in the science of medicine and the treatment of diseases and is to be liberally construed in that regard; still it inures to the benefit of the favored class—those who are scientifically learned and skilled, and are permitted by its terms to practise the profession—and creates a new offence for its violation unknown to the common law. On that account it must be strictly construed. The practice of chiropractics, as defined, understood, and used in the treatment of ailments of the body, is not included within the definition of the practice of medecine in said statute, and not limited to it by those only who have procured certificates in accordance with said acts.

At a later point in the opinion the judge referred to the fact that the act was not intended to include the practice of osteopathy, which chiropractics more nearly resembles than it does the practice of medicine, for the legislature had passed an act regulating that practice and expressly excluding it from the meaning of the term "practice of medicine."

Mr. Justice Hart dissented in his conclusion from the majority of the court and wrote an opinion wherein among other things he said:

I believe that a chiropractor is amenable to the penalties of the statute under consideration. Our statute is broader than the statutes in the cases cited in the opinion of the majority. The statute under consideration specifically refers to the practice of medicine in all its branches. This would include osteopathy, except that a subsequent section of the same act expressly excludes it from the practice of medicine in all its branches. . . . The phrase "other agencies" is a very broad term, and I think includes the use of the hands.

The practice of medicine in all its branches includes surgery, and surgery is practised by manual operation, as well as by instrumental appliances.

X. THE PHYSICIAN AS WITNESS.

In the case of Southern Ry. Co. v. Parham, 73 Southern, Rep. 764, the defendant sought to impeach and discredit the evidence of a medical expert witness introduced by the plaintiff, by means of the testimony of one of defendant's witnesses, who testified that on a previous occasion plaintiff's witness had examined him and stated that he was suffering from spinal concussion or "railway spine," the same diagnosis which the expert had made of the plaintiff's injuries, when in fact the witness had never been in a railway accident and had never suffered any spinal trouble. This testimony was excluded by the trial court. The defendant excepted to the ruling, so that upon appeal the question of the propriety of impeaching an expert in that way was presented to the Court of Appeals.

Mr. Justice Hill, in passing on the question, said:

We hardly think that the value of the testimony of a medical expert can be impeached by instances of special cases in which he might have been mistaken in his diagnosis. To so hold, it seems to us, would bring in issue the question as to whether or not in each particular case the diagnosis was correct or incorrect. The correct rule is laid down by Mr. Wigmore in his work on *Evidence*, (volume ii, p. 1148): "Proof of such particular instances of error by other witnesses is generally regarded as inadmissible, and for reasons analagous to those of the character rule, namely, confusion of issue by the introduction of numerous subordinate matters, controversies making comparatively trivial matters and unfair surprises, by leaving the impeached witness unable to surmise the tenor or the time of the supposed conduct which might be attributed to him by false testimony."

While it might strike the ordinary mind that a medical expert could not be safely relied upon in his diagnosis where he had stated upon an examination that a person was suffering from spinal concussion, or "railway spine," when in fact the person had never been the victim of any railway accident, or had never suffered from any spinal complaint, and while it might be argued that this medical expert, in making a similar diagnosis of the plaintiff's injuries, was indulging somewhat in a fad or a favorite theory, yet it must lie manifest to any thinking mind that it would be unsafe, as well as unjust to the medical expert, to allow such special method of attack, unless at the same time the expert thus attacked was allowed an opportunity of meeting the attack, by showing that the witness who testified that he was not injured had been in fact injured and was testifying falsely, and that as a matter of fact his diagnosis of the witness's condition was correct. In the administration of practical justice by the courts, this method of impeachment should not be permitted.

In the same case the justice, in commenting upon certain testimony admitted to show the qualification of the expert, said:

In support of the medical expert who testified in behalf of the plaintiff, testimony was admitted in evidence that the expert had held many positions in different sanatoriums and hospitals, where he had had extensive experience in medicine and surgery. This testimony was objected to. One method of proving expert knowledge is to show expert opportunities and experience, and clearly the testimony was admissible for this purpose.

News Items.

Newburgh Bay Medical Society.—At the annual meeting of this organization, held on March 11th, the following officers were elected: Dr. A. Judson Benedict, president; Dr. T. O. Davamee, secretary; Dr. John Deyo, treasurer; Dr. John T. Howell, librarian.

The Harvey Lectures.—The twelfth lecture of the series will be delivered this evening at the New York Academy of Medicine by Dr. W. S. Thayer, of Johns Hopkins University, his subject being Malaria.

The Health of Chicago.—The total deaths from all causes, exclusive of stillbirths, reported to the Department of Health of the City of Chicago during the week ending March 9, 1912, numbered 678, corresponding to an annual death rate of 14.45 in a thousand of population. The principal cause of death was pneumonia, 142 deaths from this disease being reported, while the deaths from all forms of tuberculosis numbered 104. Nine hundred and forty-three cases of contagious diseases were reported during the week.

A Clinic at the Postgraduate for Defectives.—A clinic for nervous and mental diseases has been established at the New York Postgraduate Medical School and Hospital. Dr. Max G. Schlapp has charge of this clinic, which has for its special purpose the identification of mental and moral defectives and incorrigibles Children may be brought to the clinic for examination and free treatment, and when it is considered necessary for a child to be treated in an institution, a suitable place will be found without cost to the parents.

Vital Statistics of New York.—During the week ending March 16, 1912, the total deaths from all causes reported to the Department of Health of the City of New York numbered 1,602, corresponding to an annual death rate of 16.15 in a thousand of population. Measles, scarlet fever, diphtheria and croup, whooping cough, diarrheal diseases and pneumonia all showed a decreased mortality, while the mortality from organic heart diseases, pulmonary tuberculosis, and violent deaths showed an increase. The death rate for the first eleven weeks of 1912 was 15.63, as against 16.67 in a thousand of population for the corresponding period in 1911.

American Urological Association.—At a meeting of the New York Society of the American Urological Association, held at the Academy of Medicine, March 6th, officers to serve for the ensuing year were elected as follows: Dr. Walter Brouner, president; Dr. Benjamin S. Barringer, vice-president; Dr. Clarence R. O'Crowley, secretary; Dr. Julius J. Valentine, treasurer. The annual meeting of the national body will be held at the Hotel Astor, New York, on April 2d, 3d, and 4th. The morning sessions will be devoted to visiting the various genitourinary clinics here, and the afternoons will be taken up with the presentation and discussion of scientific papers.

Resolutions on the Death of Doctor Weber.—At a stated meeting of the medical board of St. Mark's Hospital, the following resolutions were adopted:

WHEREAS, Dr. Leonard Weber, consulting physician of our medical board, has departed this life, therefore be it

Resolved, That the medical profession loses in him one of its foremost members, and the city of New York one of its most brilliant men, and

Resolved, That we deplore in his demise the loss of a most faithful coworker, and St. Mark's Hospital the absence of a most efficient benefactor, and be it further

Resolved, That these resolutions be spread upon the minutes of our board, a copy thereof be sent to his bereaved widow, and that they be published in the *Medical Record* and the NEW YORK MEDICAL JOURNAL.

Committee:
C. A. VON RAMDOHR, M.D., Chairman.
BENJAMIN T. TILTON, M.D.
IGNATZ MORVAY ROTTENBERG, M.D.

Personal.—Dr. R. M. Pearce, of Philadelphia, will deliver an address on the subject of Medical Education, on May 21st in Syracuse, N. Y. Doctor Pearce is professor of research medicine at the University of Pennsylvania, a recently established department in the medical school, and one of the very few departments of this character in existence. Doctor Pearce is to be the guest of the Gamma Chapter of Alpha Omega Alpha while in Syracuse. The address will be given at 8:30 p. m., and a cordial invitation is extended to the public and to all who are interested in educational matters.

Dr. Horace David Arnold has been appointed dean of the Harvard Medical School, to fill the place made vacant by the resignation of Dr. Henry A. Christian.

Dr. M. P. Ravenel, professor of bacteriology at the University of Wisconsin, has completed a series of six lectures before the Milwaukee Medical Society on Studies in Immunity, Vaccine, and Serum Therapy.

A New Advisory Board to the Quarantine Service.—Announcement is made by Dr. Joseph J. O'Connell, Health Officer of the Port of New York, of the appointment of the following four physicians to constitute an advisory board to the pathological and bacteriological department of the quarantine service: Dr. James A. Ewing, professor of pathology at Cornell University Medical School; Dr. John H. Larkin, associate professor of pathology at the College of Physicians and Surgeons, Columbia University; Dr. Joshua M. Van Cott, professor of pathology and bacteriology at the Long Island Medical College; and Dr. Francis Carter Wood, professor of clinical pathology and head of the department of pathology of the College of Physicians and Surgeons, Columbia University. This advisory board will have complete control of the bacteriological and pathological department of the service, upon which the safety of the port from cholera and other epidemic diseases so largely depends.

Meetings of Local Medical Societies to be Held during the Coming Week:

MONDAY, *March 25th.*—Medical Society of the County of New York.

TUESDAY, *March 26th.*—New York Dermatological Society; New York Psychoanalytic Society; New York Otological Society; New York Medical Union; Metropolitan Medical Society; Washington Heights Medical Society; Valentine Mott Medical Society; Riverside Practitioners' Society; Buffalo Academy of Medicine.

WEDNESDAY, *March 27th.*—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society; New York Society of Internal Medicine; Medical Union, Buffalo.

THURSDAY, *March 28th.*—New York Academy of Medicine (Section in Obstetrics and Gynecology); Hospital Graduates' Club, New York; New York Celtic Medical Society; New York Physicians' Association; Bronx Medical Association.

FRIDAY, *March 29th.*—Hospital Graduates' Club, Brooklyn; Audubon Medical Society, New York.

Doctor Wiley Resigns.—On March 15th Dr. Harvey W. Wiley tendered his resignation as chief chemist of the Department of Agriculture and chief of the Bureau of Chemistry. The resignation was accepted and both President Taft and Secretary Wilson expressed their regret at losing his services. According to the newspaper interviews Doctor Wiley resigned because the men who had brought charges against him which had been disproved had been retained in positions which enabled them to nullify his efforts to a large extent. He felt that he could no longer serve the department while these men were in a position to render his work futile. It is rumored that Doctor Wiley will accept a position as editor of *Good Housekeeping* and will devote much of his time to popular lectures on subjects connected with the administration of the food and drugs act. Doctor Wiley is now about sixty-eight years of age and has been married about two years. It has been intimated that financial considerations may have had some influence in determining his action, though nothing that he has said publicly gives any warrant for this view. It is understood that Dr. R. E. Doolittle, chairman of the board of food and drug inspection, and formerly chemist in charge of the agricultural examination station in New York, will become acting chief of the bureau. It is said that Doctor Wiley has recommended either Doctor Barnard, of Indiana, who has been in charge with the enforcement of the State food and drugs act of Indiana, or Dr. H. Bigelow, chief of the food laboratory of the bureau of chemistry, as his successor. Dr. A. S. Mitchell, of St. Paul, is said to have been chosen to replace Doctor Wiley. The College of Pharmacy, of Columbia University, at its annual meeting on March 19th, adopted resolutions commending to the attention of the President the name of Dr. James Hartley Beal, of Scio, Ohio, as a suitable successor. Doctor Beal is secretary and editor and was formerly president of the American Pharmaceutical Association, is a chemist, a lawyer, and has served in the Ohio legislature, and has also had considerable experience in teaching chemistry and as assistant to the State food commissioner of Ohio.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

March 7, 1912.

1. FRANCIS LOWELL BURNETT: John Hunter.
2. ERNEST BOYEN YOUNG and JOHN T. WILLIAMS: Value of Intrauterine Douches, Packing, and Antiseptics in the Treatment of Miscarriage.
3. ROBERT B. HUNT: Methods of Favoring Proteid Digestion.
4. RICHARD M. SMITH: Amaurotic Family Idiocy.
5. JAMES HERBERT YOUNG: Card for the Rapid Calculation of Milk Modifications.
6. WILLIAM H. KRAUS: Observations on European and American Orthopedic Apparatus.
7. GORDON BERRY: Sarcoma of the Tonsil.
8. C. A. PORTER: Hypertrophic Stenosis in Infants.
9. GEORGE H. POWERS, JR.: Acute Mastoiditis Complicated by Tic Douloureux.
10. FRANCIS M. RACKEMANN and E. W. TAYLOR: Nerve Root Irritation in Lumbar Puncture

2. Intrauterine Douches, Packing, and Antiseptics in the Treatment of Miscarriage.—Young and Williams are of the opinion that salpingitis has been more common after intrauterine douches, that intrauterine douches of sterile water or of salt solution have not given as good results as simply wiping the uterine cavity with sterile gauze, that antiseptic douches have given even poorer results, and that swabbing the uterine cavity with tincture of iodine has given the best results. Packing the uterus to control hemorrhage does not greatly increase the liability to infection. For packing, gauze saturated with fifty per cent. alcohol in "clean" and plain sterile gauze in "infected" cases have given the most satisfactory results.

4. Amaurotic Family Idiocy.—Smith gives the following brief summary of the symptoms of this disease: 1. A progressive paralysis, flaccid or spastic in type, occurring in an infant previously normal and well developed. 2. Blindness with typical changes in the fundi of the eyes. 3. Mental deficiency going on to idiocy. 4. Nystagmus, drooling, gurgling in the throat. 5. Occurrence in Hebrews, often in several members of the same family. The pathological findings are distinctive. The lesions are confined to the central nervous system. Every cell of the entire central gray matter, brain, cord, and spinal ganglia, is involved. The changes are degenerative in type, and consist of a swelling of the cell protoplasm, which by pressure causes a mechanical destruction of the cell fibrils. Ultimately the cell body is a mass of detritus. The axis cylinders are not involved in the process. The characteristic appearance in the fundus of the eye is due to the degeneration of the ganglion cells of the retina and the nerve fibres of the optic nerves. The cells are more numerous in the macula than elsewhere, so that region appears white. The red spot is caused by contrast. The changes in the nerve cells are probably due to some hereditary defect inherent in them. It is not congenital. The infants possess an abnormally exhaustible nerve cell protoplasm, which being paralyzed by the strain of earliest function soon degenerates. The prognosis is hopeless.

6. Orthopedic Apparatus.—Kraus finds that different countries have types of apparatus peculiarly their own and urges a standardization of certain common types.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

March 9, 1912.

1. PEARCE BAILEY and CHARLES A. ELSBERG: Spinal Decompression; Dangers of, and Justification for Exploratory Operations.
2. WILLIAM COUGHLIN: Position as a Factor in Drainage of the Peritoneal Cavity.
3. V. L. SCHRAGER: Clinical Aspects of Syphilis of the Liver.
4. HENRY M. FRIEDMAN: Muscular Development, the Causes for the Lack of It and the Value of Physical Exercise.
5. ALDRED S. WARTHIN and E. J. SNYDER: Localization of Spirochæta Pallida in the Heart Muscle in Congenital Syphilis in the Absence of Histological Lesions or Spirochetes Elsewhere in the Body.
6. NELSON D. BRAYTON: Leprosy in Indiana.
7. ROBERT A. NOBLE: Cystic Appendix Vermiformis of Unusual Size.
8. FRANK C. TODD: Removal of Foreign Body from the Right Bronchus.
9. HANS ZINSSER and EDWARD G. CAREY: Contribution to the Study of Rat Leprosy.
10. E. W. SCRIPTURE: Treatment of Occluded "S."
11. JAMES F. PERCY: Treatment of Cancer of the Uterus by the Actual Cautery, with a Practical Method for Its Application.
12. SINCLAIR TOUSEY: Radiographs in the Diagnosis of Gastro-intestinal Adhesions and Ulcers.
13. J. E. GREIWE: Relative Frequency of Aortic Insufficiency.

1. Spinal Decompression.—Bailey and Elsberg call attention to the relief of symptoms which followed the removal of the spines and laminæ and the incision of the dura in seven cases of spinal disease. In three cases the diagnosis of tumor was made and, although the tumor was found, it could be either not at all or only partially removed; in three others the diagnosis was made, but no tumor was found; in one case the operation was an exploratory one, made at the patient's request. In all these cases improvement in symptoms of functional character (pain) and in organic symptoms (paralyses, anesthesias, etc.) followed. From the study of these cases and others reported in the literature of the subject the authors conclude that this operation may have a profound effect on the spinal cord in certain pathological conditions, some of which cannot at present be differentiated from spinal tumor; again, this operation may be of benefit even in the absence of increased intradural pressure or a discoverable lesion; furthermore, on account of its relative safety in experienced hands and for the reasons above stated the authors advise more frequent exploratory operations.

2. Position as a Factor in Drainage of the Peritoneal Cavity.—Coughlin is apparently pessimistic on the question of drainage of the peritoneal cavity. From the results of twelve experiments described in detail he draws the following conclusions: The pelvic cavity cannot be completely drained of water by raising the supine body even to 90° (bolt upright), nor can it be completely drained by turning the horizontally placed body just more than midway between pronation and supination; water found its way from the left loin to exit just below and internal to the right anterior iliac spine with body raised to 45° in the right lateral position; if the intestines were distended, although water gravitated less readily, the same practical results were obtained; although water found its way from the left loin, as above stated, it did not so easily find its way from the right loin to exit just below and internal to the left anterior superior iliac spine, no matter how high the left laterally lying body was raised a quantity remained in the right loin.

3. Clinical Aspects of Syphilis of the Liver.—Schrager's attention to this subject arose from an error in diagnosis. He concludes, from a careful

study of the subject, that clinical statistics underestimate the frequency of hepatic syphilis; the Wassermann reaction will increase the number of cases; the symptom complex of hepatic syphilis is not pathognomonic, as this disease simulates almost every disease of the liver, and occasionally it simulates febrile diseases; whenever the diagnosis is uncertain we should apply both the therapeutic test and the Wassermann reaction; mixed treatment has a marked effect on lues of the liver, frequently, regardless of the time it has existed.

4. Muscular Development; Causes for Lack of It; Value of Physical Exercise.—Friedman states that aside from the ability of a well developed muscular system to withstand the hardships of life, the same is necessary in order to have a healthy body. Muscular development is influenced by climatic, dietetic, and hygienic conditions. The standard of physical development is apparently lowered by the frequent crossing between widely different races, as well as by too close inbreeding. While civilization tend toward physical deterioration in general, intelligent, systematic physical training, begun in childhood and continued throughout life, will do much in checking this tendency.

5. Localization of Spirochæta Pallida in the Heart Muscle in Congenital Syphilis.—Warthin and Snyder in two cases found the spirochete in the heart muscle of two infants, although there was an absence of histological lesions of spirochetes elsewhere in the body. A full report of the cases, with autopsy and histological findings, is given. These cases emphasize the view, expressed by Warthin, that the heart muscle is a favorite place for the colonization of the *Spirochæta pallida,* and the gross signs of such localization may be so slight that diagnosis can be made only by the demonstration of the spirochetes.

MEDICAL RECORD

March 9, 1912.

1. Charles L. Dana: Occupational Neuroses.
2. Eugene D. Bondurant: Hysteria and Psychotherapy.
3. Max Einhorn: Experiences with Duodenal Alimentation.
4. A. A. Smith: Experiments on Serous Sac Distention.
5. John F. Russell: Plight of the Consumptive Wage Earner.
6. Philip Horowitz: Action of Lactic Acid Bacilli on the Percentage of Glucose in the Urine of Diabetics.
7. Hansell Crenshaw: Environment in the Treatment of Nervous Disorders.
8. C. P. Farnsworth: Imperforate Anus and Malformed Rectum.

2. Hysteria and Psychotherapy.—Bondurant looks upon hysteria as a degenerative psychoneurosis whose characteristic symptoms are due to suggestion, the phenomena of hysteria resulting from a combination in varying proportions of the causative factors of neurodegeneracy and morbid suggestibility. All successful methods of treatment, and they are many, owe their efficacy, more or less, to suggestion. The increase in the number of these cases is attributed to the suggestions of surgeons and specialists acting upon the hysterical and highly suggestible neurotics, who, although they bore the neurologist, are, nevertheless, useful, in that they are the reliable asset upon which many physicians depend for their living. After a full discussion of the various methods of treatment, including the distinctly psychological method of mental healing known as Freud's, he concludes by quoting Walton: "Why worry? Even to-day an ounce of Muldoon is worth a pound of Freud."

3. Experiences with Duodenal Alimentation.—Einhorn records his experience with this method of treatment, which extends over two years and covers in all thirty-four cases, chiefly those of sufferers from gastric ulcer, but including six cases of duodenal ulcer. Other conditions, such as nervous vomiting and atonic dilatation of the stomach, are amenable to this method of treatment. In some cases that did not entirely respond to this procedure, the author has tried to medicate the ulcerated surface by coating the duodenal tube at the corresponding place (determined by the thread test) with a solution of protargol (technique described). As a nutritive medium the author has used a mixture of milk, egg, and lactose; in some patients having a marked idiosyncrasy for milk he has substituted a mixture of oatmeal gruel, pea soup, eggs. lactose, bouillon, and butter. Other substances may be used, but the mixture must be a very fine fluid emulsion, free from any coarse particles (preferably filtered or strained through gauze). The results of duodenal feeding have been very satisfactory; nearly all were able to eat an ordinary mixed diet a few days after the period of duodenal alimentation.

6. Action of Lactic Acid Bacilli on the Percentage of Glucose in the Urine of Diabetics.—Horowitz reports three cases of glycosuria in which he used a liquid suspension of lactic acid bacilli. From a consideration of these cases and from results he has obtained in other more recent cases, he is convinced that in lactic acid bacilli we have a preparation which actively lowers the percentage of glucose in the urine of diabetics. Owing to his limited experience he does not, however, assert that similar results can be obtained in every case of glycosuria.

7. Environment in the Treatment of Nervous Disorders.—Crenshaw holds that as unsuitable environment is the basal cause of all disease, and especially so in disorders of the nervous system, suitable environment, one which is productive of perfect harmony between the patient and his surroundings, makes for health. Considering its importance the author is surprised that the profession has neglected to recognize environment as a definite therapeutic measure, and believes that the cardinal feature of the Weir Mitchell rest cure is the absolute isolation of the patient in which he enjoys the most simplified environment possible, the simple and easy life insured to the patient resulting in patent and permanent benefits. Nor is this simplification of environment the whole matter; there is an added advantage arising from the mere changes of environment. The author does not predict permanent good from the rest cure, if the residence is less than eight weeks. He strongly condemns the use of this method for shorter periods.

8. Cases of Imperforate Anus and Malformed Rectum.—Farnsworth describes a case in which the place where the anus should be was marked by a stellate white colored spot. The vagina was intact, the uterus was well dilated, and the rectum was found opening into it by the left upper fornix, where the left Fallopian tube normally opens into the uterus. In another case, there was a complete absence of the rectum or of any spot marking it. The fecal matter was discharged regularly from the vagina.

BRITISH MEDICAL JOURNAL.

March 2, 1912.

1. R. A. Gibbons: Pruritus Vulvæ: Etiology and Treatment.
2. William J. Gow: Retroversion of the Uterus.
3. C. Y. Pearson: Four Cases of Cæsarean Section.
4. R. Davies-Colley: Diagnosis of Ectopic Gestation.
5. H. M. Raven: Albuminuria in Pregnancy.
6. B. Myers: Chickenpox in the Puerperium.

1. Pruritus Vulvæ.—Gibbons reviews the different phases of this most troublesome affection, laying particular stress upon the etiology, pathology, and treatment. He directs attention especially to the fact that in nearly every case there will be found some anatomical lesion or demonstrable pathological condition which is acting as a causative factor, or as the means by which the condition is prolonged. While he concedes the possible occurrence of the so called essential pruritus, he emphasizes its extreme rarity if the search for some ever so trivial abnormity of the parts is carefully and thoroughly made. The older frequency of the essential form was due to superficial examination. The treatment becomes far simpler when a careful determination of the underlying factors is made, for the removal of these alone is often curative, while the lack of their removal prevents a cure by any means employed. Gibbons does not advise the division of one or other of the nerves supplying the pudenda, because of the subsequent liability to the development of kraurosis and atrophy, or of epithelioma.

4. Ectopic Gestation.—Davies-Colley considers the diagnostic points in this condition from the point of view of whether the case is developing, acute, or chronic. He is of the opinion that the condition may be fairly accurately diagnosticated if all the factors in the case are taken into consideration, together with a careful pelvic examination. He proceeds to lay down the points upon which the diagnosis may be made in each of the three classes of cases.

5. Chickenpox in the Puerperium.—Myers reports a case in which the disease appeared on the tenth day after delivery. The first vesicle was on the buttock, and there seemed to be a predilection of the pocks for the labia and the breasts, probably on account of the greater vascularity of these parts. The course was, otherwise, not out of the ordinary.

LANCET.

March 2, 1912.

1. A. E. Garrod: Glycosuria (*Lecture II*).
2. C. M. Moullin: Significance of Symptoms in Duodenal Ulcer
3. Frederic Thomson: Differential Diagnosis of Certain Infectious Diseases.
4. D. Newman: Cystitis (*Concluded*).
5. Forbes Fraser: Volvulus Coincident with Strangulated Hernia.
6. A. C. Butler-Smythe: Pessary Retained Twenty-nine Years.
7. G. P. Jones: Pneumonia Treated with Pneumococcic Vaccine.
8. William A. Brend: Medical Provisions of the National Insurance Act. (*Part IV.*)

1. Glycosuria.—Garrod continues his thorough discussion of the various phases of this disease with the consideration of transient or temporary glycosuria, the diabetic tendency, and the share of various organs in the causation of glycosuria, as, for instance, the part played by the nervous system, the pancreas, the liver, and the intestine, as well as its association with febrile diseases.

2. Duodenal Ulcer.—Moullin analyzes the more constant and more characteristic symptoms of this condition with a view to determining whether their occurrence is always associated with an ulcer or a scar left by one; and further, if an ulcer is present, as to whether it is really the cause of the symptoms. Primarily it has frequently been shown by operation and autopsy that the symptoms may be present without the necessity of the presence of an ulcer; and, vice versa, an ulcer may occur without producing any symptoms whatever. The highly characteristic hunger pain is, according to Moullin, due to a muscular cramp arising from the stimulation of an irritable, hypersensitive mucous membrane, and is quite independent of an ulcer. The increased spasm keeps up the irritable condition of the mucous membrane and sets up a vicious circle. The occurrence of hemorrhage is also not necessarily associated with an ulcer, for it may be due to a congested state of the mucosa alone, as in the case of the stomach where this is well known to occur. Hyperchlorhydria is likewise independent of the presence of an ulcer and is due merely to an increased activity of the acid secreting glands, analogous to the irritability of the mucosa to stimuli provoking contraction. Moullin is forced, therefore, to the conclusion that the symptoms usually grouped together as indicative of duodenal ulcer are often due solely to attacks of congestion and hyperemia of the mucosa, with the initiation of a vicious circle by something which irritates the sensitive mucous membrane.

4. Cystitis.—Newman concludes his remarks upon the causes and treatment of cystitis with a consideration of the various methods of treatment of the different forms of the disease. He is of the opinion that vaccines are of great value in the treatment of the acute cases in particular, and urges the necessity for their employment at the earliest possible moment. Tuberculin is also of value in cases of tuberculous cystitis, but it is to be remembered here that the presence of the disease in one of the kidneys will render all local and general measures directed to the cure of the cystitis merely palliative, as the irritation is continually kept up with the certainty of reinfection.

6. Pessary Retained for Twenty-nine Years.—Butler-Smythe reports the case of a middle aged woman who had worn a pessary for this extremely long time, and who had developed signs of a perforation into the bladder some two years before he saw her. This perforation had apparently been closed by the formation of an abundant deposit of phosphates upon the pessary. The signs of perforation returned and the patient sought relief for this. The instrument was found to be immovably imbedded in the tissues of the vagina and thickly coated with a phosphatic deposit, so that it resembled a large calculus. After its removal in sections, there was found to be a fistula into the bladder large enough to admit a finger, and a second perforation of the anterior vaginal fornix which did not involve the bladder. The whole mass of pessary and its phosphatic coating was about the size of a tangerine orange and completely filled the greatly contracted bladder. The patient made a good recovery after the removal of the mass.

AUSTRALASIAN MEDICAL GAZETTE.

January 20, 1912.

1. Harvey Sutton: The Feeble Minded, Their Classification and Importance.
2. W. Daish: Position and Needs of the Profession.
3. Owen E. Pagett: Unique Case of Rupture of the Common Bile Duct.
4. E. Florance: Snake Bite.

January 27, 1912.

5. J. C. Verco: Paramyoclonus Multiplex Epilepticus or Unverricht.
6. Thomas L. Bancroft: Proposed Technique for the Prevention of Dengué and Filariasis.
7. W. T. Chenhall: Some Meeting Points of Obstetrician and Surgeon.
8. Gerald S. Samuelson: Retroversion of the Uterus and Rupture of the Intestine.

February 3, 1912.

9. Reginald Bowman: Medical Politics.
10. J. A. G. Hamilton: Operative Treatment of Retrodisplacements of the Uterus.
11. James Boyd: Alcoholism and Suggestion.
12. Oliver Smithson: Pulsating Tumor of Nasopharynx Removed by Moure's Operation.

2. Retrodisplacements of the Uterus.—Hamilton gives the following summary of the results he has obtained from various operations: Ventrosuspension, 116 cases, with eighteen failures or faulty results. Alexander's operation, fifty-six cases, with two failures. Gilliam's operation and its modifications, twenty-one cases, with one failure and one accident. Intraabdominal plication of round ligaments, nine cases, with two failures. Baldy's operation, 127 cases, with one recorded failure through faulty technique.

PROCEEDINGS OF THE ROYAL SOCIETY

February 14, 1912.

1. Sir Archibald Geikie: Address of the President at the Anniversary Meeting on November 30, 1911.
2. Arthur Harden and Sydney G. Paine: Action of Dissolved Substances upon the Autofermentation of Yeast.
3. Georges Dreyer and William Ray: Further Experiments upon the Blood Volume of Mammals and Its Relation to the Surface Area of the Body.
4. G. W. Ellis and J. A. Gardner: Origin and Destiny of Cholesterol in the Animal Organism. Part VIII.—On the Cholesterol Content of the Liver of Rabbits under Various Diets and during Inanition.
5. H. E. Armstrong, E. F. Armstrong, and E. Horton: Herbage Studies. I.—*Lotus corniculatus*, a Cyanophoric Plant.
6. A. D. Fraser and H. L. Duke: Antelope Infected with *Trypanosoma gambiense*.
7. Arthur Harden and Dorothy Norris: Bacterial Production of Acetylmethylcarbinol and 2.3-Butylene Glycol from Various Substances.
8. James Thompson: The Chemical Action of *Bacillus cloacæ* (Jordan) on Glucose and Mannitol.
9. H. B. Fantham: *Herpetomonas pediculi*, A New Parasitic Species in the Alimentary Tract of *Pediculus vestimenti*, the Human Body Louse.

4. Cholesterol in the Animal Organism.—Ellis and Gardner, in a previous paper, formulated the hypothesis that cholesterol is a constant constituent of all cells, and that when cells are broken down in the life process cholesterol is not excreted, but is used in the formation of new cells. A function of the liver, they believe, is to break down dead cells and eliminate their cholesterol in the bile, from which it is resorbed through the intestinal walls. They now report an experimental study confirming the hypothesis, based on determinations of the cholesterol and cholesterolester content of the livers of rabbits kept on various diets. In animals fed on bran to which an excess of cholesterol had been added, a marked increase in the total cholesterol of the liver over that present in rabbits fed on ordinary food was observed. Likewise, in rabbits kept for a few days in a state of inanition, a storing of cholesterol in the liver was found to have occurred.

9. Herpetomonas Pediculi.—Fantham describes a new flagellate protozoon which he discovered in the alimentary tract of *Pediculus vestimenti*. The parasite appears to be confined to the alimentary tract and feces of its host, and is spread from louse to louse by the contaminative method, cysts of the parasite being swallowed by the insect. The whole life cycle was followed by the author in the living material. Although the protozoon might easily be confounded with dangerous parasites transferable to man by the bite of the insect hosts, the author showed it to be harmless.

BULLETIN DE L'ACADÉMIE DE MÉDECINE.

February 6, 1912.

1. Gaucher: Deaths from "606."
2. A. Mayor: Chlorethylmorphine and Isopropylmorphine. Toxicity of the Derivatives of Morphine.

1. Deaths from "606."—Gaucher reports three additional cases of death from salvarsan. The first was that of a strong, healthy young man, who had acquired syphilis two years before and at the time of the salvarsan injections, given at his own earnest solicitation, presented only a mild preputial herpes. Three intravenous injections of 0.3 gramme salvarsan were administered within thirteen days. The patient traveled home on the day following the third injection. Five days later he was taken with violent headache, and on the morrow succumbed after repeated convulsive attacks and a period of coma. The second case, referred to the author by Vanbourdolle, was that of a man, fifty-three years of age, who had contracted syphilis in 1894 and been stricken with hemiplegia three years later. Two days after intramuscular injection of 0.3 gramme of salvarsan into each buttock, pains in the limbs and head appeared, which grew progressively worse. On the twelfth day the patient died suddenly. The third case, reported by Yahoub, was that of a woman of twenty-five years, with a syphilis of six years' standing. When six and a half months pregnant, and in the absence of visceral disease of any sort, she received an intravenous injection of 0.4 gramme salvarsan. After the usual reaction on the first day she appeared quite well, but on the third day she was seized with vomiting and a violent headache. Her face grew pale and she soon lost consciousness. Coma persisted for two days, with cyanosis, Cheyne-Stokes respiration, and a frequent, feeble pulse. There was no albuminuria. The patient was bled 200 c.c., but died the same day.

2. Morphine Derivatives.—Mayor studied the action of two new derivatives of morphinechlorethylmorphine and isopropylmorphine—experimentally and clinically, and found the effects in each case to be far weaker than those of morphine or even of codeine. Half a gramme of isopropylmorphine could be administered to patients daily without any untoward result. The author holds that, contrary to the views hitherto held, the degree of toxicity of morphine derivatives in animals may be taken as an indication of that to be expected in man. It is essential to take into consideration, however, only the respiratory depression and lowering of the blood pressure produced in animals as points of comparison with the action in man, as man, in morphine poisoning, always succumbs to these effects, whereas the lower animals die only after passing into a succeeding stage of poisoning, viz., that of convulsive phenomena.

PRESSE MÉDICALE.

February 28, 1912.

1. Maurice Chevassu: Debré and Paraf's Antigen Reaction in the Diagnosis of Urinary Tuberculosis.
2. Alfred Martinet: Digitalis and Arterial Tension.

2. Digitalis.—Martinet points out that reasoning from the action of digitalis by intravenous injections on healthy dogs, that its effects will be similar on human invalids is faulty. Digitalis undoubtedly increases arterial tension in the dog, but in the human invalid it sometimes raises, sometimes lowers tension, and occasionally is absolutely without any action thereon. This unreliable effect of digitalis is particularly notable in cases of asystolia.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

February 1, 1912.

1. Ch. Bäumler: Diagnosis and Treatment of Cirrhosis of the Liver.
2. E. Friedberger and S. Mita: Method of Injecting a Large Amount of Foreign Sera into Supersensitive Persons.
3. Gustav Spiess: Use of Antistreptococcal Serum by Mouth and Locally in Powder Form.
4. G. F. Nicolai: The Electrodiagraph as a Diagnostic Help for the General Practitioner.
5. Gustav Killian: Bloodless Enlargement of the Sinus of the Nose.
6. T. Ayoagi: Ischemic Paralysis from Compression of the Arteries of the Extremities.
7. Hermann Schridde: Granuloma Teleangiectodes Europeum, a Protozoal Disease.
8. Otto Baer: Acute Appendicitis with Ileus.
9. Dufaux: Diagnosis of Chronic Gonorrhea of the Female External Genitals.
10. Ernst Peters: Technique of the Therapeutics of Seasickness.
11. Arthur Grünspan: Sexual Diseases in Brunswick.
12. Herzfeld: Railroad Hygiene in 1911.

February 8, 1912.

13. Ch. Bäumler: Diagnosis and Treatment of Cirrhosis of the Liver. (*Concluded.*)
14. G. Anton: Indications for and Results from Operations for Brain Pressure.
15. E. Payr: Interferences in Brain Pressure.
16. E. D. Schumacher: Operative Treatment of Pleura and Lungs in Injuries and Technique of Differential Pressure.
17. A. Theilhaber: Relation of Chronic Inflammation, Scar, Trauma, and the Generative Processes in the Formation of Tumors.
18. Julius Müller: Influence of Therapeutics upon the Wassermann Reaction in Late Syphilis.
19. Hermann Mayer: Influence of Caustic Soda upon the Wassermann Reaction.
20. W. Stoeltzner: Fibrolysin in Shrinking of the Lungs.
21. W. Alexander: Treatment with Alcohol Injections of Neuralgias of the Second and Third Branch of the Fifth Nerve.
22. Victor Lange: Periodical Parotiditis.
23. Fr. Rolly: Etiology, Nature, and Importance of Fever.
24. Fritz Ditthorn and Waldemar Loewenthal: Safe Basin for Disinfection in Insane Asylums.
25. E. Rodenwaldt: Aboriginal Midwives in Anecho, Togo, Western Africa.
26. F. Wesener: The "Practical Year" of the Students of Medicine.
27. Theobald Smith: Parasitism and Diseases.

1 and 13. Diagnosis and Treatment of Cirrhosis of the Liver.—Bäumler observes that cirrhosis of the liver, the final condition of dangerous changes in the liver cells, is produced not only through chronic use of poisonous substances, mostly alcohol, through acute or chronic infectious diseases, or through chronic stases of the gallbladder or of the general circulation, but also through diseases which secondarily attack the liver and the portal vein, such as peritonitis and tuberculous infection. To correctly treat this condition, it is therefore necessary to gain a proper knowledge of the cause of the disease; but whatever the cause and whatever the treatment, dietetic and regulations of the activity of the intestines are very necessary. Ascites is to be treated properly by puncture and, if necessary, by Talma's operation, which must not be performed in the last stage of the disease. Furthermore, stasis of the gallbladder and the presence of gallstones have to be attended to by operation.

2. Injecting a Large Amount of Foreign Sera into Supersensitive Persons.—Friedberger and Mita have made experiments on supersensitive guineapigs with blood sera of other animals. They have found that if these injections were made slowly the circulation would assimilate doses which, if not slowly given, would result in death. The authors, therefore, advise slow intravenous injections of all sera given for therapeutical reasons.

6. Ischemic Paralysis from Compression of the Arteries of the Extremities.—Ayoagi concludes from his observations that the ends of the motor and sensory nerves are more affected than others, and that the changes in the nerves are more pronounced than in the muscles. In the skin, the cells of Malpighi are first affected.

10. Technique of the Therapeutics of Seasickness.—Peters speaks of the prophylaxis of seasickness, which consists, first of all, in the building of a ship large enough to prevent rolling. Next he mentions obviating a collection of gas below the diaphragm, and control of the action of the intestines. For this he advises a tight abdominal bandage. Of drugs he mentions valerian combinations and veronal, but warns against bromide preparations and the nostrums so widely advertised. As to dietetics, he commends a sherry flip, that is, yolks of two eggs with two teaspoonfuls of sherry, ice cold, very well shaken, to be taken in small portions during half an hour. He prefers it to ice cold champagne. Oatmeal, very thin and strongly salted, is also good and the drugs should be given in this oatmeal. Small pieces of ice, taken slowly, and a mustard plaster on the stomach, have also proved successful.

17. Formation of Tumors.—A. Theilhaber is of the opinion that an atrophy of the tissue in which the carcinoma is later formed, will nearly always precede such a tumor. The atrophy is very often produced through old scars, atrophic processes following chronic inflammation, destruction of soft tissue through trauma, injuries during labor, atrophy of the mesodermal tissue, as a consequence of climatic changes, or senilism. In women who have not given birth to children, the mammæ and the uterus are less developed and do not possess a full supply of bloodvessels; thus these parts of the body are more easily attacked by carcinoma. The good results which thirty years ago followed partial operations induced the surgeons to too radical operations, which then were followed by very large scar formation, and these scar formations again might have caused a recurrence of the cancer, as large scars are a better field for cancer than small ones.

19. The Influence of Caustic Soda upon the Wassermann Reaction.—Mayer remarks that caustic soda has no influence upon the Wassermann reaction and that we may still continue to disinfect a syringe with boiling water containing soda; it has no hemolytic influence, but, on the contrary, effects in larger amounts a very intensive check upon hemolysis.

27. Parasitism and Diseases.—This is the first address delivered by the "exchange professor," from Harvard to Berlin, in which Smith speaks of the important rôle parasites play in the etiology of disease. One of the leading questions of medicine to be studied at present is, therefore, the researches into the biology of parasites, not only in civilized countries, but also among primitive people; parasitology and hygiene will have to go hand in hand.

WIENER KLINISCHE WOCHENSCHRIFT.

February 15, 1912.

1. Erich Sluka: Tuberculosis of the Helium Pulmonum of the Child in Röntgen Pictures.
2. Franz Hamburger: Lordotic Albuminuria.
3. Max Herz: Importance of Sex upon the Formation and Origin of Diseases of the Heart.
4. Anton Krokiewicz: Carcinoma.
5. Emil Wiener: Studies of Quarantine.
6. Ernst Mayerhofer: Polyclinical Observations on the Propaganda for Inducing Mothers to Nurse Their Own Babies.
7. Heinrich Kahane: Psychagogic Treatments.

February 22, 1912.

8. J. P. Karplus: A Cranial Stopple for Operations on the Base of the Brain.
9. Saverio Verson: Total Gastrectomy.
10. K. Barrenscheen: Acute Leuchemia.
11. K. Barrenscheen: Lymphatic Granulomatosis.
12. Fritz Hutter: Tuberculosis of the Larynx, Tuberculin, and Local Treatment.
13. J. J. Cecikas: Morbus Bamberger Acutus.

3. The Importance of Sex upon the Formation and Origin of Diseases of the Heart.—Herz speaks of the rôle which sex plays in the heredity of diseases of the heart. Of neurosis of the heart phrenocardia is very often found in mothers and daughters, but, it seems, that the disease as such is not hereditary, but transfers to the next generation certain abnormally sexual predispositions, such as a decrease of sexual excitability. Diseases of the walls of the heart, of rheumatic etiology, are not so often transferred from father to son, as from a mother to her children. Arteriosclerosis is found hereditary in either the male or female branch of the second generation. The author then mentions the subjective observations of the patients themselves and states that the description will vary between the male and the female patients. In the female we thus find a certain difficulty in breathing which he calls *Seufzerkrampf* (sighing cramp), while in the male we meet nearly exclusively the vasomotor angina pectoris.

8. A Cranial Stopple for Operations on the Base of the Brain.—Karplus has made experiments on cadavers and has found that a gutta percha filling will make a very good stopple in operations upon the skull. The edge of the opening is to be made as dry as possible with the galvanocautery. The heated piece of gutta percha is then introduced and adapted to the edges by the galvanocautery. The author remarks that he is not a surgeon himself, but his anatomical and physiological experiments have shown him the possibilities of such stopples.

9. Total Gastrectomy.—Verson has performed total extirpation of the stomach of a dog. He made a large cut through the eighth intracostal space of the left side and a wide incision into the phrenic centre and into the muscle of the diaphragm up to the cardia. Through this wide opening it then was easy to isolate the stomach with the pylorus and cardia and extirpate the organ. The next step was a union through suture without Murphy button of the duodenum with the esophagus, a closure of the diaphragm with adhesion to the esophagus, and the restoration of the diaphragm to the abdominal cavity. The dog which underwent this operation is reported as being well thirty-two days after operation.

12. Tuberculosis of the Larynx, Tuberculin, and Local Treatment.—Hutter reviews the literature of local treatment of a tuberculous larynx with tuberculin, and finds that the reports are very incongruous. He shows that early cases of phthisis of the larynx will yield to the tuberculin treatment.

ZENTRALBLATT FÜR GYNÄKOLOGIE.

February 17, 1912.

1. E. Sachs: Proposals for Further Investigations of Septic Abortions.
2. G. Schubert: Two More Cases of Formation of an Artificial Vagina in Total Defect of that Organ.
3. W. Liepmann: The "New Point of View" in Abortion.
4. Rühl: Prophylactic Detaching of the Bladder in Pubiotomy.

February 24, 1912.

5. Lichtenstein: Senile Atresia of the Os Uteri and Conservative Treatment of Gynatresia.
6. J. Thies: Treatment of Placenta Prævia.
7. O. Schöner: Practical Predestination of Sex in Man.
8. A. Mackenrodt: Needle with Catch for Thread for Ligations and for Suture of a Bleeding Point.

2. Artificial Vagina.—Schubert reports two more cases in which he was successful in forming an artificial vagina in absolute absence of that organ. He describes his operation, which consists in extirpation of the hymen in its entirety and implantation of the rectum. He does not resect the coccyx. The information received from the patients showed that the artificial vaginæ served their purpose entirely, were nowhere painful, and the introitus were wide enough. The intestines also functioned perfectly. The first case was in a patient eighteen and a half years of age, who after operation became a happy bride. The second case was in a woman, thirty-eight years of age, married six years. The description of the operation is rather sketchy.

7. Practical Predestination of Sex in Man.—Schöner defends the theories which he published in his book on *Practical Predestination of Sex in Man.* He bases his theory especially upon the preformation of the sex and upon the alternation of the ovaries; to these two cardinal points he adds a third, which he calls the "numerical" one.

AMERICAN JOURNAL OF INSANITY.

January, 1912

1. Earl D. Bond and E. Stanley Abbott: Personal Characteristics in Dementia Præcox and Manic Depressive Psychosis.
2. Bernard Glueck: Study of Psychogenesis in the Psychoses.
3. Francis M. Barnes, Jr.: Chemistry of Nervous and Mental Diseases.
4. W. W. Richardson: The "Imprisonment Psychosis."
5. Henry C. Eyman and John D. O'Brien: Certain Serum Reactions in the Blood Serum of General Paralytics, and Its Familial Aspects.
6. C. Macfie Campbell: Problems Presented by Cases of General Paralysis with Focal Symptoms.

1. Personal Characteristics in Dementia Præcox and Manic Depressive Psychosis.—Bond and Abbott have tabulated the various "traits" and "personalities" of fifty cases of this dementia, and the same number of manic depressives manifested before the development of the psychoses. The most important conclusions were: Certain abnormal traits —reticence, peculiarity, precosity—are found in much larger proportions in the dementia præcox cases (27 to 4). Abnormal personalities are much more frequent in dementia than in manic depressive psychosis. The "shut in" personality or the tendency to it is found almost exclusively in dementia (10 to 2).

2. A Contribution to the Study of Psychogenesis in the Psychoses.—Glueck considers the subject of psychogenesis and believes the following points to be established: There exist functional psychoses which do not belong to either the manic or præcox groups, and which develop in consequence of some strong emotional experience. The development of a psychogenic disorder does not necessarily presuppose degeneracy. The symptomatology may simulate any of the known psychoses and is fashioned to a marked extent by occurrences in the

immediate environment. The psychogenic disorders may be very important from the medicolegal standpoint, as most of the psychoses of criminals are of this character. The prognosis is good, as removal of the patient from the environment which provoked the mental disorder usually serves to put a stop to the process.

4. The "Imprisonment Psychosis."—Richardson contributes the case histories of several patients who come under the rather vague classification of "imprisonment psychosis," and concludes that the symptom complex cannot be regarded as a disease entity; that it develops most often in the adolescent or young criminal; while it may complicate other psychoses, it very often occurs simply on a markedly defective basis; it is not infrequently associated with evidences of an attempt at simulation; while related to hysteria in nature, it can hardly be regarded as a hysterical psychosis, though of psychogenic origin; great apprehensiveness with partial stupor, hallucinations of sight and hearing, and often mutism, are frequently the most prominent symptoms, and their rapid disappearance upon transfer to a hospital for the insane is usual and striking.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

February, 1912.

1. Joseph Sailer: Cæcum Mobile.
2. J. Ramsay Hunt: Lumbar Type of Intermittent Claudication.
3. John Phillips: Acute Yellow Atrophy of the Liver in Children.
4. John Ruhräh: Treatment of Nocturnal Enuresis in Children.
5. J. H. Austin: Some Applications of the Crehore Micrograph, with Especial Reference to the Recording of Heart Sounds.
6. Edward M. Foote: Sarcoma of the Tongue and Conditions which Simulate It.
7. George M. Niles: Influence of Oral Sepsis on Digestive Disorders.
8. Roy C. Heflebower: Prognostic Value of Urochromogen and Diazo Reactions in Pulmonary Tuberculosis.
9. Max Einhorn: Agar as a Vehicle in Intestinal Therapeutics.
10. Henry Albert and A. M. Mendenhall: Reactions Induced by Antityphoid Vaccination.
11. James Hendric Lloyd and Levi J. Hammond: Brain Tumor Successfully Located by Means of X Rays.
12. James W. Hunter, Jr.: Röntgen Rays in Hypertrophied Prostate.
13. Frank H. Lahey and Samuel R. Haythorn: Cancer of the Ovary in a Girl Aged Eleven Years.
14. Edward O. Otis: Physical Exercise and Blood Pressure.

1. Cæcum Mobile.—Sailer explains this condition as an abnormal motility of the cecum and lower portion of the ascending colon. While it may be an anatomical anomaly it more often results from a movement of the cecum which produces a kink, causing a partial or temporary obstruction that later gives rise to more or less atony and dilatation of the cecum with associated clinical symptoms. Sailer's opinion is that the essential lesion in these cases is the atony due to the partial and occasional obstruction. With Fischler he would prefer typhlatonia to cæcum mobile, the term now used. A palpable, movable cecum, which retains bismuth for too long a period (as shown by the x ray), should not be regarded as a full and final explanation for the obscure abdominal symptoms unless all other conditions are excluded. From the study of his own cases (five reported) the author is inclined to the opinion that the displacements of other portions of the colon, the coexistence of a catarrhal colitis or an associated chronic appendicitis demand notice in mapping out a line of treatment. The fact that in some cases the removal of the appendix, even if it shows signs of inflammation, is not followed by the relief of the symptoms seems to demonstrate that many cases of cæcum mobile are wrongly diagnosticated as chronic appendicitis. In three of the author's cases this very thing has happened. In regard to the treatment of this affection, Albu employs regulation of the diet, laxatives, massage of the abdomen, and prolonged rest. Fischler uses a somewhat restricted and carefully selected diet, massage, exercise to strengthen the abdominal muscles, and the exhibition of bismuth, combined, if necessary, with magnesia and rhubarb, or if diarrhea is present, bismuth salicylate may be used. The avoidance of purgatives and oil and other enemas is strongly advised.

2. Lumbar Type of Intermittent Claudication.—Hunt says that this peculiar and characteristic vascular disturbance which results in a condition of intermittent limping or lameness, weakness, painful cramps, and paresthesia developing in the extremity while walking or after long continued standing, disappearing after a brief resting period (*paralysie douloureuse intermittente*), was described by Charcot in 1858. Many types of claudication are recognized, which differ in special symptoms according to the special artery or arteries involved. Hunt reports an interesting case of the lumbar type. The patient complained of pain in the lower part of the back, which came on only while walking. During his walks to and from business, a pain would come in the lumbar region and he would have to stand still a few minutes until it wore off. While sitting, lying in bed, or on rising in the morning, there was not a trace of pain or stiffness in the back. This case is interesting in that some of the painful backs occurring in and after middle life, and regarded usually as rheumatic, may have similar origin.

5. Some Applications of the Crehore Micrograph, with Especial Reference to the Recording of Heart Sounds.—Austin makes a preliminary report of a few methods of using the Crehore micrograph in the study of the physiology of the cardiovascular system in man and animals. To the original apparatus as devised by Crehore (*Journal of Experimental Medicine*, xiii, 616; ibid., xiv, 339 to 365, and 520, 1911), Austin has made the following modifications and additions: 1. A time marker; 2, an electromagnetic signal; 3, a modification to permit the taking of more than two simultaneous pulse tracings; 4, an apparatus for taking tracings from the exposed mammalian heart; 5, an adaptation of the micrograph to the recording of heart sounds. The result of his studies will be presented later.

8. The Prognostic Value of Urochromogen and Diazo Reactions in Pulmonary Tuberculosis.—Heflebower reports the results of these tests in thirty-nine cases of tuberculosis of the lungs. In this series of cases there were positive diazo reactions in 29.1 per cent. of the cases, while 66.6 per cent. gave positive urochromogen reactions. The author's results so far are as follows: 1. The severity of the condition is indicated by the frequency and constancy of the diazo and urochromogen reactions in the urines of cases of pulmonary tuberculosis; a patient who is doing well giving a constant negative result, while the contrary indicates a progressively downward case. 2. The diazo reaction occurs less frequently and is less constant than the urochromogen test. It is therefore a less valuable index to the patient's condition than the urochromo-

gen reaction. 3. As an index to the severity of the condition, especially as a means of differentiating prognoses in cases which give constant reactions, the intensity of both the urochromogen and diazo reactions is important.

10. Reactions Induced by Antityphoid Vaccination.—Albert and Mendenhall, as a result of their own experiments and a study of the literature of this subject, draw the following conclusions: 1. Statistics show that a marked degree of protection against typhoid fever is afforded by the use of antityphoid vaccine. 2. A local reaction in all cases, and a general reaction in some, follows the use of typhoid vaccines. 3. A previous attack of typhoid fever intensifies the reaction. 4. A marked increase in the specific agglutins, opsonins, and bacteriolysins follows the use of typhoid vaccine. 5. A marked polymorphonuclear neutrophile and a large uninuclear leucocytosis increase follows the use of typhoid vaccine. 6. The only leucocytic change which is common to both clinical typhoid fever and antityphoid vaccination is the marked increase (both absolute and relative) of the large uninuclear leucocytes in the peripheral blood. 7. That these leucocytes are concerned in the production of antibodies active in the production of antityphoid immunity is suggested by these occurrences. 8. Experiments on the artificial production of large uninuclear leucocytosis should be made to see what relation such may have to the production of antibodies in the presence of typhoid infection or antityphoid vaccination.

12. Röntgen Rays in Hypertrophied Prostate.—Hunter sees in the treatment of hypertrophied prostate by this method a similarity to that used in exophthalmic goitre. The histological structure of the gland is the determining feature. If the growth is young, a hyperplasia resulting from an increase of epithelial and glandular tissue, brilliant results may be expected. Where there is much increase of muscular or fibrous tissue relief can be expected only by the greater contraction of this tissue. In these cases massage as an adjuvant is indicated. In the third degree little benefit can be looked for. There will be no improvement in symptoms, except relief of the localized congestion. The Röntgen rays will not affect muscle tissue or old fibrous tissue. The author suggests a trial of this method, as there is no mortality. Improvement, if any, will be rapid. If, in a reasonable time, no improvement is noticed, other treatment must be given.

13. Cancer of the Ovary in a Girl, Aged Eleven Years.—Lahey and Haythorn report this case, with operation and autopsy. The symptoms in the case were misleading, a tuberculous peritonitis being suspected. The authors conclude that accurate diagnosis of malignant tumors of the ovary in young girls is rarely possible. An exploratory laparotomy should be made whenever fluid is found in the abdomen of children without general anasarca, provided adhesive pericarditis and cirrhosis of the liver be excluded. The removal of ovarian tumors in young girls should not be delayed. Metastatic nodules in the fossa of Douglass or elsewhere, if they can be definitely made out, is a contraindication to operation.

14. Physical Exercise and Blood Pressure.—Otis has made a series of examinations (126) to obtain some definite knowledge of the effect of exercise on the blood pressure and to secure data that would guide him as to the amount and severity of work best suited to each person. To this end, he took the systolic blood pressure at three periods, namely, just before exercise, immediately after, and then a little later, after a short rest or the usual bath. After prolonged and severe exertion there is a diminution of blood pressure at the conclusion of the effort. When the exercise is vigorous, fatiguing, and exhaustive there is a fall of pressure which lasts longer than after moderate exercise, even if the former lasts over a short period and the latter over a long one, the return to normal pressure after the subnormal phase is slower the more exhaustive the exercise. After a short period of mild or moderately severe exercise, as in class work, the blood pressure immediately at the end of the exercise shows, in most cases, a rise, quickly followed by a fall to or near normal or to subnormal. The practical application of his studies in this subject is that if immediately after exercise the blood pressure is subnormal and remains so for some time, even if the exercise is moderate and not long continued, we may consider the exertion too strenuous or too prolonged for the individual or for his condition at the time of taking the exercise.

ARCHIVES OF DIAGNOSIS.

January, 1912.

1. John B. Deaver: Acute and Chronic Pancreatitis.
2. Henry Sewall: Bimanual Palpatory Percussion, Apparently a New Method in Physical Examination.
3. Francis M. Pottenger: Significance of Lagging of the Chest Wall as a Sign of Endothoracic Disease.
4. Alexander C. Wiener: Nonmalignant Tumors of the Colon.
5. Charles Greene Cumston: Differential Diagnosis of Hereditary Syphilis and Tuberculosis of the Bones and Joints.
6. Hermann Fischer: Diverticulum of the Esophagus with Development of Secondary Carcinoma in the Sac. Pathology, Diagnosis, and Treatment of Diverticula of the Esophagus.
7. Charles D. Aaron: Gastrogenic Diarrhea.
8. Louis C. Ager: Diagnosis of Thoracic Gland Tuberculosis during Childhood.
9. B. G. R. Williams: Widal, Diazo, and Russo Reactions—An Interdependence.
10. Daniel M. Hoyt: Secondary Carcinoma of the Lung. Diagnosis.
11. Harold Hays: Diagnostic Value of Blood Cultures in Relation to Diseases of the Ear.
12. Herman J. Boldt: Two Cases of Perplexing Diagnosis.

1. Pancreatitis.—Deaver, after reviewing the symptomatology of acute pancreatitis, states that, providing the diagnosis be very sure, he is strongly opposed to hasty operative intervention in this condition. The general state of the patient is not such as to encourage operation in the early stages, and statistics of recoveries under medical and surgical treatment have been misleading. The treatment recommended by Deaver includes the Fowler position (unless collapse contraindicates), a light ice bag over the epigastric and hypochondriac regions, gastric lavage for vomiting, proctoclysis to replace lost fluids, and morphine sparingly. Those patients whose lesion is not sufficient to prove immediately fatal will react and the symptoms and signs will make toward localization in the pancreatic region. At this point—at any time from the second day on—operation should be undertaken without delay. The author recommends the left loin incision when there is strong probability of an exudate in the lesser sac; in case of doubt, an anterior exploratory incision should be made, drainage instituted, if necessary, or, if the inflammatory mass appears capable of attack posteriorly, the anterior incision closed, and drainage instituted through the loin. In dis-

cussing chronic pancreatitis, Deaver deals particularly with the third form—in addition to the interlobular and interacinar varieties—recently described under the name of "pancreatic lymphangitis." This is dependent upon the close connection between the lymphatics of the gallbladder and the head of the pancreas, which explains the frequency of swelling of the latter in association with gallbladder disease and the ease with which the pancreatic disturbance yields upon drainage of the gallbladder in these cases. The relationship of pancreatic lymphangitis to the interlobular or interacinar varieties of pancreatitis has not as yet been clearly established. In the treatment of the former, drainage of the gallbladder usually suffices. If the bileducts are diseased, the common duct should be drained as well. In more marked pancreatitis, particularly when the common duct is compressed, a cholecystoduodenostomy should be done if possible, together with, in some cases, drainage of the common duct; the latter step is the more important. The end results of chronic pancreatitis being comparable to those of interstitial nephritis and other like conditions, the operation should be performed early. Deaver takes occasion to emphasize the fact that, contrary to the usual statement, benign pancreatic tumors are movable. Although the organ is retroperitoneal, it is invested by loose areolar tissue which permits considerable motion. The nonrecognition of this has often led to errors in diagnosis.

2. **Bimanual Palpatory Percussion.**—Sewall lays the finger tips of the left hand over the organ being percussed and, using the middle finger of the right hand as a plessor, gently taps the skin surface along lines radiating from the area covered by the fingers of the left hand. As soon as the percussing finger, proceeding from without inward, crosses the border of an adjacent or overlying organ, a sudden increase of vibration is felt in the palpating fingers of the left hand. This is owing to the fact that the vibration, though radiating with a definite intensity throughout a homogeneous viscus, is suddenly checked at the borders of the organ and is transmitted only feebly to adjoining structures. The method is especially useful, according to the author, in distinguishing two contiguous organs which give the same note to ordinary percussion, as, e. g., the left lobe of an enlarged liver and the spleen. The lower border of the stomach can also usually be readily outlined. The borders of an empyema surrounded by a solid lung are appreciable without difficulty, and the nearly homogeneous cardiovascular dulness of advanced heart disease can be differentiated into areas subtending the heart and vessels, respectively. The results obtained by the method are identical with those of auscultatory percussion. The latter method, however, involves a break in the routine of physical examination, while the former is a natural modification of ordinary mediate percussion.

3. **Lagging of the Chest Wall.**—Pottenger states that lagging is not confined to the apex of the lung, as has been so strongly emphasized, but shows itself over the entire side of the chest. This suggests that the most important factor in its production is diminished motion of the diaphragm, and that it is an expression of an attempt to put the involved lung at rest. Lagging of the entire side, the author finds, is present as a sign of slight as well as extensive involvement of pulmonary tissue. It is present in some cases of chronic pulmonary inflammations where the active inflammation has subsided. If there is a widespread chronic or quiescent involvement of one lung and a slight active lesion in the other, very often the lagging is greater on the side of the more recent lesion, even though it is only a fraction of the other in extent. Inflammations of the pleura, especially if acute and at the base of the lung, also produce this sign. Lagging of the entire side is often best detected by placing the hands on the sides of the chest low down in the axillæ and watching the excursions of the hands, rather than depending upon inspection alone.

8. **Diagnosis of Thoracic Gland Tuberculosis in Childhood.**—Ager states that probably a large majority of all tuberculous infections occurs during infancy and childhood, and that in practically all cases of pulmonary infection in early years there has existed a prepulmonary stage of infection of the thoracic glands. It is, therefore, of the utmost importance to recognize this prepulmonary stage, if possible. Ager believes that the real value of the tuberculin tests in this connection has been overlooked. The von Pirquet test will be of great value as soon as it is widely applied for a proper purpose, viz., to determine when the individual passes from a positive to a negative phase. Although the physical signs produced by enlargement of the endothoracic glands vary greatly in different individuals, and are even at times found in apparently normal children, their presence in association with chronic malnutrition not only justifies, but renders obligatory, in Ager's opinion, a tentative diagnosis of tuberculous infection.

9. **Widal, Diazo, and Russo Reactions.**—Williams points out the marked advantage of using all three of these tests in the diagnosis and prognosis of typhoid fever. To obtain the most information from the tests he advises that they be carried out at least every five days during the fever, the results of each test being checked up with those preceding it. The recent endeavors to bring the methylene blue (Russo) reaction to the front have placed the laboratory diagnosis of enteric fever on a much firmer basis than formerly.

10. **Secondary Carcinoma of the Lung.**—Hoyt reports a case of lung carcinoma secondary to cancer of the breast, and lays stress on the atypical character of the signs as a feature assisting in the differentiation of this condition from pulmonary tuberculosis. In his case the absence of emaciation, the great dyspnea and cyanosis were particularly marked. The most suggestive feature was the peculiar resistance felt during percussion, but this, of course, could be of no value for the early recognition of cancerous lung involvement.

11. **Blood Cultures in Otology.**—Hays presents cases to prove the fact that the taking of blood cultures is a necessary part of pathological routine in ear work. Negative blood cultures are of value in making one look for other causes than sinus thrombosis when there is a complicating temperature after mastoid operations, while positive blood cultures confirm the clinical findings in cases of suspected sinus thrombosis. The blood count is of

little significance in comparison to cultures in such cases.

ARCHIVES OF PEDIATRICS.

February, 1912.

1. Alfred Hand, Jr.: Intestinal Antiseptics in Childhood.
2. H. R. M. Landis and Isadore Kaufman: Occurrence of Venous Hums in Children.
3. John A. Kolmer: Diphtheroid Bacilli of the Penis.
4. John F. Sinclair and Henry K. Pancoast: Acute Epiphysitis in an Infant.
5. Clifford B. Farr: Comparative Caloric Value of Various Foods.
6. Frederick Fraley: Method of Calculating the Value of Percentage Mixtures.
7. Ira S. Wile: Programme for Sex Instruction.

2. Occurrence of Venous Hums in Children.—Landis and Kaufman review the various theories advanced for the cause of the hums; anemia, putting the veins upon a stretch, upright position of the patient, its association with tuberculosis. Their observations are based on a study of ninety-nine children under fifteen years of age and twenty-six adults. Eighty-one of the children were non-tuberculous. Hemoglobin estimates were made in fourteen only, the hemoglobin ranging from ninety to sixty per cent. The hum was associated with other murmurs in four instances. In regard to the question of altering the position of the head, it is noted that in those with anemia the murmur was heard with the head held straight in thirteen instances and in twenty-six everting the head brought out the murmur. In the nonanemic children the murmur occurred in thirteen instances with the head held straight, while in thirty-two turning the head produced a murmur. Changing the position of the child from an upright to a recumbent posture caused the murmur to disappear in sixty-eight (eighty-one per cent.) instances, and in sixteen (nineteen per cent.) the murmur persisted, but usually much diminished in intensity. The presence of anemia seemed to have some influence in the persistence of the murmur when the recumbent posture was assumed, since the murmur disappeared in 93.3 per cent. in the nonanemic children, while in the anemic it disappeared in only 66.7 per cent. They were unable to establish any relationship between tuberculosis and the murmur. In conclusion, they state that so far as their observations go the venous hum is present in the majority of children under fifteen years of age, tending to diminish in frequency as that age is reached, and finally disappearing. The only relationship they could establish between the murmurs and anemia was that it had less tendency to disappear in the recumbent posture when anemia was present.

5. Calculating Caloric Values of Percentage Mixtures.—Farr has devised a very simple mathematical formula for calculating caloric values:

$$(2\ F + P + S) \times 1\tfrac{1}{4}\ Q = C.$$

F represents the percentage of fat in a given mixture; P represents the percentage of protein; S represents the percentage of carbohydrate; Q represents the total quantity of this mixture that is taken; C represents the number of calories in the given quantity of such a mixture.

CLEVELAND MEDICAL JOURNAL.

February, 1912.

1. R. E. Skeel: Five Hundred Unselected Laparotomies.
2. R. W. Pratt: Purification of Water by Filtration.
3. R. G. Perkins: Water Filtration.
4. J. Phillips: Case of Phlebitis Migrans.
5. B. A. Gage: Privileged Communications between Physician and Patient.

5. Privileged Communications.—Gage throws considerable light upon the exact limitations of this phase of the relations between the physician and his patient. The belief that any and all knowledge acquired by the physician from the patient while in medical attendance is carefully placed within the realm of absolute and unqualified secrecy is quite erroneous, though this is the view held by many medical men. The privileged communications may be broadly defined as those statements made by the patient to the physician, and the information acquired by the physician from the patient while the relationship between them existed, which, while relevant to matters in dispute, are rejected by the courts or made inadmissible by statute upon the ground of public policy. It is manifest that the complete and free disclosure of any fact, pleasant or otherwise, past or present, objective or subjective, which may in the judgment of the physician have any bearing upon the case in hand, is a prerequisite to accurate diagnosis and successful treatment. The public health, depending as it does upon the health of the individual, and being of vital importance to the State, to insure the best preservation of it, it is obvious that some protection must be thrown about the patient to facilitate these necessarily free disclosures. That the statutes of protection may apply, it is generally requisite that the person consulted must be a duly admitted or authorized physician or surgeon under the laws of the State, and that the information must have been acquired in his professional capacity and must have been reasonably necessary for intelligent treatment or advice. In the case of the physician sent to ascertain the health or condition of a person, under circumstances which do not lead the person to believe that he is to be treated by such physician in his own interest, the rule does not apply. These rules of protection apply, not only to the physician in charge, but are extended to those attending or consulting with him. The privilege thus accorded by law is personal with the patient and does not terminate with the cessation of the relation. The patient may waive this privilege for the purpose of protecting his rights, and the same waiver may be made by those who represent him after death, for the purpose of protecting rights acquired by him. Occasions arise in the practice of every physician which call for the choice between the silence demanded by strict professional ethics and disclosure seemingly demanded by the public interest and the welfare of society. The problem may be solved by the consideration of the greatest good to the greatest number, and hence the physician's duty may be fixed at disclosure, but he is confronted by the practical suggestion and the hard fact, that if a physician acquires a reputation for divulging supposedly confidential communications his practice will soon be reduced to the minimum.

JOURNAL OF MEDICAL RESEARCH

February, 1912.

1. F. G. Benedict and J. Homans: Metabolism of Hypophysectomized Dog.
2. H. Ostertag: Relative Local Influence of Circulation, Inflammation and Cancer of the Lung.

1. The Metabolism of the Hypophysectomized Dog.—Benedict and Homans summarize the results of extensive experiments as to the general ef-

fects of hypophysectomy as follows: 1. A tendency to retard the normal growth of the animal. 2. A tendency to lower slightly the body temperature, with ultimately a very marked drop immediately prior to death. 3. A marked and permanent fall in the pulse rate, occurring a few days after the operation. 4. A fall in the respiration rate, approximately parallel and similar to that of the pulse rate. 5. A marked fall after operation of the total metabolism, as measured by the carbon dioxide production. 6. The growth of young animals is checked and their infantile characteristics are preserved. The sexual activity, if not already developed, never develops. If nearly or quite established it is profoundly affected. The tendency to the deposition of an excessive amount of body fat is sometimes accompanied by thickening of the skin and falling out of the hair analogous to changes noticed after thyroidectomy.

2. **Tuberculous Inflammation and Cancer in the Lung.**—Oertel gives a résumé of the literature concerning the subject, and comes to the conclusion that the combination of tuberculous inflammation and cancer may exist in three forms: 1. The cancer may dominate, infiltrate the tuberculous granulation tissue, and prevent a successful invasion of the tuberculous infection; 2, the tuberculous inflammation may overgrow and destroy the cancer; 3, there exists a close association of the two diseases—"symbiosis"—without any appreciable influence of one upon the other. Finally, all observations, excepting one, agree that caseation puts a stop to all cancerous invasion, due, no doubt, as Borst and others have pointed out, to unfavorable nutritive conditions.

JOURNAL OF NERVOUS AND MENTAL DISEASE.

February, 1912.

1. Charles K. Mills: New Symptom Complex Due to a Lesion of the Cerebellum and Cerebellorubrothalamic System, etc.
2. Herman H. Hoppe: Leontiasis Ossea—Acromegaly and Sexual Infantilism.
3. William G. Spiller and Carl D. Camp: Sensory Tract in Relation to the Inner Capsule.
4. Herman H. Hoppe: Tumor of Corpora Quadrigemina.

1. **New Symptom Complex Due to a Lesion of the Cerebellum and Cerebellorubrothalamic System.**—Mills reports a case of thrombosis of the left superior cerebellar artery with destructive lesion involving the left dentate nucleus and the cerebellum above this nucleus, including the superior cerebellar peduncle. Degeneration was also evident in the right red nucleus. The microscopical examination had not been completed. The symptom complex, which had not previously been described, consisted of ataxia of the upper and lower extremities of the left side, deafness, paralysis of emotional expression in the face, and loss of the sensations of pain and temperature over the entire half of the body on the right side.

2. **Leontiasis Ossea; Acromegaly and Sexual Infantilism.**—Hoppe calls attention to the rarity of recently reported cases of leontiasis ossea in view of the increasing knowledge of acromegaly. He justifies his report of two cases upon the limitation in them of the hypertrophy to the bones of the face and cranium. In one case a tumor was found in the hypophysis, and in the other paradoxical symptoms of both hyperpituitarism and hypopituitarism although the hypophysis was normal. Various interpretations of pluriglandular symptoms are discussed.

3. **Sensory Tract in Relation to the Inner Capsule.**—Spiller and Camp, in reviewing the statements of different authors regarding the positions of the sensory and motor tracts in the corona radiata and internal capsule, show that much difference of opinion exists on this subject. The weight of opinion is in favor of the termination of the sensory fillet in the ventral portion of the lateral nucleus of thalamus, but there is less agreement as to the thalamocortical tract. Probst thinks that the fibres of this tract pass from the thalamus through a portion of the posterior limb of the capsule and ascend along the inner side of the lenticular nucleus, some of the fibres probably passing through it, and on to the cortex for the most part posterior to the motor fibres in the corona radiata. Spiller and Camp's case seems to confirm this view. It showed extensive and permanent hemianesthesia, and necropsy revealed a destructive lesion involving the posterior part of the lenticular nucleus and adjoining fibres of the capsule, but not the thalamus.

4. **Tumor of Corpora Quadrigemina.**—Hoppe reports a case of glioma of the corpora quadrigemina, extending to the aqueduct of Sylvius. The chief symptoms noted were oculomotor palsies, ataxia with retropulsion, and optic atrophy. Motion, sensation, hearing, and reflexes were not affected, and vision was lost only in proportion to the optic atrophy.

PENNSYLVANIA MEDICAL JOURNAL.

February, 1912.

1. G. William Norris: Treatment of Cardiac Arrhythmia.
2. G. E. Holtzapple: Mycotic Aneurysm of Aorta.
3. S. J. Repplier: Pernicious Anemia.
4. T. W. Kay: Massive Pericardial Effusion.
5. J. A. Kolmer: Relation of Streptococci to Scarlet Fever; Use of Bacterins.
6. William W. Blair: Preventable Blindness
7. J. N. Rhoads: The Blackboard and Copy Book Evils.
8. T. T. Thomas: Injuries to the Shoulder.
9. L. Litchfield: Tumors of the Pituitary Region.
10. J. Leedom: Scarlet Red.

5. **Scarlet Fever.**—Kolmer quotes the results obtained by the Russian observers who have studied the relation between this disease and the streptococci which are of such frequent occurrence in the throat and other lesions. Gabrickevski drew the following conclusions: 1. The streptococcus is able, in septic conditions, to produce a scarlatinal exanthem. 2. Scarlatinal streptococci can produce a scarlatiniform exanthem and enanthem. 3 and 4. Scarlatinal streptococcic vaccine can produce the punctiform erythema of the disease, and this is further evidence of the specific relation of the streptococcus to the disease. Since the disease is so widespread in Russia his work excited much interest. Of 6,338 cases of inoculation recorded in the Russian literature, scarlet fever developed in sixty-eight in spite of the inoculation. One dose was found to confer some immunity, but three doses at intervals of a week are recommended as conferring an immunity which lasts at least two years. Kolmer has studied the frequence of occurrence of streptococci in the disease as seen here and the effects of bacterins upon the various phases of the process of immunization and the extent to which they confer immunity. He concludes: 1. The development and wide distribution of streptococci in scarlet fever patients is evidently due to a lowering of resistance

to these organisms by the scarlet fever virus. They are responsible for many of the complications. Their relation to the disease is probably largely overestimated. Since it is practically certain that streptococci are not the cause of scarlet fever it is difficult to understand how a vaccine from them can prevent the disease. 2. While the streptococci of scarlet fever cannot be differentiated culturally or morphologically from those from other diseases, yet they have individual properties, as demonstrated by complement fixation tests with their antibodies. 3. The streptococcic opsonic index is raised but slightly by repeated injections of heat killed organisms. 4. He believes that inoculations with heat killed streptococcic bacterins cannot prevent scarlet fever. 5. That such inoculations may prevent a *severe* attack of scarlet fever by producing an immunity against secondary streptococcic infections.

SURGERY, GYNECOLGY, AND OBSTETRICS.

February, 1912.

1. W. J. Mayo: Cancer of the Stomach: Its Surgical Cure.
2. F. L. Adair: Effect of Constriction by Momburg's Tube on Blood Pressure, Pulse Rate, Respiration, and Temperature.
3. R. L. Dickinson: Conservation of Sound Ovaries and Tubes in Hysterectomies near the Menopause, except in Malignant Disease.
4. O. S. Fowler: Early Diagnosis of Intermittent Hydronephrosis, with Demonstration of Ureteral Obstruction.
5. Angus McLean: Elasticity of the Cranium.
6. L. E. Schmidt and H. L. Kretschmer: Diagnostic Value of the Shadowgraph Catheter.
7. W. O. Bullock: Carbuncle of the Upper Lip: with Special Reference to the Prevention of Cavernous Sinus Thrombosis.
8. G. T. Vaughan: Lane Operation for Chronic Constipation.
9. A. R. Shands: Atrophic Arthritis.
10. A. H. Morse: Pubiotomy in Face Presentation.
11. John Douglas: Subphrenic Abscess Complicating Appendicitis.
12. E. S. Judd: Ventral Hernia.

1. Cancer of the Stomach.—Mayo begins by stating that in all the history of disease there is no authenticated case in which a cancer of the stomach has been cured by medical means. Of all diseases this is the one to be treated surgically. The reasons for leaving such a patient to his fate are three: First, the supposed prohibitive mortality of the operation itself; second, the improbability of cure provided the operation is successful; and, third, the difficulty of securing a sufficiently early diagnosis upon which to base an operation. In answer to the first it is stated that in the last 100 cases operated in at St. Mary's Hospital there was a mortality of seven per cent.; in the last fifty cases, four per cent. According to data obtained from operations at this hospital it is seen that the patient with a cancer of the stomach which is sufficiently localized to be removed radically, has better than a ninety per cent. chance to recover from the operation, and better than a thirty-six per cent. chance of a three year cure, and at least a twenty-five per cent. chance of a five year cure. The question of early diagnosis of carcinoma of the stomach is the most difficult part of the problem. The laboratory methods of diagnosis are merely aids to the diagnosis, they are to be taken seriously only in connection with the history and symptoms of the patient. Anatomically the stomach can be divided into two unequal parts by dropping a line downward from the cardiac orifice. The cardiac portion has but few lymphatics, while the smaller or pyloric portion is very largely supplied with lymphatics and is the seat of more than eighty per cent. of all carcinomata of the stomach. This is the part that can be palpated and which can be removed. Cancer of the fundus will seldom give symptoms in time to enable a radical operation to be performed, operability depending largely upon the location of the disease in the stomach. Complete gastrectomy for cancer has not been a very successful operation. The author then gives six different kinds of evidence pointing to a cancer being inoperable. From a study of 216 cases of gastric carcinoma, it was definitely shown that more than half had their origin in chronic gastric ulcer. Cancer of the stomach is the most frequent and the most hopeless form of cancer in the human body, early operation affording the victims the only chance of a cure.

3. Conservation of Sound Ovaries and Tubes in Hysterectomies near the Menopause.—Dickinson comes to the conclusion that among the cases wherein the ovaries, one or both, or a portion of one or both, were conserved, the disturbances of the menopause were avoided in four cases out of every five. The remaining fifth showed nearly or quite as grievous discomforts as if no attempt at saving ovarian tissues had been made. The results are somewhat better where both ovaries remain than where one is left or where resections are done. When disturbances do occur their character is less severe and more gradual than after bilateral removal of the ovaries. The practice of removing ovaries when taking out a uterus at or near the time of the menopause is to be strongly opposed except in cases of malignant disease or of definite ovarian infection.

5. The Elasticity of the Cranium.—McLean gives a brief account of some experiments made to determine the changes in the dimensions of the skull and the lines of fracture resulting from various forms of mechanical injury. He also explains how in injuries to the skull, the cranial contents, even in cases where fracture does not occur, are encroached upon by reason of its elasticity. It is to this elasticity that we owe the great variety of symptoms that so often follow an injury to the head even when no bones are broken.

6. The Diagnostic Value of the Shadowgraph Catheter.—Schmidt and Kretschmer divide the pathological cases into three arbitrary groups, lesions of, 1, the kidney; 2, the ureter, and, 3, pelvic shadows of extrauterine origin. Of these they report sixteen cases in which the diagnosis had been rendered possible by the "shadowgraph catheter."

DUBLIN JOURNAL OF MEDICAL SCIENCE

February, 1912.

1. William A. Winter: Splenomegaly.
2. T. Gillman [illegible] R. Yeldham: Traumatic Pseudocyst.
3. Victor Greer Best: Pyorrhœa Alveolaris.
4. H. S. Millar: Epidemic Cerebrospinal Meningitis

1. Splenomegaly.—Winter reports the case of a man, thirty-five years old, who applied for treatment of digestive disturbances and was found in the course of a routine examination to have a large tumor in the splenic region. He was well nourished, rather pale, but his mucous membranes of a fairly good color. His temperature was normal, his tongue foul, he had no patches of pigmentation on the body, no jaundice, and no enlargement of the superficial glands. His chest and heart showed nothing abnormal and his urine contained neither albumin, sugar, nor bile pigment. His liver did not seem to be enlarged. When first seen the result of the examination of the blood was: Red blood cor-

puscles, 4,750,000 per c.c.; white corpuscles 10,000; hemoglobin 90 per cent. A few years later he reappeared in a state of profound anemia which he said was the result of two hemorrhages. His physical condition was about as before except that the spleen was perhaps a little larger. Examination of the blood gave: Red blood corpuscles 1,800,000 per c.c.; white 2,000; hemoglobin 25 per cent. Polymorphonuclear cells 37 per cent; lymphocytes, 21.2 per cent.; large uninuclear 27.3 per cent.; transitional 13.3 per cent.; eosinophile 2.1 per cent.; one myelocyte in 1,000 corpuscles, no nucleated red corpuscles. A month later: Red blood corpuscles, 4,480,000 per c.c.; white 2,500; hemoglobin 42 per cent.; polymorphonuclear cells 57 per cent.; uninuclear 35 per cent.; transitional 6.5 per cent.; eosinophile 1 per cent., no myelocytes or nucleated red corpuscles. He has since had a slight attack of hematemesis.

PRACTITIONER.

February, 1912.

1. W. Blair Bell: Remarks on the Treatment of Primary Uterine Displacement.
2. Edred M. Corner: Cellulitis of the Hand.
3. P. J. Cammidge: Relation of the Ductless Glands to Glycosuria.
4. Alfred C. Jordan: Peribronchial Phthisis.
5. Harold Upcott: Minor Operation of Gastrostomy.
6. R. Reid Pirrie: Nitroglycerin Poisoning.
7. J. S. Purdy: Cause, Effect, Incidence, and Prevention of the Pneumokoniosis of Quartz Miners.
8. Francis Hernaman-Johnson: Postoperative Treatment of Cancer.
9. Macleod Yearsley: Retrospect of Otology, 1911.
10. Arthur J. Brock: Moral Factor in Physical Disease.
11. Arthur Innes: Hyoscine-Morphine Anesthesia in General Practice.
12. Hubert Higgins: Observations on the Diagnosis and Treatment of Mucous Colitis and Spastic Constipation.
13. C. Hamilton Whiteford: Preoperative Management of the "Acute Abdomen."
14. R. W. Mullock: Septichemia Cured by Vaccine.
15. J. Lewes Timmins: Ionization and Bier's Hyperemia in the Treatment of Rheumatism.

2. Cellulitis of the Hand.—Corner decries the use of antiseptics in the treatment of this condition because, although they do harm to the microorganisms present, they at the same time do harm to the granulations by means of which the body is defending itself against these microorganisms. The first manifestations of the disease are severe pain, redness, lymphangitis, with malaise and pyrexia. In this stage the cellulitis should be treated with a Bier's bandage (obstructing the venous and lymphatic flow, but not affecting the arterial), and the pain relieved with hot saline dressings. If the pain is not relieved Bier's bandage is to be reapplied several times. Should the pain still continue, an incision or incisions should be made into the part, the Bier's bandage reapplied, the hot dressings continued, and the hand placed in a bath of hot saline thrice daily. The incisions may need to be repeated. They should not be delayed, should be large, and be left open. Iron and arsenic are given; a vaccine is prepared and injected, and an antitoxic serum may be given, particularly at first. After the cellulitis has subsided Bier's bandage is continued, together with active movements, electricity, x and other rays, which are useful in causing hyperemia of the deeper tissues so as to remove a greater quantity of the products of inflammation, and the iron and arsenic. Later, massage and passive movements are useful.

4. Peribronchial Phthisis.—Jordan describes this condition and states that the only known method by which the diagnosis can be made early in the disease is by means of the x rays.

6. Nitroglycerin Poisoning.—Pirrie reports a number of cases of poisoning met with among workmen who were accustomed to the daily handling of nitroglycerin, some of which were fatal, all productive of serious symptoms, such as headache, vomiting, jaundice, and optic atrophy. The symptoms are quite varied. It is hard to detect the presence of the poison in the body chemically on account of its volatile character, and, with the exception of the changes in the blood, which can be made out with certainty only with the spectroscope, there are practically no organic changes. The poison may be absorbed through three main channels, the alimentary, respiratory, and the skin. The latter seems to be the most serious in these cases. The effects of the poison do not seem to be cumulative.

11. Hyoscine-Morphine Anesthesia in General Practice.—Innes is of the opinion that we have in this combination a great help in the soothing of the parturient woman, with a minimum of risk to herself and child. But if it so happens that the beneficial effect does not arrive with the first injection, of not over one one hundredth grain of hyoscine hydrobromide and one quarter grain morphine sulphate, we must on no account be tempted to repeat the dose, as it would not be likely to relieve the pain and might be dangerous.

13. Preoperative Management of the "Acute Abdomen."—Whiteford advises, in cases of acute abdominal pain, to give no morphine, except when the pain is agonizing; to give nothing by mouth; to employ at once and maintain the Fowler position. By these means the chances of the patient will be enhanced and the difficulties of the surgeon diminished.

CANADIAN LANCET.

February, 1912.

1. S. M. Hay: Rupture of the Intestine.
2. E. V. Frederick: Short Résumé of Spinal Analgesia.
3. J. Hunter: Appeal to Young Men in Medicine.
4. J. P. Kennedy: Acute Appendicitis.

1. Rupture of the Intestine.—Hay calls attention to the fact that in many acute abdominal conditions early recognition and prompt action means life, and that delay means death. Absolute accuracy of diagnosis is seldom possible. He cites a case where after injury severe pain was present for a short time, but subsided. No abdominal rigidity or superficial tenderness was present. Pain set in again after a short time, which opiates could not control, and the patient gradually went into collapse. Twelve hours after the accident the surgeon was called in, but the patient was moribund. Post mortem examination showed rupture of the small intestine. Rupture of ectopic gestation, pyosalpinx, appendicular abscess, gastric ulcer, duodenal ulcer, or ulcer of gallbladder are probably the only cases in which the typical textbook symptoms, sudden, intense abdominal pain, collapse, and vomiting, occur. Eighteen hours after perforation is the longest time where operation was followed by recovery in Hay's experience.

CANADIAN MEDICAL ASSOCIATION JOURNAL.

February, 1912.

1. David Fraser Harris: Chemical Basis of Life.
2. E. J. Mullally: Luetic Cirrhosis of the Liver.
3. A. W. M. Ellis: Ammonia Coefficient in a Case of Severe Vomiting in Pregnancy.
4. G. Sterling Ryerson: Angioma of the Larynx.
5. Charles H. Higgins: Biological Products.
6. James Third: Chronic Myocarditis.
7. C. F. Covernton: Melena.

1. Chemical Basis of Life.—Harris urges that it would be more accurate to speak of the *chemical*

rather than the physical basis of life, as it was termed by Huxley. From the most general point of view it is obvious that no kind of matter, nonliving, dead, or alive, can possibly exist outside of the realm of the operation of the laws of chemical affinity, but the writer avers that what we know as the various manifestations of vitality are conditioned by, or related to the precise chemical configuration or constitution of this substance—the so called protoplasm. His central proposition is that bioplasm behaves essentially in the same fashion as a chemical substance, that its activity is influenced by agents and agencies in the same manner as is a compound of high chemical instability. The first fact quoted in support of this is that living matter is constantly producing heat, which is as truly chemical as vital. Another is the way in which living matter behaves essentially as a chemical substance when it is affected by a rise or a fall of temperature. A fall of temperature depresses the energy of chemical unions, immobilizes molecules, and makes all transformations of elements or of ions less easily accomplished, and protoplasm reacts toward cold in a precisely similar fashion, in depressing its activity, reducing the intensity of its manifestations of energy, immobilizing its molecules, and inhibiting activity. The muscles of our hands become stiff with cold because the chemical activities are depressed and the molecules literally immobilized. The converse of all this is true as regards heat. The writer then takes up the case of what has been called latent life, in which the chilled or dried protoplasm is not dead, as it can become active again when the temperature is raised or water is added. Tissue respiration and the production of animal heat can have no other than a chemical basis. Living matter behaves in a typically chemical fashion in its affinities for certain elements capable of coming into union with it. It is impossible to oversaturate the healthy tissues with any drug or element; there is a certain power of combining with these substances possessed by the tissues, but beyond this affinity limit the bioplasm cannot be coerced into taking up any more. This possession of affinities for particular substances must be the explanation of the incorporation of drugs, poisons, and of all food material. A particular type of sleep is produced by soluble substances called fatigue toxines, a type often and properly described as sleep of chemical origin. The subjects of fatigue, of chemical tone, tonicity of organs, the selective affinities of the tissues of the growing child, diseased conditions, the senses are among those which the author calls upon to contribute support to his proposition that life rests on a chemical, rather than a physical basis.

3. **Ammonia Coefficient in Vomiting of Pregnancy.**—Ellis reports a case that goes to show that the doctrine that abortion should be resorted to when the ammonia coefficient rises above ten or fifteen per cent. in the vomiting of pregnancy, is to be abandoned.

CHINA MEDICAL JOURNAL

January, 1912.

1. Ernest C. Peake: Medical Experiences in Southern Hunan.
2. James L. Maxwell: China Medical Missionary Association Research Report for 1911.
3. R. A. P. Hill: Blood Counts.
4. E. T. Shields: Medical Work in Yachow District.
5. J. J. Mullowney: Modern Hospitals for Chinese by Chinese.

5. **Modern Hospitals for the Chinese by Chinese.**—Mullowney describes the Min Cheng Bu hospitals, the Chinese General Hospitals, which have been opened by the Chinese for the relief of needy Chinese, and in which the patients may choose for themselves whether to have the old Chinese method of treatment, or the new, based on Western teachings. A dispensary, almshouse, and orphanage are connected with the hospital. In the dispensary nothing is charged for treatment or medicines, but this is being abused, so a change is likely to be made.

Proceedings of Societies

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Annual Meeting Held in New York, January 15, 1912.

(*Concluded from page 568.*)

Dr. C. Ward Crampton, director of Physical Training in the New York City Public Schools, said he had to confess that at first he was not very much impressed with Doctor Bates's ideas, but on becoming practically acquainted with his method he had become more and more convinced of their probable importance. If the "if" to which the president had given expression were done away with, we had here something of exceeding great importance, and he wanted to be one of the first to recognize this. In New York there were 700,000 school children, for whose physical condition he was in a measure responsible. If all were well when they first came to school, and if later from thirty to sixty per cent. were found to be suffering from defective vision, then we wanted to do something to remedy this condition of affairs. The question therefore arose, Should this new method be put into operation in the schools? Doctor Bates had said that half a minute a day was sufficient for carrying it out, but the aggregate time spent would amount to 133 years, while the teachers' pay would sum up $31,000. Here, again, the "if" which had been mentioned presented itself, and he wanted advice from the medical profession on this subject. As to the myopia decreasing after the age of ten years, he had been under the impression that it went on increasing.

Dr. J. Scott Wood said it was practically impossible for him to discuss this subject, as it was one about which he knew nothing. He had been somewhat confused by the use of the term "functional myopia," and was at a loss to know just what the writer of the paper meant by it. In one place in the paper he spoke of the effort on the patient's part to see, where frowning and wrinkling the brow were indulged in, thus inducing a "functional myopia," as he termed it; and, again, from other parts of the paper, one might infer that in some way accommodative spasm might be held to be the cause of it. At all events, he would ask Doctor Bates if he ascribed this induced "functional myopia" to pressure of the eyelids upon the eyeball and bringing about an elongation of its anteroposterior diameter, or to an accommodative spasm, or to both?

In reading his paper, that at least would seem a reasonable inference. In order that Doctor Bates's contention might be proved or disproved, he thought the patients in public institutions or elsewhere, upon whom this method was to be applied, should be examined by competent and disinterested ophthalmologists both before and after Doctor Bates had seen them. There was one point, however, which he could not understand, namely, why should a normal eye, under normal conditions of illumination, look at a small object (which it can readily see), fifteen or twenty feet away, in an abnormal manner? One might just as well expect to see a man with sound legs limping down Fifth Avenue. The assertions of Doctor Bates were certainly novel in the extreme, and we should investigate them with open mind and in a spirit of fairness.

Dr. Aquin S. Kelly said he had always found that an expressed opinion, theory, or rule regarding refraction would arouse discussion among eye men. It was a tender subject with them, and all felt that there was something the matter with the refraction work done by their confrères. In his own mind each man ascribed the bad treatment which the ophthalmologists had recently received at the hands of the legislature, in passing the optometry law, to the fact that his confrères did not do refraction as he thought it ought to be done. How men could differ so widely on the question of refraction, which was the anatomy of this specialty, seemed incomprehensible; but still the matter was paralleled in other specialties, as, for example, the wide divergence of opinion among pediatrists on the subject of infant feeding, which was the very meat of their department of medicine. Doctor Bates's paper was eminently a physiological one, treating of an aspect of ophthalmology which most eye men were prone to disregard, and it would surely shake the theories of many who read it. After listening to his statistics one could not help wondering whether a thoroughly conscientious refraction was possible without the use of atropine (one per cent. for a week or more), whether we were justified in depending on the employment of homatropine in any case of refraction, and what would be the effect of this paper on the "refractory" villains who prescribed glasses for their patients, young and old, without the use of any mydriatic. It was to be hoped that it would be salutary or fatal, and that the paper would serve for these gentlemen in the same way as a "horrible example" at a temperance meeting. As a practical method of improving the vision of school children, however, the speaker could not see how more than a very small percentage of them could derive any benefit whatever from Doctor Bates's plan of treatment. His statistics on the prevalence of functional myopia were the most surprising that he had ever heard. Every year he himself saw hundreds of school children "refracted," and he did not recall meeting with more than three cases of functional myopia, or what was commonly known as spasm of accommodation, in the past six years. Even if we granted the tremendous prevalence of the condition, what was the cause of it? Was there some new agent at work in our educational institutions which was making functional myopes of all our future great men? Yet it seemed to him, judging from his observation of boys at play at the present time, that ninety-nine per cent. of them pitched, batted, and caught, and directed the flight of a snowball quite as well as we did when as youngsters we used to indulge in similar exercises. Certainly, if such a very large proportion of the boys were functional myopes, who could not see distinctly at a greater distance than ten feet, Young America would be a sorry spectacle, and moving picture shows would never have arrived at their present state of prosperity. The case of the lady who was wearing minus 1.00 spheres was a very common one, and all of us were either cutting down overcorrecting lenses on myopes or giving them plus spheres or minus cylinders reversed. The discussion of the question of excentric fixation, Doctor Kelly said, was beyond him, as in all his experience he had never met with a person who was so lazy or stupid as to permit himself to see double if he could avoid it. It seemed to him that this was one of the fundamental principles of physiological optics.

Dr. B. W. Key said it was undoubtedly a fact well established by extensive investigation, that the refraction of an eye completely under the influence of atropine is a purely mechanical process, so far as concerned the actual relation of the physical parts —that is, the character and curvature of the media and the anteroposterior dimension of the globe. The problem became more difficult when a complex focusing apparatus brought about changes in this physical relationship. The ciliary body, a ring of unstriped muscle fibres subject to blood and nerve stimuli, and capable of clonic, and even toxic spasm, which by its action controlled the curvature, density, and thickness of the lens, must of necessity bring about many variations in the refractive power of an eye. Given school children with eyes nearly normal, known to possess from twelve to eighteen diopters of accommodation and placed under conditions necessitating constant accommodation for near, living in cities where when not in school, their home surroundings seldom allowed twenty feet for relaxation of the accommodation, and add to this the increased requirements of the modern school and the stress of close application and competition —and it would not be difficult to appreciate that the development of functional and axial myopia was tending to increase. He believed it was the general opinion that axial myopia was often developed from and certainly aggravated by functional myopia. It was rather surprising to learn, however, that there had been observed so many cases of functional myopia, as reported by Doctor Bates, and especially that these patients had been relieved in so short a time, the mere regarding of the Snellen test chart at twenty feet for half a minute daily being the only treatment necessary. More astonishing still was the report of the relief of cases of axial myopia as high as 2.50 diopters when tested by the retinoscope under the influence of atropine. In fact, he was quite skeptical in regard to some of the cases reported, particularly those of the boy of ten years, Miss F., aged twenty years, and Mrs. X. In his report of the examination of the first of these

cases, in which atropine was not used, Doctor Bates seemed to give the retinoscopic findings as being satisfactory. In the second one, where atropine was used for a week, the retinoscopic findings were not relied upon, while those of the ophthalmoscope were accepted as accurate. In the report of the third case, he stated that "apparent myopia was found with the retinoscope, but spasm of the accommodation, or functional myopia, by the direct method, with the ophthalmoscope." The speaker believed that information obtained by the use of the retinoscope without the proper use of atropine was irrelevant and worthless in the consideration of a scientific study. He distinctly recalled three cases of functional myopia in which flashes of clear or at least clearer vision were obtained at the time the acuity of vision was determined. In all three instances atropine and the use of the retinoscope disclosed the state of ciliary spasm, and the refractive error was readily obtained. In one of these cases, which he remembered was in Dr. Emil Gruening's clinic at the New York Eye and Ear Infirmary, the refraction was determined under homatropine, and from the retinoscopic finding a minus four diopter sphere, with a large minus cylinder, was prescribed for each eye. The result was most unsatisfactory, and atropine was then used for a week, with a similar result. It was used for the third week, and then it was disclosed that the case was one of compound hyperoptic astigmatism. The patient was a school girl, about fifteen years of age. Having in mind the simple treatment for functional myopia advocated by Doctor Bates, he had during the last ten days made some observations on those cases with nearly normal myopic eyes, about ten in number, which he had had the opportunity of examining in that time. He confessed he could not report very satisfactory results; but one case was worth mentioning. It was that of a strong, healthy boy of sixteen, a student at Lawrenceville, who was wearing in each eye a minus 1.25 sphere, prescribed for him by a well known ophthalmologist of this city. He complained of photophobia, asthenopia, and twitching. At first on regarding the Snellen chart he saw O. D. 20/200 and O. S. 20/100, without his glasses, and on being instructed how to read without making any effort he gradually obtained O. D. 20/70 + 1 and O. S. 20/40 + 1. He regretted that it was not possible in this case to use atropine at the time of the examination, but the patient was obliged to return to Lawrenceville for certain school examinations. He felt sure that this was the type of case Doctor Bates referred to as being so common among school children, but he also felt confident that the proper use of atropine with retinoscopic, ophthalmoscopic, and perhaps ophthalmometric agreement would relieve this boy of his symptoms. The subject of excentric fixation he did not consider it necessary to discuss.

Doctor BATES, in closing, said that as a rule children when they entered school had normal vision, but later acquired myopia. He had seen many functionally myopic children of eight or ten years become normal or emmetropic under the treatment described, and entirely without the aid of glasses. The eyes of a young child were usually normal when looking at its mother, but were apt to become functionally myopic if it looked at a stranger. He had tested the eyes of school children by having them look at all sorts of objects, stationary and moving, and at various colors. To arrive at correct conclusions in this matter it was necessary to make repeated observations. In the kindergarten we usually found normal eyes, but the children in the first, second, and third grades at school were almost all functionally myopic at times. Moreover, astigmatism was acquired by them just as the myopia was. The people of uncivilized countries had normal vision because they needed to practise accurate distant vision in order to provide food and to protect themselves from enemies. He had endeavored to find out the cause of myopia so that he might devise means for its successful prevention, and he had succeeded. Exercise in distant vision with the aid of the Snellen test card had been successfully employed continuously for eight years in the public schools of Grand Forks, N. D.; which was the first success published in the prevention of myopia (NEW YORK MEDICAL JOURNAL, July 29, 1911). In any child myopia could be produced by an improper effort to look at a distant object. In reply to Doctor Wood, he would say that he had not made the assertion that functional myopia is due to pressure of the lids upon the eyeball.

Annual Election of Officers.—The annual election of officers resulted as follows: President, Dr. Reynold Webb Wilcox; vice-president, Dr. Ransford E. Van Gieson; corresponding secretary, Dr. Frank C. Raynor; treasurer, Dr. A. Ernest Gallant; chairman for the Borough of the Bronx, Dr. Nathan B. Van Etten; chairman for the Borough of Brooklyn, Dr. Robert E. Coughlin; chairman for the Borough of Queens, Dr. L. Howard Moss.

Letters to the Editor.

ANNOYING NEWSPAPER ENTERPRISE.

NEW YORK, *March 14, 1912.*

To the Editor:

In the New York *American* for March 10th there appeared an article entitled Why Bald Men Are Most Civilized, which to all appearances was a voluntary interview with, or communication by me. On my attention being called to it on the following day, I found that it was a mutilated report of one of my lectures delivered to the class at the Postgraduate Medical School. These lectures are private and for practitioners registered at the school only. Whether a reporter in the guise of a physician was present, or whether some necessitous student succeeded in turning an honest penny by selling the report to the *American* I do not know; but I object most earnestly to being put in the position of seeking newspaper notoriety of this kind. This protest is probably useless; but I want to put myself on record against a practice that I deprecate, and that is becoming all too common.

WM. T. GOTTHEIL, M. D.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Delayed and Complicated Labor. By Robert Jardine, M. D., M. R. C. S., F. R. F. P. & S., F. R. S., Professor of Midwifery in St. Mungo's College, Glasgow, Obstetric Physician and Gynecologist to the Glasgow Maternity and Woman's Hospital, Glasgow, etc. With One Hundred and Seven Illustrations and Three Colored Plates. New York: William Wood & Co., 1912. Pp. xvi-351. (Price, $3.)

This book consists of a condensed statement of facts regarding dystocia incident to labor, the etiological factors entering into its production, in the different stages, and the management of the same. The subject is treated from the standpoint of delayed and complicated labor originating from abnormities of the passage, the passenger, and the forces, including also the eclamptic manifestation of toxemia, and complications arising from the more important maternal organic diseases. It is a one man book in its entirety, consisting of the results of Jardine's experience in the Glasgow Maternity and Women's Hospital. The percentage of abnormal cases dealt with in these institutions is exceedingly high, and such a work should be most valuable to both specialist and busy general practitioner, for facts alone are considered and details omitted. In the twenty-three chapters, brief discussions are given to the etiology, symptomatology, and treatment of delay as it occurs in the different stages, including malpositions, malpresentations, anomalies of the pelvis and uterus, the various forms of hemorrhage—ante partum, intra partum and post partum—eclampsia, complications due to previously existing organic disease, and, finally, the obstetric operations. Special attention is drawn to the retracting ring as a cause of obstruction in labor. A very important note, is the emphasis placed on the danger of rupture of the uterus in doing version when forceps fails. Special attention is called to the chapter on Cæsarean section versus craniotomy, although we would go a step farther and never do craniotomy with a living child except when section is positively contraindicated. As a matter of fact, the experience and reputation of the author are sufficient guarantees for the worth of this book.

Practical Electrotherapeutics and X Ray Therapy. With Chapters on Phototherapy, X Ray in Eye Surgery, X Ray in Dentistry, and Medicolegal Aspect of the X Ray. By J. M. Martin, M. D., Professor of Electrotherapeutics and X Ray Methods in the Medical Department of Baylor University, in the Medical Department of Southwestern University, and in the State Dental College, Dallas, Texas, etc. Containing 219 Illustrations. St. Louis: C. V. Mosby Company, 1912. Pp. 446. (Price, $4.)

Almost as soon as Röntgen announced to the world his masterpiece in physics which he rather accidentally fell upon at the University of Würzburg, articles, monographs, and volumes of some pretensions emanated from men of many minds—and in the interval which has now elapsed, a period of sixteen years, the literature on the subject is both voluminous and comprehensive.

The latest addition to this field of endeavor is from the pen of Dr. J. M. Martin, of Dallas, Texas, and the title of his work is *Practical Electrotherapeutics and X Ray Therapy*. The work is extremely compendious in character, and although the volume comprises more than 400 pages, the space allotted to subjects of commanding importance is at times so brief as to make the statements of little value. Less than fifty pages are devoted to the Röntgen rays in fractures and dislocations, probably two thirds of these pages being devoted to illustrations, all of which, however, are very satisfactorily reproduced. The author offers the prefatory remark that no attempt would be made to treat any subject exhaustively and he certainly has not deviated from his text. In seventy pages he covers the entire field of electrotherapeutics; the remainder of the book is devoted to the x rays.

For the beginner, however, the volume has many advantages. A large amount of material has been introduced by the author. Nothing of a controversial nature has been admitted to the pages, and while the grammatical constructions are frequently faulty, nevertheless the style is simple and easy of comprehension. The illustrations are clear and are of the author's own cases, and the statements in the text are made quite concise by the omission of the names of authorities, and by the exclusion of much that is theoretical and debatable.

Peculiar and careless expressions are constantly in evidence. Thus in zinc ionization of epithelioma we are told that "cocaine may be used, but never a general anesthesia." Under fractures occurs this statement: "Fractures in this region (the cervical) are less difficult than in the dorsal and lumbar region." The last statement made in discussing the merits and demerits of vacuum tubes is this enigmatic expression on page 105: "Tubes have caused ninety-five per cent. of all the trouble encountered and will probably continue to cause trouble." Just three lines before the author refers to "deep picture work." On page 237 in discussing the toxic effects of the x rays we find a singular verb used as follows: "It is believed that long exposures to any considerable portion of the body produces an increase in the metabolic processes, etc."; and many more instances of the kind could be cited.

Nevertheless the work is attractively arranged, well put together, and contains a complete and most creditable index. Another edition will undoubtedly find many of the minor defects referred to entirely eliminated.

Maternity Primer. By A. H. F. Barbour, M. D., LL. D., Physician to the Edinburgh Royal Maternity Hospital. New York: William Wood & Co., 1912. Pp. 165. (Price, 75 cents.)

This publication, as the title indicates, is essentially a work for the beginner in nursing. Unfortunately there is a tendency at the present time to give to the nurse in training too much theory at the expense of practical training; too much lecturing and too little nursing. These notes, now published in book form by request, are practical points that every nurse should know and understand at the beginning of the course in training. The book is artistically arranged in numbered paragraphs, with a series of questions at the end, also numbered to correspond with the paragraphs. Familiar language has been used in preference to scientific terms that are puzzling to the beginner. The book is complete, comprehensive, and can be recommended to the prospective nurse.

Nachweis und Bestimmung von Giften auf biologischem Wege. Eine Anleitung für Pharmakologen, Gerichtsärzte, Gerichstchemiker, und Apotheker. Von Dr. phil. et med. Hermann Führer, Privatdozent für Pharmakologie an der Universität Freiburg, i.B. Mit 89 zum Teil farbigen Textabbildungen. Berlin und Wien: Urban & Schwarzenberg, 1911. (Through Rebman Company, New York.) Pp. 176. (Price, $2.25.)

So far as the reviewer is aware this is the first manual of its kind, though the material here brought together will most all be found in the larger works on pharmacology and toxicology. The first fifty pages are devoted to methods of testing toxicological action on bacteria, algæ, yeasts, moulds, the cells of higher plants, blood cells, protozoa, worms, and insects. This is followed by about 100 pages describing the use of frogs as test objects, either as whole animals, or in the form of isolated organs, muscles, etc. The last twenty-five pages take up methods of testing poisons on white mice, rabbits, cats, and finally on human beings. The method of presentation is extraordinarily clear, the arrangement of the material is good, and the statements of fact can be relied upon. To our surprise no mention whatever is made of the methods of testing ergot by the cock's comb method, nor is the use of guineapigs in the titration of diphtheria and tetanus toxines touched upon. The use of the anaphylactic reaction has also been omitted. Despite these omissions, the book can be commended to students of pharmacology and toxicology as a convenient and clear guide to their subject.

NEW PUBLICATIONS

Schlenzka, A.—Die Goldschmidtsche Irrigations-Urethroskopie. Eine zusammenfassende Darstellung der Methode. Leipzig: Dr. Werner Klinkhardt, 1912. Pp. xii-99.

Motter, Murray Galt, and Wilbert, Martin I.—Digest of Comments on the Pharmacopœia of the Untied States of America (Eighth Decennial Revision) and on the National

Formulary (Third Edition), for the Calendar Year Ending December 31, 1909. Hygienic Laboratory Bulletin No. 79. Washington, D. C.: Government Printing Office, 1912. Pp. 735.

Lumsden, L. L.—The Causation and Prevention of Typhoid Fever. With Special Reference to Conditions Observed in Yakima County, Washington. Prepared by Direction of the Surgeon General. Public Health Bulletin No. 51. Washington, D. C.: Government Printing Office, 1912. Pp. 53.

Programma del VII. Congresso Internazionale di Dermatologia e Sifilografia che si terrà in Roma, dall' 8 al 13 aprile, 1912. Roma: Armani & Stein, 1912. Pp. 130.

Frost, W. H.—Epidemic Cerebrospinal Meningitis. A Review of Its Etiology, Transmission, and Specific Therapy, with Reference to Public Measures for Its Control. A Reprint from the Health Reports of the Public Health and Marine Hospital Service. Washington: Government Printing Office, 1912. Pp. 27.

Anderson, John F., and Goldberger, Joseph.—The Relation of So Called Brill's Diseases to Typhus Fever. An Experimental Demonstration of Their Identity. Reprint from the Public Health Reports No. 71. Washington: Government Printing Office, 1912. Pp. 14.

Thirty-eighth Annual Report of the Secretary of the State Board of Health of the State of Michigan for the Fiscal Year Ending June 30, 1910. Pp. 171.

Eleventh Annual Report of the National Jewish Hospital for Consumptives, a Free Hospital for Poor Consumptives, Denver, Colo. The Report of Affairs for the Year Ending April 30, 1911. Pp. 147.

Miscellany.

The Insurance Examiner's Fee.—The Texas insurance organ, *Salic*, in its issue for December, 1911, has the following comments on this important subject:

The American Life Convention at a recent meeting was disposed to cut the fees of medical examiners. Nearly one hundred companies belong to the organization, and it would seriously affect perhaps twenty-five thousand physicians. It would be very unwise, and shows that the full importance of the examiner's service is not understood. Not only much of the saving in mortality, but the very life of the company, depends in large part upon the skill, honesty, and diplomacy of the medical examiner, and he earns his fee of five dollars, and should be paid gladly and graciously. He should be satisfied with this, however, and not seek extra compensation.

No part of the physician's practice places him in such a trying position as "border line cases" in life insurance. In spite of the finest diplomacy he has difficulty in eliciting facts necessary for the protection of the company; it requires ripe experience and consummate skill to diagnosticate the case; if he is frank with his friend, he alienates him, and if his enemy is rejected, he holds it against him with bitterness forever. In the average case it is well worth the money for the examiner to make a thorough painstaking examination and report. If his work is appreciated, however, he is willing to exercise all his powers with greater vigilance when doubtful applicants appear, and the company needs his best service, and must pay a reasonable fee for it. It is a singular fact that brains trained in medicine are at a discount compared with the other professions, though the doctor deals with that which is closest to us all—human life and suffering. He gives years to preparation, and other years to self sacrifice and untiring devotion to his patients, declines early from nerve strain, and dies poor. The minister labors to save the soul for the soul's sake, and is glorified; the lawyer looks after the estate, and gets it; but the doctor serves well and is discredited, and even his ultimate destination is doubtful. Even if he is on the road to the right place, he needs money to buy gasoline here and now. Seriously, it would be a very unfortunate thing for the convention to take such action, and it certainly would not meet with the approval of the medical section. The proper thing to do is to select high class, trustworthy men, let them know what is expected of them, see that it is done, and pay them well. It is true that medical selection has not been up to a high standard in the past, and there is good reason to criticise results. But there has been vast improvement in recent years, and the present progress toward still better service is marked. Some medical schools are giving good instruction on life insurance, and all of them should; physicians are making a special study of the examiner's work and becoming more proficient, and equipping themselves properly; medical directors are getting in closer touch with the examiners and making them feel that they are a part of the medical department, and there is closer union and better feeling, and the medical service is steadily improving. If the fees were cut, all of this would be upset completely; progress would be checked, and serious retrogression would follow. Some examiners are notoriously deficient, but if they do not keep pace with progress they will be eliminated.

Medical directors, almost without exception, will strongly favor maintaining the fee. One thing is certain and that is that the medical directors of Texas will stand solid for a $5.00 fee, and for the best medical examiners obtainable.

Our friends will read the foregoing with mingled feelings. As a matter of fact, five dollars is too small a fee. Twenty-five dollars would be none too much, especially in cases where many thousands of dollars are carried by wealthy clients, and a careful, rigorous physical examination, with modern, "clinical" accompaniments, should be paid for with regard to the time and expert diagnostic skill demanded. Well may the enormously wealthy companies pay five dollars "gladly and graciously"; any further reduction will be felt where it hurts a business corporation.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending March 15, 1912:

CHOLERA—FOREIGN: *India*, Jan. 14-Feb. 3, 27 cases, 17 deaths; *Indo-China*, Jan. 16-29, 291 cases, 196 deaths; *Turkey*, Jan. 6-Feb. 10, 63 cases, 57 deaths.

YELLOW FEVER—FOREIGN: *Brazil*, Jan. 1-Feb. 10, 6 deaths; *Mexico*, Feb. 21-27, 3 cases, 7 deaths.

PLAGUE—FOREIGN: *Brazil*, Feb. 11-17, 2 deaths; *Egypt*, Jan. 29-Feb. 15, 19 cases, 8 deaths; *India*, Jan. 29-Feb. 3, 31 cases, 26 deaths; *Indo-China*, Jan. 16-22, 2 cases, 2 deaths; *Java*, Jan. 21-27, 5 cases, 4 deaths; *Mauritius*, Dec. 15-21, 5 cases, 3 deaths; *Peru* (Trujillo), Feb. 21, 34 cases.

SMALLPOX—UNITED STATES: *Alabama*, 1911, 312 cases; (Mobile, Jan. 1-March 2, 157 cases); *California*, Jan. 1-31, 139 cases, 1 death; *Colorado*, Feb. 1-29, 18 cases; *Connecticut*, Feb. 1-29, 1 case; *Iowa*, Feb. 1-29, 37 cases; *Kansas*, Jan. 1-31, 49 cases, 1 death; *Massachusetts*, Feb. 1-29, 14 cases; *Missouri* (St. Louis), Feb. 26-March 2, 5 cases; *Nebraska* (Omaha), Feb. 26-March 2, 1 case; *New Jersey* (Essex County), Feb. 1-29, 1 case; *North Carolina*, Feb. 1-29, 268 cases; *Ohio*, Feb. 1-29, 28 cases; *Pennsylvania*, Dec. 1-31, 1 death; Jan. 1-31, 15 cases; *Tennessee*, Feb. 1-29, 6 cases; *Wisconsin*, Feb. 1-29, 94 cases; *Wyoming*, Jan. 1-31, 73 cases; Feb. 1-29, 37 cases, 1 death.

SMALLPOX—FOREIGN: *Canada*, Feb. 26-March 2, 19 cases, 1 death; *China*, Jan. 21-Feb. 4, 42 cases, 30 deaths; *France* (Paris), Feb. 4-10, 5 cases; *Great Britain* (West Hartlepool), Feb. 18-24, 1 case; *Hungary* (Budapest), Feb. 4-10, 25 cases; *India* (Bombay), Jan 29-Feb. 3, 11 cases, 6 deaths; *Italy*, Feb. 11-24, 106 cases, 31 deaths: *Japan* (Kobe), Jan. 22-28, 1 case; *Java*, Jan. 1-27, 3 cases, 1 death; *Mexico*, Feb. 11-24, 96 cases, 5 deaths; *Russia* (St. Petersburg), Feb. 3, 10 cases, 2 deaths; *South Africa*, Jan. 7-27, 30 cases; *Spain*, Jan. 1-Feb. 17, 16 cases, 9 deaths; *Teneriffe*, Feb. 4-17, 7 deaths: *Turkey*, (Constantinople), Feb. 12-18, 12 deaths; *Uruguay* (Montevideo), Dec. 1-31, 2 cases.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the fourteen days ending March 13, 1912:

Bahrenburg, L. P. H., Passed Assistant Surgeon. Relieved from duty at Ellis Island, N. Y., and directed to proceed to Galveston, Texas, for duty in connection with the examination of arriving aliens. **Cofer**, Leland E., Assistant Surgeon General. Directed to proceed to Cape Charles quarantine to make an inspection of the

Service and for conference relative to disposition of the hulk *Jamestown*. **Creel,** R. H., Passed Assistant Surgeon. Granted seven days leave of absence, from February 5, 1912, under paragraph 191, Service Regulations. **Delgado,** J. M., Acting Assistant Surgeon. Granted ten days' extension of annual leave on account of sickness, from February 18, 1912. **Eager,** J. M., Surgeon. Granted one month's leave of absence, from March 23, 1912. **Ebersole,** R. E., Passed Assistant Surgeon. Relieved from temporary duty at Pensacola quarantine station, and directed to proceed to Ellis Island, N. Y., and report to the Chief Medical Officer for duty. **Fauntleroy,** C. M., Assistant Surgeon. Directed to report at the Bureau on Tuesday, March 26, 1912, for examination to determine his fitness for promotion to the grade of passed assistant surgeon. **Foster,** S. B., Acting Assistant Surgeon. Granted ten days' leave of absence, from February 21, 1912. **Goldberger,** Joseph, Passed Assistant Surgeon. Detailed to attend a meeting of the New York Academy of Medicine in New York, N. Y., and present an address on the subject of typhus fever. **Goldsborough,** B. W., Acting Assistant Surgeon. Granted twenty-four days' extension of annual leave on account of sickness, from January 14, 1912. **Hough,** J. S., Acting Assistant Surgeon. Granted thirty days' leave of absence during the calendar year, at times to be approved by Surgeon Brown. **Keen,** Walter H., Pharmacist. Granted two and a half days' leave of absence, from February 7, 1912, under paragraph 210, Service Regulations. **Krulish,** E., Passed Assistant Surgeon. Relieved from duty at Galveston, Texas and directed to proceed to Washington, D. C., and report at the Bureau for conference with reference to duty in Alaska. **Manning,** H. M., Passed Assistant Surgeon. Granted fourteen days' additional leave, from March 10, 1912. **Moncure,** J. A., Acting Assistant Surgeon. Granted thirty days' leave of absence from March 2, 1912. **Pettus,** W. J., Assistant Surgeon General. Granted six days' leave of absence, from March 11, 1912. **Rush,** J. O., Acting Assistant Surgeon. Granted twenty-eight days' extension of annual leave on account of sickness, from January 9, 1912. **Ryder,** L. W., Pharmacist. Granted nine days' leave of absence, February 12 to 17 and February 21 to 23, 1912. **Salmon,** Thomas W., Passed Assistant Surgeon. Granted leave of absence, without pay, for the period of April 18, 1912, to December 31, 1913. **Stoner,** G. W., Surgeon. Granted seven days' leave of absence, from February 28, 1912, under paragraph 189, Service Regulations. **Walker,** T. D., Acting Assistant Surgeon. Granted thirty days' leave of absence from February 21, 1912, and seven days' leave of absence, without pay, from March 22, 1912. **Warner,** Harry J., Assistant Surgeon. Directed to report at the Bureau on Tuesday, March 26, 1912, for examination to determine his fitness for promotion to the grade of passed assistant surgeon. **Warren,** B. S., Passed Assistant Surgeon. Relieved from duty at the Marine Hospital, St. Louis, Mo. **White,** J. H., Surgeon. Directed to proceed to Salina Cruz and Manzanillo, Mexico, and other ports on the Mexican and Central American coasts to make inspection of sanitary conditions, with reference to special precautions to prevent the introduction of yellow fever into the United States.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending March 16, 1912:

Baily, Howard H., Captain, Medical Corps. Granted thirty days' leave of absence, to take effect about March 15th. **Harmon,** Daniel W., Lieutenant, Medical Corps. Granted thirty days' leave of absence, effective about March 12th. **Humphreys,** Harry G., Captain, Medical Corps. Relieved from treatment at the Army and Navy General Hospital, Hot Springs, Ark., and will return to station. **Jackson,** Thomas W., First Lieutenant, Medical Reserve Corps. Ordered to the Walter Reed General Hospital, Takoma Park, D. C., for observation and treatment. **Leary,** Thomas J., Lieutenant, Medical Corps. Resignation accepted, to take effect March 15, 1912. **Phalen,** James M., Captain, Medical Corps. Detailed to attend the annual meeting of the Medical Society of the State of New York, to be held in Albany on April 16 to 18, 1912, for the purpose of presenting a paper on Tropical Medicine. **Waring,** John B. H., Lieutenant, Medical Corps. Ordered to report to Lieutenant Colonel James D. Glennan, Medical Corps, president of the examining board, Letterman General Hospital, San Francisco, Cal., for examination to determine his fitness for promotion. **Wheate,** J. Marshal, First Lieutenant, Medical Reserve Corps. Granted thirty days' leave of absence. **Wright,** Frederick S., Lieutenant, Medical Corps. Upon arrival at San Francisco, Cal., will proceed to Fort Sam Houston, Texas, instead of Fort Adams, R. I., as heretofore ordered.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy, for the week ending March 16, 1912:

Bogert, E. S., Surgeon. Detached from command of the Naval Hospital, Yokohama, Japan, and ordered home to await orders. **Cuthertson,** Roy, Assistant Surgeon. Detached from the *West Virginia* and ordered to the *St. Louis*. **Dodge,** A. H., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from October 3, 1911. **Hoen,** W. S., Passed Assistant Surgeon. Detached from the *Idaho* and ordered home to await orders. **Murphy,** J. F., Passed Assistant Surgeon. Ordered to the *Idaho*. **Shipp,** E. M., Surgeon. Detached from the Naval Hospital, Washington, D. C., and ordered to command the Naval Hospital, Yokohama, Japan.

Births, Marriages, and Deaths.

Died.

Allen.—In Pine Bluff, Ark., on Monday, March 4th, Dr. James A. Allen, aged seventy years. **Allison.**—In Girard, Ohio, on Thursday, March 7, Dr. George Kelly Allison, aged twenty-five years. **Borden.**—In Grand Island, Neb., on Monday, March 4th, Dr. Henry D. Borden. **Copeland.**—In Baltimore, on Saturday, March 9th, Dr. Anna Ruth Copeland, aged twenty-eight years. **Cummins.**—In New York, on Thursday, February 29th, Dr. F. M. Cummins, of Warwick. **De Bard.**—In Greenup, Ky., on Monday, March 11th, Dr. Alfred D. De Bard, aged eighty years. **Denison.**—In Terre Haute, Ind., on Sunday, March 10th, Dr. Elias D. Denison, aged eighty-six years. **Freeze.**—In Bloomsburg, Pa., on Tuesday, March 5th, Dr. Peter H. Freeze, aged eighty-three years. **Holmes.**—In Owensboro, Ky., on Monday, March 4th, Dr. William E. Holmes. **Jones.**—In Ann Arbor, Mich., on Saturday, March 9th, Dr. Samuel A. Jones, aged seventy-eight years. **Kennedy.**—In New York, on Monday, March 11th, Dr. John Miller Kennedy, aged forty-nine years. **Kirkaby.**—In New York, on Sunday, March 10th, Dr. H. Hamilton Kirkaby, aged seventy-one years. **La Force.**—In Ottumwa, Iowa, on Sunday, March 10th, Dr. Daniel A. La Force, aged seventy-five years. **Moore.**—In Gas City, Kan., on Friday, March 8th, Dr. George W. Moore, aged fifty-one years. **Park.**—In New Millport, Pa., on Monday, March 4th, Dr. William C. Park, aged fifty-eight years. **Perry.**—In New York, on Sunday, March 10th, Dr. Alexander Perry, aged eighty-eight years. **Rice.**—In Hudson, Mich., on Sunday, March 3d, Dr. George Rice, aged eighty-six years. **Rogers.**—In Cohoes, N. Y., on Wednesday, March 6th, Dr. Sidney Franklin Rogers, aged sixty-five years. **Rouse.**—In Stamford, Conn., on Sunday, March 10th, Dr. William Rouse, aged twenty-seven years. **Scherer.**—In Catasauqua, Pa., on Saturday, March 9th, Dr. Thomas A. Scherer, aged fifty-eight years. **Shine.**—In Winthrop, Iowa, on Friday, March 8th, Dr. M. L. Shine. **Sprenger.**—In New Haven, Conn., on Wednesday, March 13th, Dr. William E. Sprenger, aged sixty-three years. **Tucker.**—In Mount Vernon, N. Y., on Sunday, March 10th, Dr. Carlos P. Tucker, aged ninety-one years. **Warner.**—In Clearwater, Fla., on Sunday, March 3d, Dr. William E. Warner, of Chicago, aged thirty-eight years.

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Original Communications.

SOME PROBLEMS IN THE CHEMOTHERAPY OF CANCER,

BY WILLIAM JAMES MORTON, M. D.,
New York.

The medical world has recently received with keenest interest the remarkable statements about the success of experiments of Wassermann as to the effects, when injected into the veins, of negrosin and of an eosin and selenium compound, in malignant tumors of mice. There would seem to be no doubt that cancer in the mouse has been caused to disappear, with the survival of the host. So far as we are informed and able to surmise, the cancer cell of the mouse has exhibited, under the condition of venous injections, a selective affinity for certain chemicals, which fail to attack, at least in similar degree, the other cells of the body.

Furthermore, it is noteworthy and of promise for the cure of other diseases, that chemicals are found to exert an elective injurious effect upon organic cells, as well as on parasites. This distinction between organic cells and parasites as it relates to cancer may, however, have to be modified in view of the recent work of Dr. Peyton Rous, of the Rockefeller Institute for Research, who has shown that the filtrate of a malignant sarcoma of the hen was capable, by subcutaneous injection, of establishing similar tumors in hens of the same species. Doctor Rous's results possibly place the parasitic causation of cancer upon a new basis, for in this connection it is well to recall that Dr. Simon Flexner, in his *Ether Day Address of 1911*, has pointedly drawn attention to the fact that a number of diseases of the higher animals, including man, and one disease of plants have, within ten years, been traced to submicroscopic parasites. For instance, the cause of the recent epidemic poliomyelitis is an exceedingly minute parasite—submicroscopic and filterable.

Again, Dr. J. B. Murphy and Doctor Rous have shown experimentally, by direct inoculation of sarcoma of the fowl into the developing chick embryo, that the embryo is much more favorable than the adult as a host for sarcoma. This fact, it would seem, might favor either an embryonic or a parasitic theory of cancer, meaning by embryonic either the Cohnheim theory or the trophoblastic theory so ably advanced by Dr. John Beard.

SELECTIVE ACTION.

The elective affinity of drugs for certain definite tissues is, of course, a fundamental tenet of medicine. No poison poisons all the tissues alike—and even the general protoplasmic poisons, like quinine and others, when injected into the blood, select some objective organ or tissue, upon which they exert a special action. It is just at this point, however, and based on this general statement, that so many disappointments have arisen as regards the use of general antiseptics by the mouth to reach desired tissues or suppress infectious diseases by "internal antisepsis." The main trouble has been that the antiseptic reagent employed was too general in its action, and for this reason its energy was lost upon too large a mass of protein compounds.

The hope for a modern, specific, organic or microbic antiseptic or other therapy must be based upon a specificity greater than here formulated. The effects of quinine upon the *Plasmodium malariæ* and of mercury and arsenic upon the *Treponema pallidum* have long served to point the way. The teachings, particularly of Ehrlich, as illustrated by the remedy salvarsan, are beginning to bear fruit. And, of late, several other chemical substances have been demonstrated to exhibit a specific action upon certain tissues or to undergo elimination in certain fluids. So, too, as Doctor Flexner has pointed out as regards infectious diseases, the pneumococci are rendered vulnerable to an antipneumococcus serum by sodium oleate. The sodium oleate in its turn is restrained from acting upon the protein of the serum by aid of another chemical body introduced into the mixture—for instance, a minute quantity of boric acid.

Such progress indicates lines along which the conquest of cancer by means of specific drug therapy may be hopefully pursued and, whatever its nature, whether organic or parasitic or toxic or otherwise, and granting the general principle of selective action, it is a long step forward to know that there exists some one specific drug or class of drugs which will attack the cancer cell by election, even in mice, in such a manner as to cause its decay and death. It is now, therefore, more than possible, and, indeed, quite probable, that a therapeutic drug, or combination of drugs, or series of drugs, may be administered to the human being suffering from malignant disease and be absorbed by the cancer tissue so as to destroy it (or the parasite responsible for it), while at the same time remaining innocuous to other tissues of the body.

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CHEMISTRY OF THE CANCER TISSUE.

This hope is the more justified when we take into account the chemical constitution of cancer tissue. Without entering into details, it may be said that there is some reason to believe that the cancer cell actually represents the antipodes of the normal somatic cell. It contains a heterolytic enzyme. It apparently draws its nourishment from the somatic cell, lives at its expense, and eventually destroys it. Neglecting the unquestioned fact of its remarkable facility of proliferation, there still remains this more remarkable quality of being able actually to tear down the albumins of the body cell—in fact, devour them. In this way at least we can best account for the inroads of malignant tissue into normal tissue. Mere displacement by abundant cell division affords an inadequate explanation.

A number of observers in recent years have shown that the cancer proteins exhibit a high content of glutaminic acid, alanin, phenylalanin, diamino acids, and aspartic acid. This fact, as well also as the susceptibility of the tumor tissue to trypsin digestion and its insusceptibility to pepsin digestion, has been cited as evidence that the tumor is of a specific character. According to Petry, the cancer cell has a ferment, acting in an acid medium. The reaction of cancer tissue is apparently acid, while that of the normal tissue is alkaline. In short, it would seem that the chemical composition of the cancer cell differs radically from that of the body cell.

Here, then, we have a point of departure. Will it not be possible to find a chemical substance, simple or compound, which, administered by the mouth, shall exhibit chemical affinity for the peculiar chemical constitution of the cancer cell. Granting that this affinity produces a result injurious or destructive, there at once ensues "a cure of cancer." The line of argument applies equally to the theory of a parasitic origin of cancer.

Empirically along these general lines, including, of course, subcutaneous injection, an immense amount of work has been done. And present hopes of success, as evidenced by the recent reports from Germany referred to, are no doubt founded upon this basis. The success relates, it is true, only to the malignant tumors of mice, but no doubt experimentation on human beings is already well advanced. It may be recalled in this connection that in 1906 Dr. J. Beard published the undoubted disappearance of carcinomatous tumors of mice (Jensen's mouse tumors) by means of trypsin injections.

ANILINE DYES.

The aniline dyes or colors, among which are the negrosin and eosin mentioned in the German accounts, and many others, are familiar to physicians mostly as staining reagents for microscopical investigation of tissues. Their affinity for microorganisms in preference to surrounding tissues naturally suggested, some time ago, their therapeutic use as antiseptics under the name of chromotherapeutics. The hopes based upon their microbicidal use have not been fulfilled, but there is reason to believe that they do show other specific actions when employed for their ionizing and fluorescent action in conjunction with radium, x ray, and other radiation, or secondly, when employed as conducing to chemical affinities which would not take place without their presence, or, lastly, in actual new chemical combinations. Many of these dyes are unoxidized as they pass through the system, and being thus unchanged, may reach with unimpaired activity some final goal, such as, for instance, cancer tissue.

THE CHEMISTRY OF THE X RAY AND RADIUM TREATMENT AND THE IMPORTANCE OF PREOPERATIVE AND POSTOPERATIVE RADIATION.

In a consideration of the possible effects of a chemical treatment of cancer, we must not lose from sight the remarkable effects of the radiations of Röntgen or those from radium itself. Cancer tissue, of one kind or another, at one stage or another, and located in one way or another, has beyond question in many instances been caused to disappear from the human body—has, in short, been "cured" by these means. Quite beyond question, too, the cure has been due to chemical action. The main properties of these radiations are to cause fluorescence and phosphorescence to act upon a photographic plate and to ionize gases. In producing these actions they bring into being electrons known as beta rays. These beta rays or "secondary radiations" spring into life at the point, in solids, where the x ray ends or where it is, in fact, "absorbed." Thus thrown into life within the cancer tissue, they in turn bring about chemical change; the molecules of both gases and solids are ionized. The substance which exhibits fluorescence or phosphorescence exhibits this quality because it is ionized.

Could we but duplicate this chemistry we could cure cancer in one place as well as in another. The trouble as regards the x ray and the gamma rays of radium is that their limits are reached at the point of their absorption, for at this point arise the new electrons, which really do the work. The beta ray is implanted within the tissue by the x ray. But we cannot thus implant this beta ray or its equivalent chemical action wherever we desire. Hence our present limitations.

But this success, so far as it goes, at least shows us the possibility of duplicating by other means a similar chemical reaction in cancer tissue. Here lies a pathway which may be followed. For instance, I may point out one line of thought which occurs to me in regard to this ionization. The beta rays implanted within a cancer cell in great numbers ionize the cell contents, and we may ask with what chemical result? It has been demonstrated outside of the body that the x or gamma ray terminal, viz., the beta ray electron, acting upon organic matter, will produce carbon dioxide. This could be produced only at the expense of oxygen present in the tissue. Thus the real action of the x ray and radium upon cancer may possibly be a "reducing" action, viz., a deprivation of oxygen and secondarily a toxic and asphyxiating action, due to the carbonic acid gas liberated.

It was this chemical ionizing action of the beta ray, within tissue, that first drew my attention, long ago, to the utility of the aniline dyes, particularly those that fluoresced, in treating cancer. The thesis was a simple one, namely, saturate the patient, includ-

ing his cancer tissue, with the dye stuff, administered by the mouth, then let loose in the cancer, either by the x ray or by radium, the beta ray. So convinced did I become of the value of this method that I published it very fully with cases in 1903,[1] 1904,[2], 1905,[3] and in 1911, and only so recently as 1911[4] I wrote "What success I have met with" (referring to the combined radiation and fluoresence) "I consider has been due to this method."

I have steadily followed up this work with the aniline dyes, using a great variety of them and endeavoring to find a chemical substitute for the beta ray—one that would, in conjunction with the dyes, produce chemical disassociation of the cancer tissue protein and lead to its dissolution. Sometimes the search has been rewarded by favorable results; again, setbacks have arisen, and I feel in the position of all who have attacked this redoubtable problem, viz., that one can only work and wait.

Nevertheless, one result of this chemical research work stands out to me clearer than ever, and that is, as regards the surgical attempt to extirpate cancer —itself always a justifiable, if often unrealized hope —that the patient operated upon surgically should never be denied the helpful effect of the x ray or radium radiation treatment, both before and after operation. And a second fact stands forth to me equally clear, and that is, that this radiation should be performed only after due saturation of the patient's system with aqueous solutions of fluorescin, eosin, and quinine, either singly or in conjunction, all three of which show that they suffer an ionic change by the mere fact that they exhibit fluorescence under the direct influence of the beta rays brought into being by the initial Röntgen or radium radiation.

My work has required the practical investigation and the administration of a great variety of the well known dyes. The results obtained when in conjunction with the x ray and radium were indeed remarkable, and a large number of complete cures in various types of cancer were effected, but success was, nevertheless, erratic. A favorable outcome in one case might not be repeated in a second. It was also difficult to differentiate between the action of the radiation and the dyes. The situation was like that long associated with the use of trypsin, sodium oleate, ox gall, methylene blue, and other agencies, which, while accomplishing much, did not accomplish enough. It is a mistake, however, even with our present resources, to say that no cancer can be cured; what should be said is that there exists at the present moment no certainty of a cure and that in many, if not in most cases, whether by reason of the location of the cancer or its type and nature, cure is impossible by any known means, surgical, medical, or by radiation, or by all these combined.

Recently, putting to one side for the time being all forms of radiation treatment, I selected out of my clientèle five cases of inoperable cancer and placed them upon a purely chemical treatment—not without a due sense of responsibility, for had they shown signs of losing ground I should at once have returned to an accompanying radiation. The results were far beyond my expectations.

As to the method of treatment pursued, it has consisted in administering by the mouth several of the aniline dyes, on the presumption that they will show a selective affinity for the cancer cell, and subsequently administering—say after an interval of several days— a salt of a metal which I assume will combine within the cancer cell.

It would seem to me, therefore, fair to present this thought along the lines of the treatment of human cancer—namely:

May it not be possible to administer to the patient by the mouth separate drugs at separate times, counting upon their curative reaction within the cancer cell itself by chemical combination made within the body instead of outside of it? The cancer cell would correspond to the laboratory test tube.

The most efficient of these agents and their precise indications are being ascertained, and will be published in a forthcoming paper.

At all events, I have put this theory into working practice—with positive improvement in several cases—and offer it solely as a suggestion to other coworkers.

And, in writing of this subject, I do so in the belief that we should approach this much vexed problem with an earnest purpose to discuss it conservatively, in the hope that common counsel will lead to experiments and conclusions which shall make for progress. Certainly nothing is to be gained by sitting back complacently and waiting for the announcement by some one of the cure of cancer in human beings, well founded as are our hopes that it is sure to come.

Meanwhile the world, with increasing interest, awaits a positive cure, and events are now so shaping themselves that it does not seem impossible that within a reasonable time this long desired goal may be reached.

19 East Twenty-eighth Street.

[1] *Electrical World and Engineer*, June 20, 1903; *Medical Record*, August 8, 1903.

[2] Artificial Fluorescence of Living Tissue in Relation to Disease, New York Medical Journal, February 13 and 20, 1904.
Fluorescence Artificially Produced in the Human Organism, read at the International Electrical Congress of St. Louis; *Journal of the American Medical Association*, 1904.

[3] Recent Advances in Electrotherapeutics, New York Medical Journal, April 1, 1905.

[4] Note on Fluorescence Excited within Human Tissues as a Method of Treatment, read at the twelfth annual meeting of the American Therapeutic Society, Boston, Mass., May 11, 12, and 13, 1911.

RECENT VIEWS ON INFLAMMATIONS OF THE ENDOMETRIUM AND "ENDOMETRITIS."*

By Robert T. Frank, A. M., M. D.,
New York,
Adjunct Gynecologist, Mount Sinai Hospital.

Former Methods of Classification.—In 1907, a Committee on the Nomenclature of Endometritis appointed by the Section in Obstetrics and Diseases of Women of the American Medical Association[1] reported that endometritis should be divided into an acute and a chronic form. They not only found that a classification based upon etiology was faulty, but that one founded upon clinical symptoms was

*Read before the New York Pathological Society, January 10, 1912.

[1] Tucker, Marcy, and Clark. The Nomenclature of Endometritis. *Journal of the American Medical Association*, xlviii, 1002, 1907.

equally unreliable. According to this report, the etiological factor in acute cases could usually be determined; in the chronic forms it escaped detection. In chronic forms, according to the committee, either the glands or stroma were specially affected, and the so called hypertrophies and atrophies were to be regarded as the residua or final stages of chronic inflammation. On the whole, this report was based upon a sound and conservative viewpoint as far as our knowledge justified at that time, though it afforded little assistance to the pathologist who was expected to hand in a report of material obtained from the uterus.

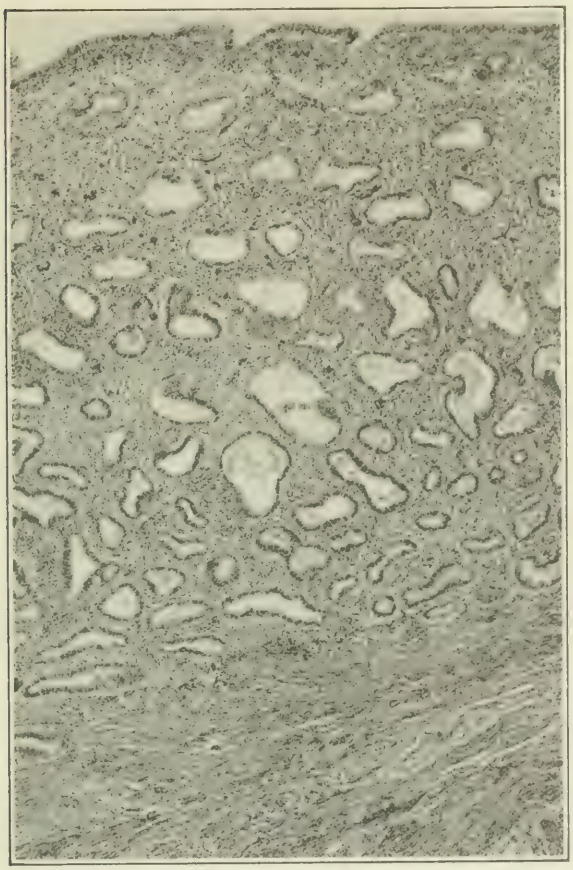


Fig. 1.—Low power; normal uterine mucosa; resting stage. The glands simple in outline; some are beginning to show indications of "saw tooth" form. The epithelium is low, regular, and sharply demarcated toward the lumen. The stroma is spindle cell in type.

A year later Hitschmann and Adler[2] published a fundamental article dealing with the Structure of the Normal Endometrium with Particular Reference to Menstruation, which has to some degree obliged both clinician and pathologist to revise their former concepts of the normal and diseased uterine mucosa. In Germany this reformation is well under way; in America only very few—I may instance Norris and Keene,[3] Gardiner and Novack[4]—have accorded these newer investigations proper consideration.

Comparative Physiological Studies.—Had the relations of the human pathologist and physiologist with the comparative anatomist and physiologist been stronger and closer, this chapter of our knowledge would not now be in its infancy, but would already have attained sturdier growth and development. Heape, eighteen years ago, described the menstrual cycle of the monkey (*Semnopithecus entellus*) in minute detail; a few years later (1889), drawing attention to the similarity of menstruation in the monkey and human female.[5] These investigations appear to have been entirely ignored by the pathologist, and even Hitschmann and Adler, though they mention Heape's researches, leave us in doubt whether their work was incited by Heape's discoveries or whether it originated quite independent of comparative studies. As in this article no attempt at a complete review of the literature is aimed at, it will not be necessary to refer to some of the previous isolated observations, which showed a tendency to take functional conditions into consideration.

The object of this paper is:

I. To call renewed attention to the work of Hitschmann and Adler with reference to the cyclical changes in the human uterus.

II. To contrast the views of subsequent investigators with those of Hitschmann and Adler.

III. To discuss the influence of inflammation and ovarian disease upon the cycle.

IV. To show how these modified views affect the practical pathologist and clinician.

I. THE FINDINGS OF HITSCHMANN AND ADLER.

A brief review of the findings of Hitschmann and Adler is the first requisite. According to them,

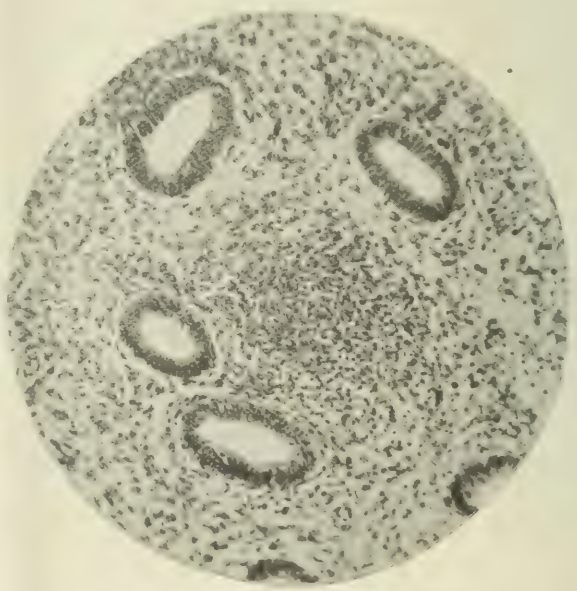


Fig. 2.—Medium power; normal uterine mucosa; resting stage with lymph follicle. The glands are oval on cross section. In the centre is an aggregation of lymphoid tissue which is frequently mistaken for a sign of inflammation.

[2]Hitschmann, F., and Adler, L. Der Bau der Uterusschleimhaut des geschlechtsreifen Weibes mit besonderer Berücksichtigung der Menstruation. *Monatsschrift für Geburtshilfe und Gynäkologie*, xxv i, 1, 1908.

[3]Norris, C. C., and Keene, F. E. Changes in the Normal Endometrium during Menstrual Life Based upon the Study of 100 Cases, *Surgical Gynecology and Obstetrics*, x, 44, 1910.

[4]Gardiner, W. S., and Novak, E. The Endometrium and Some of Its Variations. *Journal of the American Medical Association*, liii, 155, 1909.

[5]Heape, W. Menstruation of Semnopithecus entellus. *Philadelphia Transactions*, B, clxxxv, 411, 1894. Menstruation and Ovulation of Monkeys and the Human Female. *Transactions of the Obstetrical Society of London*, xl, 161, 1899

the regular menstrual cycle, in the human female, is characterized by the following four stages:

a. *Premenstrual Stage.*—This stage begins from



FIG. 3.—Low power; normal uterine mucosa; secretory stage. The enlarged and tortuous glands are in close proximity to one another. Their cells are higher, larger, and contain secretion. The stroma shows lighter areas where the decidual change has already taken place.

six to seven days before the bloody flow appears and is marked by a decided increase in the thickness of the mucosa (two to three times that of the resting stage), which can be readily divided into a compact and spongy layer. The glands enlarge in size, their lumen increases, and is irregularly encroached upon by innumerable pseudopapillary ingrowths formed by the lining epithelium. The epithelial cells increase in size largely because overdistended with secretory products. The secretion within the cells takes acid stains (red with eosin); in the lumen it is basophilic in its staining properties (blue with hematoxylin). The stroma throughout the uterine body has assumed a decidual type, the changes being best marked at the surface and around the bloodvessels.

b. *Menstruation.*—With the onset of menstruation the picture rapidly changes. Blood first appears in the superficial layers and then in the lumen of the uterus. A general deturgescence is noted. By the fourth day flattened glands (lumen small, epithelia low, scant protoplasm, and prominent nuclei) predominate, and distinction between compact and spongy layer can no longer be drawn. Some of the superficial epithelium and a few devitalized cells are cast off, but no large areas are denuded.

c. *Postmenstrual Stage.*—The mucosa is thin and pale. Subepithelial hemorrhages and residual blood pigment are rapidly absorbed; and epithelial defects are quickly regenerated. The glands are narrow, straight, and have narrow lumina, which soon become oval. The epithelium is squat, the cell body small and with sharply demarcated straight outline. The stroma consists mainly of spindle cells. From the first to the eighteenth day after menstruation (i. e. to the end of the interval) mitoses in the epithelial and stroma cells abound. Toward the end of this stage the mucosa grows thicker.

d. *Interval.*—During this stage the glands assume the typical corkscrew shape. No papillary formations are noted, but the cells broaden and thicken. They stain evenly with eosin at the beginning of this stage, later their affinity for the acid dyes is less marked toward the lumen. The surface stroma becomes edematous, and finally the glands begin to show pseudopapillæ. No mitoses should show toward the end of this stage.

e. *Normal Variations.*—Thus Hitschmann and Adler describe the cycle. They recognize that great physiological variations exist and also call renewed attention to the fact that the number of glands varies individually, and that the number is normally greatest at the fundus and on the anterior and posterior walls of the uterus, diminishing gradually toward the internal os.

f. *Hitschmann and Adler's Views on Endometritis.*—As a result of their investigations, they conclude that so called endometritis glandularis hypertrophica and hyperplastica are nothing but normal premenstrual findings. Endometritis interstitialis is the sole chronic inflammatory form which can be accepted. As the inflammation takes the



FIG. 4.—High power; normal glands showing secretory stage; irregularity of lumen, pseudopapillary projection of epithelium, faintness of cell outline, and protoplasm distended with mucus.

form of an exudative process in the stroma, round celled infiltration occurs, and of these cells the *plasma cells*, which accept a specific stain, are alone

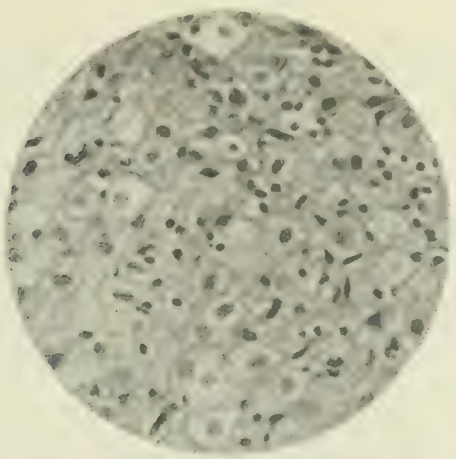


Fig. 5.—High power; decidual change of stroma such as is noted in extreme degrees of premenstrual change or in the early weeks of pregnancy.

characteristic of inflammation. Since their first publications, Hitschmann (1900)[6] has slightly modified his viewpoint. He is willing to admit that hyperplasia, beyond the physiological cyclical degree, occurs, but asserts that this hyperplasia is not inflammatory in origin.

II. VIEWS OF OTHER INVESTIGATORS.

As a matter of course, Hitschmann and Adler's work at once induced others to submit the question to trial and further proof. In the past four years a great number of articles dealing with the question have appeared. It will be unnecessary to analyze them in detail. All authors (with the possible exception of Jolly[7]) agree that cyclical changes take place in the normal mucosa. Some complain that Hitschmann and Adler's divisions into four phases are too elaborately schematic to be carried ont in practice; others, for instance Buettner,[8] carry out a still further subdivision.

Although almost complete unanimity exists upon the occurrence of more or less marked cyclical phases, diverse interpretations of the effect of the cycle upon the diseased endometrium have been given. Let us discuss this part of the question, which is most important from the practical standpoint, more in detail.

Acute endometritis.—Acute endometritis documents itself both clinically and microscopically. The etiological factor of the inflammation is determinable. Examination shows the evidence of acute inflammation—chiefly abundant leucocytic infiltration.

Chronic endometritis.—Chronic endometritis, on the other hand, according to Hitschmann and Adler, can be recognized solely from changes in the stroma—round celled infiltration. Of these cells *the plasma cell* is the sole reliable criterion.

[6]Hitschmann. Diskussion, Versammlung deutscher Naturforscher und Aertzte, September, 1909, *Zentralblatt für Gynäcologie*, xxxiii, 1455, 1909.

[7]Jolly, R. *Atlas of Microscopical Diagnosis in Gynecology.* English translation, Rebman Limited, London, 1911.

[8]Buettner. Anatomische und Klinische Untersuchungen über die Endometritis. *Archiv für Gynäkologie*, xcii, 781, 1910.

The plasma cell in chronic inflammations.—The plasma cell can be found anywhere in the body where chronic inflammation is noted. It occurs with particular frequency in inflammations of the skin and intestine. In most locations, however, the plasma cells disappear comparatively early, long before other evidences of inflammation, particularly the lymphocytes, are absorbed. The same applies to the uterus. A number of reports are now at our disposal. Some invesigators (Henkel,[9] Hegar[10]) report that plasma cells are often present in mucosæ which show signs of inflammation, but by no means as a constant finding; others submit statistics. I have combined six of these reports,[11] and it will be noted that in 626 cases plasma cells were found in 236 (in 37.5 per cent.). Such great variations, moreover, are noted in the percentage of plasma cells, obtained by different observers (Voigt, none in forty-seven cases; Freund, 107 in



Fig. 6.—Low power; normal menstruating mucosa. The premenstrual division into superficial compact and deep spongy layer is still recognizable. The glands are still tortuous, but the epithelial cells have emptied out their secretion. Toward the uterine lumen innumerable red blood cells are scattered throughout the stroma.

[9]Henkel, M. Klinische und anatomische Untersuchungen über die Endometritis. *Zentralblatt für Gynäkologie*, xxxiii, 201, 1909.

[10]Hegar, K. Die Lehre von der Endometritis und ihre praktischen Folgerungen. *Praktische Ergebnisse der Geburtshilfe und Gynäkologie*, i, 1909.

[11]Statistics:

	No. of cases examined.	No. of cases with plasma cells.
Schwab, *Zentralblatt für Gynäkologie*, 899, 1907..	40	3
Weisshaupt, *Zeitschrift für Geburtshilfe und Gynäkologie*, lxii, H. 1.....	51	27
Freund, *Zentralblatt für Gynäkologie*, 389, 1909..	218	107
Voigt, *Ibidem*, 809, 1909.....	47	0
Frey, *Zeitschrift für Geburtshilfe und Gynäkologie*, lxv, H. 2.....	81	41
Buettner, *loco citato* (8).....	189	58

218 cases), that we are forced to conclude that the source of material, individual interpretation and other unaccountable factors, make the presence of the plasma cell unreliable as a criterion of chronic

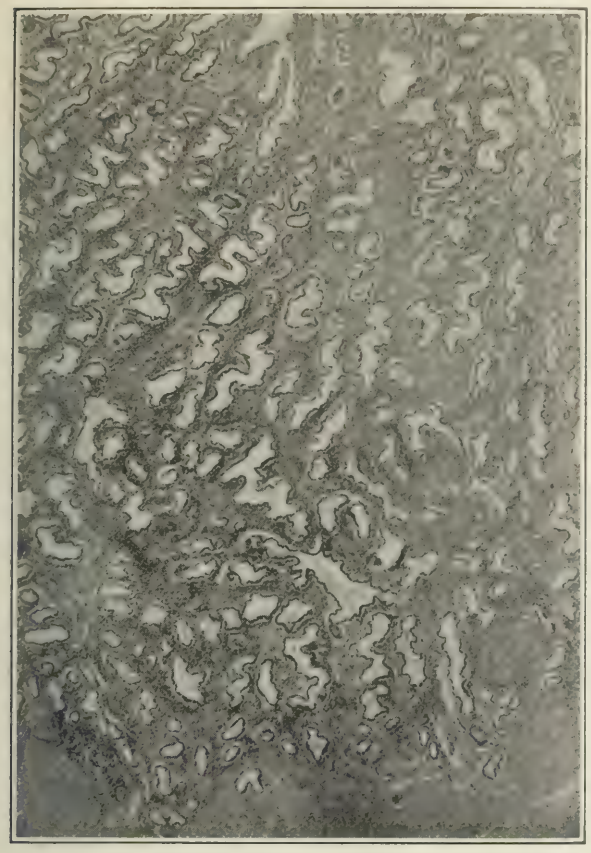


FIG. 7.—Low power; mucosa from uterus removed by vaginal hysterectomy. This patient bled for nearly a year in spite of all measures (three curettages). The stroma shows innumerable red blood cells in its meshes. The picture differs in no way from that of a normal menstruating mucosa.

inflammation, and particularly unsuitable as the sole criterion!

In consequence of these widely divergent findings, the general uncertainty has not been diminished. Various changes which accompany inflammation elsewhere in the body doubtless occur in the uterus as well, but are here obscured by the ever-changing picture due to *normal* cyclical changes, or overshadowed by purely *functional* variations which document themselves as irregular cyclical changes and are dependent upon the ovaries. The main difficulty, therefore, lies in the successful differentiation of changes due to purely inflammatory causes from those due to ovarian overactivity, underactivity (?) or irregularity.

III. HOW DO (a) INFLAMMATION AND (b) OVARIAN CHANGES INFLUENCE THE CYCLE?

Of innumerable articles, two—those of Buettner (1910, *loco citato*) and of Albrecht and Logothetopulos (1911)[12]—most clearly define the issues and offer the most satisfactory basis for analysis and criticism.

Albrecht and Logothetopulos declare that sub-acute or chronic inflammation of the uterus is marked by exudative, vascular, and stroma changes.

1. *Exudative changes* produce irregular, either localized or diffuse heaping up of lymphocytes, sometimes circumvascular, in other cases strandlike along the lymphatics. This may be the case, but personally, I acknowledge my own inability to distinguish these changes from those normally taking place. We are dealing with a stroma which is continuously changing under the influence of ovarian stimuli from close packed spindle cells at one extreme, to a broad, loose aggregation of epithelioid decidua cells at the other. Intermediate types even in the same specimen abound.

2. *Vascular changes,* according to Albrecht, manifest themselves by a great increase in small bloodvessels which also show a noticeably developed connective tissue sheath. I agree with Buettner that these changes (also emphasized by Henkel) are purely cyclical, and not inflammatory. They can be traced to their climax throughout the cycle, and are seen to a more exaggerated degree in dysmenorrheic membranes.[13] (Fig. 8.)

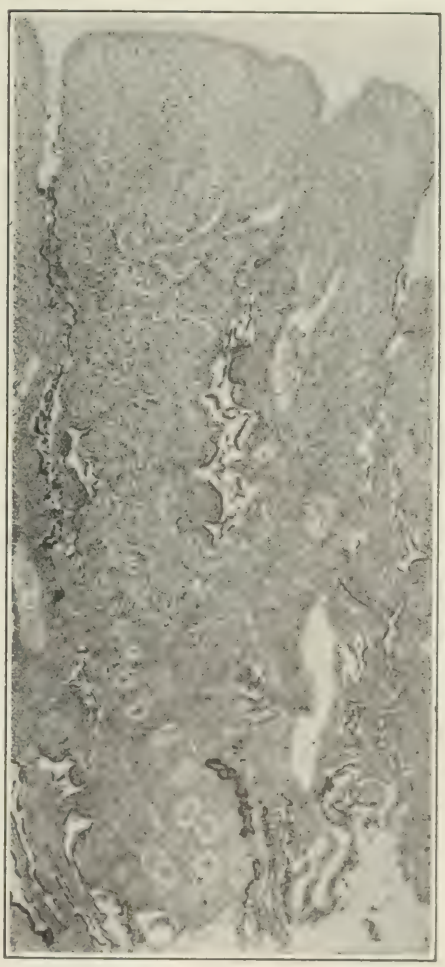


FIG. 8.—Low power; dysmenorrheic membrane; shown to illustrate the extreme thickening of the media of the smaller bloodvessels. The surface stroma shows marked decidua changes.

[12]Albrecht, H., und Logothetopulos, K. Die Lehre von der Endometritis. *Frankfurter Zeitschrift für Pathology,* vii, 150, 1911.

[13]Since completing this paper the following article, which deals in even greater detail with cyclical vascular changes, has appeared. Keller, R. Gefässveränderungen in der Uterusschleimhaut zur Zeit der Menstruation. *Zeitschrift für Geburtshilfe und Gynäkologie,* lxix, 333, 1911.

3. *Stroma reactions* document themselves, according to Albrecht, in irregularity of cell distribution, areas rich in cells alternating or intermingling with areas containing few cells. In addition, blood-vessels are increased, and pigment is found in the cell interstices. Again I must acknowledge that I am unable clearly to distinguish these variations from those seen in normal mucosæ, for in these, also, the stroma changes affect different areas unequally or at not exactly the same time, so that similar pictures result.

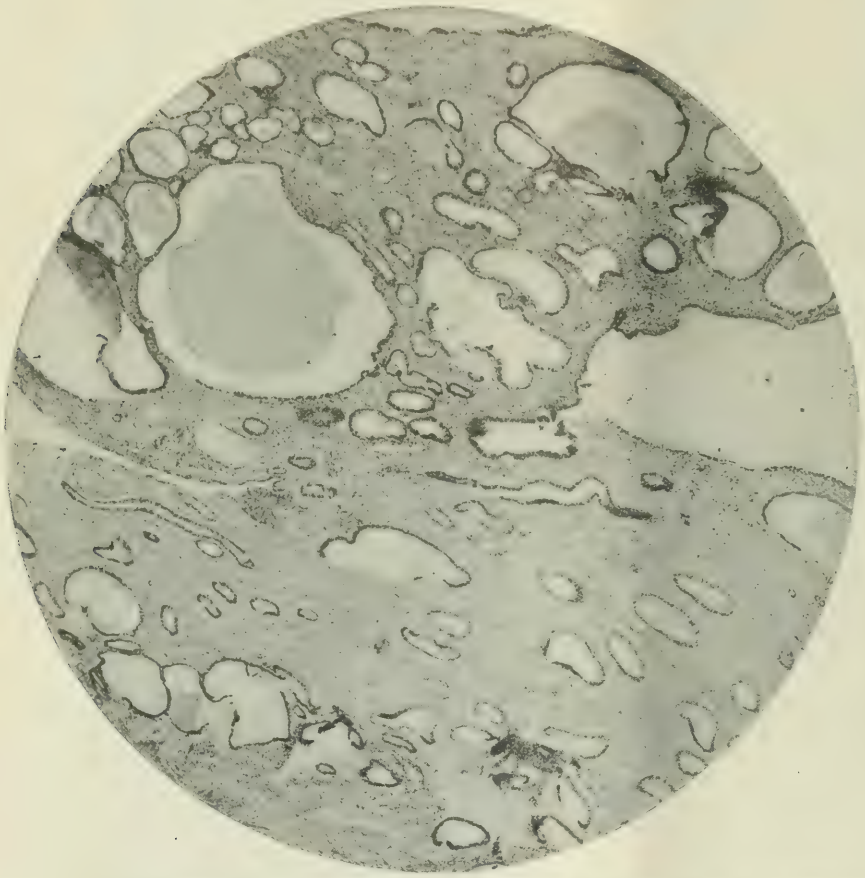


Fig. 9.—Low power; polypoid and cystic change of the endometrium, so called *endometritis fungosa of* Ohlshausen. This is a common change in the præclimacterium.

Buettner, with whom, on the whole, I am more in accord, likewise at times makes too great demands upon our diagnostic abilities. Because the interval of Hitschmann and Adler, which occupies two weeks, does not give a uniform picture, he desires to subdivide this period still further.[14] This refinement is not called for, and will only add to the already existing confusion.

His careful analysis of 271 cases in which the time of menstruation was known convinced him that chronic inflammation rarely, if ever, produces hyperplasia of the mucosa. Retroflexion, likewise, with consecutive hyperemia did not favor hyperplasia. These deductions were based upon careful comparison of clinical course with histological findings.

Buettner agrees with those who ascribe the variations so frequently noted to ovarian influences. This applies alike to the microscopical findings and to the clinical symptoms (menorrhagia and metrorrhagia—both being menstrual phenomena, altered either as to periodicity, intensity, or both). The so called glandular cystic hypertrophy, *endometritis fungosa* of Ohlshausen (Fig. 9), is also ovarian in origin. The present tendency to hold the ovaries responsible appears to me a logical inference well warranted by physiological and clinical facts. On the other hand, we know from experimental evidence that ovarian influence, assisted by local intrauterine stimuli, can cause enormous hyperplasia, which, however, chiefly, though not exclusively, takes the form of a decidual reaction of the stroma and does not affect the glands to the same degree (Experimental deciduomata of Loeb[15]).

Albrecht and Logothetopulos, having demonstrated to their own satisfaction their ability to distinguish inflammatory from noninflammatory conditions, proceeded further and attempted to distinguish between irregular and protracted phases (that is, conditions due to ovarian influence) and what they term

Stationary pathological hyperplasia.—Their criteria, as will be seen by what follows, are too complicated and involved to prove of much service. They state that in this condition mitoses are numerous (although normally few in the præmenstruum). That no regular subdivision into compacta and spongiosa is possible; that true intraglandular papillæ, in contradistinction to the pseudopapillæ of the præmenstruum (Fig. 4) are present; and that, further, marked tortuosity, irregular secretion, and absence of regular secretory forms, serve to distinguish this type. They then conclude that, still judged by *their* criteria of inflammation, hyperplasia is noted in sixty-six per cent. of inflamed mucosæ, and only in twenty per cent. of uninflamed. This would demonstrate that we, as heretofore, must regard chronic inflammation as the chief factor in producing hyperplasia.

IV. How do these modified views affect the practical pathologist and clinician?

From the preceding it is clear that we are justified in accepting as definitely proved that the normal uterus reacts to ovarian influences by periodical

[14] Buettner (*loco citato*) divides the interval into *early*, with narrow glands containing no secretion; *mid*, with glands considerably enlarged and with some secretion and mitoses most numerous; and *late*, with more glandular activity, but no mitoses.

[15] Loeb, L. The Experimental Production of the Maternal Placenta and the Function of the Corpus Luteum. *Journal of the American Medical Association*, liii, 1471, 1909.

changes. Until Hitschmann and Adler called attention to this fact, in the majority of instances these physiological changes were unquestionably interpreted as evidence of inflammation—"chronic glandular" or "chronic hyperplastic endometritis." It is equally evident from the subsequent reports

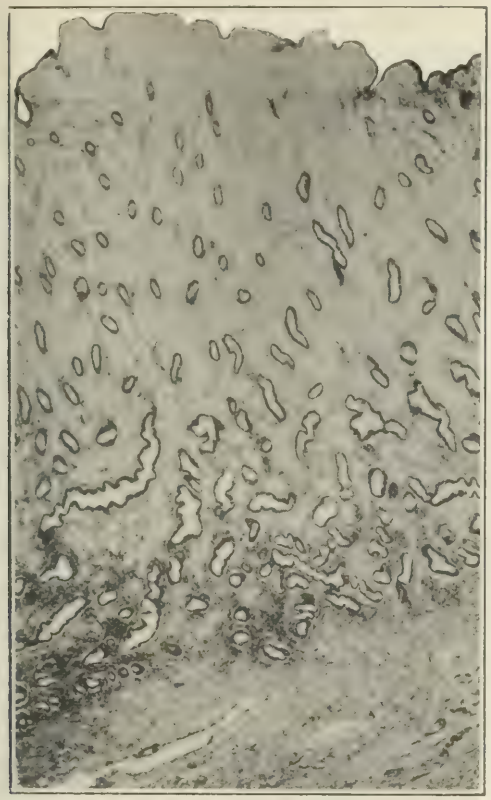


FIG. 10.—Very low power; hypertrophic endometrium from a fibroid uterus. In spots this endometrium is 9 to 10 mm. thick. The glands are in the resting stage.

of other investigators that Hitschmann and Adler's schema, which applies to normal types only, does not account for all the variations met with.[16] Moreover, the absence of plasma cells cannot be accepted as sure and safe evidence of the absence of inflammation, though their presence is indubitable assurance that we are dealing with an inflamed mucosa. Other signs of inflammation, which correspond to those noted in other parts of the body (gland, vessel, and stroma changes), are usually obscured or may be simulated by the everchanging phases to such a degree that they are of no pathognomonic significance.

In spite of this *impasse*, we have made one distinct advance. A certain number of cases have shown that inflammation existed (plasma cells found) without causing the symptoms of "endometritis." When taken in conjunction with the fact that many cases, which show normal mucosæ, when judged by all criteria, clinically manifest the signs of "endometritis," it becomes evident that we have been misled by focusing our attention upon local conditions instead of following a clearly blazed trail which points to the ovaries. The classical signs of "endometritis" are leucorrhea, and menorrhagia and metrorrhagia. The former is a sign of glandular overactivity (here we must endeavor to separate cervical oversecretion from corporeal—by no means an easy task), the latter of vascular and stroma stimulation, both dependent upon the functional activity of the ovaries. When the functions of these organs are disturbed, or exerted irregularly, we not only are confronted by the clinical signs of "endometritis," but also must expect to find morphological evidence of a disturbed cycle, such as hypertrophies and hyperplasias of the mucosa.[17]

As these functional ovarian changes appear to elude anatomical investigation (depending as they probably do upon many factors such as the rate of growth and number of maturing follicles, presence or absence of the corpus luteum, interaction of other glands of internal secretion, changes in the pelvic circulation secondary to annexal disease, etc.), we shall be obliged to resort to physiological methods to elucidate the problem. This complicates the question greatly, because by animal experimentation we are unable to reproduce conditions in any way



FIG. 11.—Medium power; "invasion" of uterine glands into the musculature, considered by some to be due to inflammation. This "invasion" does not herald malignant changes.

[16] An article which has just appeared emphasizes this point still more. The authors find premenstrual glands in many cases during the post menstruum and interval. Schickele, G., und Keller, R. Die menstruellen Veranderungen der Uterusschleimaut. *Monatsschrift für Geburtshilfe und Gynäkologie*, xxxiv, 621, 1911.

[17] Such hyperplasias as are noted in the presence of submucous fibroids have purposely not been considered. They may very well be due to ovarian stimulation which, perhaps, also causes the growth of myomata. See Seitz. Ovarialhormone als Wachstumsursachen der Myome. *Münchener medizinische Wochenschrift*, 1911, [illegible]

parallel to those which confront us clinically. In one class of cases, however, this method of research is at least approached, for when double oophorectomy is performed for diseased annexa and the uterus left behind the hemorrhages and also the discharge (unless due to gonorrheal cervicitis) usually cease promptly.[18] The reverse holds true when curettage alone is performed for so called preclimacteric hemorrhages, arteriosclerosis of the uterus, fibrosis, chronic metritis, metrorrhagia myopathica, and *hoc genus omne.*

The sole method at present at our disposal to reduce the activity of the ovaries, short of complete ablation, is to expose them to the x ray with the hope of controlling not only the bleeding but also the leucorrhea. No data, properly controlled by histological examinations of the mucosa, in cases which have resisted all the usual methods of treatment, are at hand. My own cases are as yet too few to be of value.

At the present time our efforts should be directed to offer some guide to the practical pathologist, and also to the clinician, which will aid the former in differentiating the normal from the pathological, and enable the latter to devise successful methods of treatment. This is more important than taking an irrevocable stand on a question which is still *sub judice.* The average hospital pathologist, at least in the United States, has evinced but perfunctory interest in this important problem, and has shown no inclination to familiarize himself with the newer investigations or to master their details. Consequently, in our average hospital the monotonous report of "glandular and interstitial endometritis" is still handed in day by day to the clinician, who is thereby encouraged to regard every endometrium as diseased. The American clinician, on the other hand, has been too undiscriminating. For several decades he has been content to accept reports which neither conform to the clinical findings nor assist him in combating the disease (*vide* the diagnosis of "endometritis" constantly received for curettings from normal cases of anteflexion and stenosis merely sent to the pathologist as a matter of routine).

It will suffice if we recognize in our reports:

1. A *premenstrual* or *secretory* stage (Figs. 3 and 4).

2. A stage of *menstruation* (it will be found that mucosæ from cases of menorrhagia and metrorrhagia alike conform to this type (Figs. 6 and 7), and

3. An *interval* or *stage of comparative rest* (Figs. 1 and 2).

Curettings of these types should be reported as "normal endometrium" with mention of the appropriate stage, regardless of whether the stage conforms accurately with the date of menstruation.

2. If, in addition, plasma cells are found, it is sufficient to report "endometrium showing chronic inflammation" and "cyclical stage 1," "2," or "3" as the case may be.

3. Borderline cases between physiological and pathological growth can be classified as "endometrium with exaggerated phase," in order to emphasize the fact that the change is purely secondary (ovarian influence).

4. Marked glandular cystic hyperplasia, hyperplasia after the menopause, etc., can be reported as such, without the use of the word "endometritis." (Figs. 9 and 10.)

The clinician, on the other hand, should recognize

1. That *anatomical* evidence of inflammation is demonstrable in less than half of all cases.

2. That many cases which anatomically show the presence of inflammation give no corresponding *clinical* symptoms.

3. That a majority of cases which show the conventional symptoms of endometritis (leucorrhea or bleeding) are wanting in demonstrable anatomical signs of inflammation.

4. That, therefore, in most cases, we are obliged to search for other etiological factors to account for the symptom-complex hitherto called "chronic endometritis," and devise for it a more logical treatment than curettage, intrauterine applications, or vaginal douches.

I am indebted to Prof. F. C. Wood for several of the microphotographs which illustrate this article.

Park Avenue, Eighty-third Street.

[18] Several instances where bleeding continued after such operations have come to my notice. After several years' interval these patients required reoperation, because of the development of a cystic mass on one side, and it was then found that ovarian cysts had developed from small portions of the ovary left behind at the primary laparotomy.

IONIC SURGERY IN CANCER OF THE RECTUM;*

A Review of Fifteen Cases,

By G. Betton Massey, M. D.,
Philadelphia.

It is admitted that cancer of the anorectal region presents one of the most difficult problems to the modern surgeon. From the point of view of excision the difficulties are twofold unless the growth is discovered very early: First, the practical difficulty of excising the growth without reinfecting the cut edges of the wound with living cells from the part excised, an accident that is daily receiving more attention from surgeons, judging from the literature of the subject; second, the bugbear that attends all operative work in this region, including ionic destruction, namely, preoperative metastases to the pelvic glands and abdominal organs. This latter condition was found to be present in at least six of the eight failures to cure in the list of fifteen cases summarized in this paper, and is too often a consequence of the delay in the recognition of the disease by the family physician.

Mr. W. E. Miles, of the London Cancer Hospital, recently called my attention to an operation devised by him, consisting in a simultaneous rectal and abdominal operation, the rectum being separated above the disease, together with affected glands, through the abdominal opening, the excised parts being invaginated and removed through the rectal incision. The difficulties in performance and percentage of successes of this operation are unknown to me.

Whether the disease has spread thus through the

*Read before the Philadelphia County Medical Society, January 24, 1912.

lymphatics or not, it becomes our duty in most cases to endeavor to destroy or remove the local growth, late or early. The advantages presented by ionic surgery in its major form in accomplishing this result are theoretically very great, for by it we may destroy in a few minutes by the organotropic action (to borrow a term just introduced by Wassermann) of the ions of zinc and mercury on the malignant cells and their stroma of normal tissue, which are devitalized *en masse* if the operation has been sufficiently thorough and the local conditions make it possible.

The technique, in brief, is as follows: For a growth in the anal region or lower third of the rectum, and involving the sphincter, the bipolar method is employed, consisting in surrounding the growth with zinc mercury positive needles, inserted in the healthy tissue just beyond the edges and apexing in the deepest portion of the growth, and placing the negative electrode in the centre, a direct current of about 2.000 milliampères being then turned on. In twenty to twenty-five minutes the whole of the included tissue and a little beyond is impregnated with the ions of the metals, devitalizing and turning it a whitish gray. A general anesthetic is essential during the short time in which the current is turned on.

When the growth is above the sphincter, the unipolar method is employed, in which the negative pole is removed to a large pad under the patient's back and the active needles, so insulated that they are active only at their tips, are inserted in the growth. A very great advantage of the unipolar method in cancer confined to the structures above the sphincter, is that a very heavy current may be thus employed without interfering with the sphincter muscle or the anus proper.

In both cases the practically sterile slough separates in about fourteen days, leaving what should be a healthy wound. Should remnants of cancerous tissue be discovered in the wound during the period required for granulation, minor applications, which are then practically painless, may be pushed daily in a further effort to destroy all infected tissue.

Of the fifteen cases in which this method has been employed by myself, seven have been successful, seven have been either local failures or failures due to metastasis, and one patient succumbed some ten hours after the operation.

Chronologically arranged, eight of these patients were under treatment prior to 1905 and have been fully reported elsewhere, four of them being cured, two of whom report to me regularly and are known to be perfectly well at the present time; one has since died, cause unknown; and one has been lost sight of.

The histories of the seven patients under treatment since 1905 may be briefly summarized as follows: Three are well, as ascertained by recent inquiry; two were local failures due to extension to the bladder; one a failure due to metastasis: and one died shortly after operation, as mentioned before.

Full reports of all these cases have appeared elsewhere,[1] failures and successes alike, and in all but two full microscopic studies verified the diagnoses. In this paper I will give a brief account of the three most recent successes.

Case I. Mr. K., aged sixty-three years, was referred by Dr. F. H. Morse, of Boston, Mass., April 25, 1908. Thirteen months previously the patient began to have bloody discharges from the rectum, mixed with mucus, attended by pain five months later, the latter growing progressively worse to the time of admission. During this period constipation had increased until only powerful saline cathartics could induce movement. The patient is normally sallow, but of late had become increasingly anemic, and apparently cachectic.

Examination of the rectum by touch revealed a growth two inches from the anus, consisting of an annular proliferation surrounding the rectal calibre, and so constricting it as not to admit the tip of the finger. The inner surface of the growth was eroded, bled freely, and emitted a foul odor and discharge. The total mass was the size of an egg, and was slightly movable. A microscopic examination by Dr. John M. Swan showed it to be a carcinoma. Blood count: Erythrocytes 3,880,000; leucocytes 11,760; hemoglobin seventy-two per cent.

Unipolar ionic operation, April 26, 1908; with the patient under ether, and lying on a large, moist kaolin pad connected with the negative pole, the positive, insulated zinc mercury needles were inserted near the peripheries through the protected anus and a current of from 400 to 600 milliampères was turned on and maintained for thirty-five minutes. Proctoscopical examination now showed the whole of the growth to be whitish gray in color, shrunken and odorless.

During the following night there were a number of free movements of the bowels, but the catheter had to be used to empty the bladder, and this latter condition continued for nine days, followed by return of voluntary micturition.

The wound produced by the separation of the slough in due time showed healthy edges, and was followed later by some contraction of the rectal calibre at its site, relieved by stretching with a dilating urethral catheter. At the end of four months' observation the patient was referred back to his physician.

Doctor Morse informed me, in September last, three years later, that there had been no recurrence of the disease.

Case II. Mrs. Y., aged sixty-nine years, was referred by Dr. Mary Dunning, of Newburgh, N. Y., September 3, 1909. She had had what was supposed to be hemorrhoids for four years, but six months before admission a growth diagnosticated microscopically as adenocarcinoma was removed by excision, including the greater portion of the lower rectal walls. One week before Doctor Dunning discovered a recurrence.

Examination disclosed six nodules about the size of marbles in the line of the incision, the uppermost three inches above the anus, with a somewhat larger mass in the rectovaginal septum. The growths were ulcerated and proliferant.

An operation similar to that described above was done September 6, 1909, under either, from 400 to 900 milliampères being used for thirty-seven minutes with eight needles.

The sphincter was protected in this case as in the first one described, but the destruction of the nodule in the perineum resulted in a vaginorectal fistula through which the greater portion of the feces passed. All edges of the wound were nevertheless healthy, and were reported still healthy in December last, about two years after the discharge of the patient. It is my impression that the fistula has closed spontaneously and without a plastic operation, but no exact information is at hand at this writing.

Case III. The third case was that of a carcinoma of the lower rectum and anus in a man of some fifty years, recurrent after excision, in whose case I was asked to demonstrate the method by Mr. W. E. Miles while on a visit to the London Cancer Hospital in April, 1910.

The exact limits of this recurrent growth were somewhat difficult to determine, but it appeared to extend about two inches from the anus at all points laterally, and some four inches up the deeply scarred and rigid tube occupying the site of the lower rectum.

After some difficulty in adapting my appliances to the electrical apparatus in use there, I inserted large, active zinc mercury spears just beyond the edge of the growth

[1] See the writer's monograph: *Cancer and Its Treatment by Ionic Surgery*. New York: A. L. Chatterton & Co., 1910.

parallel to the rectum, and reaching the probable upper limits, or about four inches up the rectum, carefully avoiding the prostate. A negative electrode was then pushed within the anal opening and 2,000 milliampères turned on in this bipolar manner and maintained for twenty minutes.

I was informed later that the separation of the slough was without hemorrhage, leaving an opening within which one's fist could be inserted, which later contracted to normal dimensions.

Doctor Humphris, of London, informed me that this patient was apparently well one and a half year later, or in September last.

CONCLUSIONS.

1. The writer thinks that a record of seven successful results in fifteen unselected, or but partly selected, cases of carcinoma and sarcoma of the rectum and anus, establishes the value of cataphoresis, or ionic surgery, in selected cases of these affections, the chief indications for the use of the method being, in sphincter involved cases, conditions that interfere with successful eradication by excision; and, in growths of the middle and upper rectum, the possibility of eradicating the disease without injury to the sphincter.

2. The simplicity of this method in an incipient case, with its bloodlessness and the short period of anesthesia required, should stimulate physicians to investigate their so called hemorrhoidal patients at once, since this may be done with great thoroughness by the simple oiled finger. Should the examining finger detect an indurated internal pile, or an ulceration with indurated base, the case should be regarded with suspicion at once. The growth may be syphilitic in rare instances and further investigation be needed, but immediate destruction or removal will do no harm and may save the patient's life.

3. The early and most curable stage of cancer of the rectum is totally unaccompanied by pain. Difficult defecation, a suspicious discharge, pain, and bloody stools are not signs of the earliest stage of cancer of the rectum, but of a later stage. Unt l general practitioners realize that elaborate apparatus is unnecessary in the detection of e rly malignant growths in this region and apply the simple *tactus eruditus* promptly, we shall continue to have a large proportion of failures to cure cancer of the rectum, by reason of metastasis, no matter what method is employed.

903 Professional Building.

TRAUMATISM OF THE EYEBALL.

A Report of Two Most Interesting Cases.

By F. P. Hoover, M. D.,
Jacksonville, Fla.

I have recently had a case of injury to the eyeball, with such a pleasing result, and the case being so similar to one I had three years ago with such an unlooked for and happy termination, I am induced to report them, demonstrating, as they both do, the inadvisability of jumping to the conclusion, whenever a so called serious case of external violence to the eye is brought to us, that the eye must be enucleated instanter. The longer I do eye work the more I appreciate that a too hasty prognosis does not pay. Better first follow the adage of the renowned Davy Crockett, "Be sure you're right, then go ahead." I am convinced many eyes annually are taken out that could with care and good attention be saved, notwithstanding the general opinion that the fellow eye may be affected sympathetically

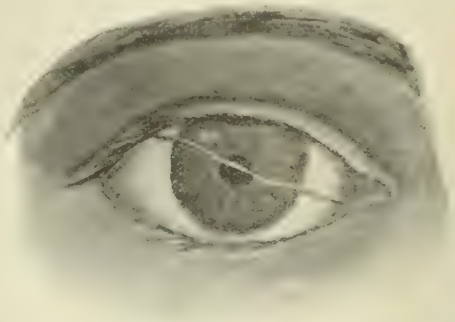


Fig. 1.—Case I, eye of foreman of turpentine camp, age thirty years, showing scar result from knife cut.

or otherwise if the bad eye is allowed to remain. Please do not misunderstand, those who read this, that I favor leaving an eye in the socket that we are positively sure should come away. God forbid! But I deem it fair to the patient first to make every effort known to science to save the eye, remembering a little sight is better than no sight at all and your own eye is many, many times more preferable to an artificial one, no matter how perfect the latter may be.

Case I. J. B., aged thirty years; negro, foreman of turpentine camp; was brought to me by his employer with the following history: Forty-eight hours prior to coming to see me, while giving directions to one of the negro hands employed on the place, the man, who had been drinking, struck the foreman. A fight ensued, and during the scuffle the negro succeeded in drawing a clasp knife and slashed the foreman with it, badly cutting the right eyeball; both parties were arrested and lodged in jail; as they were unable to give bail, it was two days later the employer and operator learned of the fracas and where his employees were. He at once secured their release and brought the foreman to my office to learn the extent of the injury and what should be done. There was a great deal of pain in the eyeball; the lid was swollen, so much so that the eye could not be opened. After use of warm applications, I succeeded in opening the lids and making

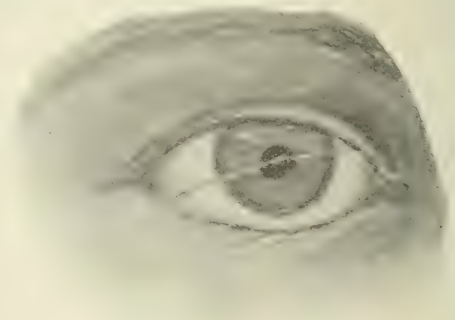


Fig. 2.—Case II, eye of Henry C. H., age twenty months, showing scar result of injury from being struck with broken plate.

an inspection; the lids and eye were painful to touch, and from the eye there exuded a mucopurulent discharge; there was inflammation of palpebral and orbital conjunctiva, the eye was sensitive to light. Across the eyeball was an oblique gash about three quarters of an inch long from above downward, and seemingly about three sixteenths of

an inch deep. There did not appear to be any loss of fluid from the anterior chamber; the pupil was cut across and the conjunctiva turned in the cut, completely preventing escape of watery substance. The patient's face was dirty and his clothes were muddy and unkempt. He had not washed nor had the use of water in two days, and had received no professional attention. The patient would not allow further examination. I washed the eye with warm boric acid solution, instilled atropine, and covered it with a bandage. I could not believe the eye could be saved, knowing of the place wherein the patient had been incarcerated. I recommended removal of the eye, fearing sympathetic inflammation. The employer inquired cost of the operation and expense while in hospital; he said he would try to have the men employed on the work contribute to the fund, as he did not feel able or justified in paying the entire amount alone. After a few days, the eye being kept clean and under atropine during that interval, no funds could be raised and patient was seen no more. Eighteen months later, the employer meeting me on the street, stopped me, and said: "The foreman has never had anything done to his eye since you treated him;



Fig. 3.—Photograph of Henry C. H., Case II; age twenty-three months, taken three months after injury.

he has fair sight in that eye, and so far as can be seen, the eye looks the same as the other, with the exception of a broad white scar."

Case II. Henry C. H., Jr., aged twenty months, while riding in his carriage on the pavement, a little girl aged eight years, a neighbor, without provocation or warning, ran up with a half broken china plate in her hand, and struck him in the eye; the eyeball was cut nearly horizontally across its centre. The injury occurred late in the afternoon of September 28th last. The parents at once took the child to two of our specialists who advised enucleation immediately, but the parents refused. The father, who some time previous had been a patient of mine (the time the accident occurred was after my office hours), called on me the following day, and nearly twenty-four hours after injury I saw the little patient. There was much swelling of the lids of the right eye; when the eyeball could be inspected I found a general hyperemia, the eye painful and sensitive to light; the cut was a deep broad one, three quarters of an inch long, in depth extending to the iris. The conjunctiva was turned in the cut, preventing the escape of aqueous. It was impossible to use the ophthalmoscope. I smoothed out the puckered conjunctiva and would have taken stitches in the cut and drawn the edges together, but was afraid the wound might gape and thus cause a loss of fluid. I told the parents to use the wash and drops I ordered, and to keep the eye covered and to bring the baby to see me the next day. I looked for a small fragment of china in the wound, but found none. I continued warm boric acid wash frequently in the eye daily, with atropine and cocaine drops; in twenty-four hours the swelling had nearly subsided and no pain remained. I discontinued cocaine, giving atropine only. The eye gradually became less sensitive to light. The patient was bright and playful. In two weeks' time I found that the patient *could see* below the scar; above it he could not make out an object even when held close to him, such as an apple of which he is most fond; he did not experience any inconvenience in the use of the eye, and it was the same size and shape of its fellow, with the exception of the scar, which resembled a broad whitish line with a slight jag in it about the centre of the pupil; otherwise the eye looked normal and one would never imagine it had ever had so great an injury.

I do not anticipate further trouble, unless in the future a cataract should develop. The eye from time to time has been seen by several physicians, who were anxious to see the result of the treatment, and considering the extent of the injury, it does seem wonderful that both the eye and sight should be saved.

The accompanying plates show the lesions reported above, with scars, also a photograph of Case II taken three months after the injury.

Mutual Life Building.

THE SOCIAL WORKER AS A FACTOR IN SOLVING THE DISPENSARY PROBLEM,

By Samuel Horton Brown, M. D.,
Philadelphia.

The title of this paper is rather misleading in that it would seem to imply a recital of the results gained by utilizing the social service for purposes of the profession, whereas the paper is intended merely to embody suggestions, showing what might be the results gained thereby. The dispensary evil in all its several aspects is familiar to all of the medical profession, but the rehearsal of a few of its many points will serve to explain why the social service may be of advantage in solving it. Those of us who are located in the larger cities appreciate the tremendous influence the free dispensary service is having upon the lay public, the profession, and upon the resources of the hospital itself.

The lay public is influenced in several ways. To begin with, the average lay mind regards it as perfectly sane and sound business to obtain for nothing, whenever such is possible, any service of any kind whatever, rather than pay. Every cent saved in this manner is real economy. Very few of this same class would stoop to steal or resort to any of the several recognized dubious means of acquiring services or merchandise. It is considered that anything is worth just as much as it costs, but when medical services are to be had gratuitously, it seems to become a duty of those within reaching distance to avail themselves of it. It is a great favor that they are conferring upon the physicians.

This much may be said for the lay public, which is not said very often, however, and that is that much of the work for which it consults the physicians in the free dispensary is work that would not be performed at all if it were necessary to pay for it. Consequently the percentage of the work does not represent any considerable amount withheld

from the profession's finances. It does, however, work an injury to the lay public itself, or rather that part of it for which the free dispensary was instituted, namely, the worthy poor. The economical persons who attend the dispensaries, when they are as able to pay their physician as their milliner and tailor and the theatre manager, deliberately abstract time and attention from those who are most in need of it.

The very poor, and these are usually the dirtiest and most repulsive of those seeking dispensary aid, are not possessed of the happy faculty of having people give them the kindly and courtly consideration that is due human beings, and they are likely to be hurriedly dismissed with a prescription of doubtful value in order to dispose of them as soon as possible. If their case or cases present features of unusual character, on the other hand, attention is carried to the other extreme and the treatment becomes more of a burden than the disease.

Trivial affections in the very poor are of greater importance than the same class of ailments in the less unfortunate class of people because they are attended with grave fears and premonitions. Very frequently such patients are incapacitated for work by conditions that appear to the dispensary physician of no gravity; he dismisses the patient with more or less vague and often gruff explanations of the condition. Not so, however, with the better dressed and perhaps more polite, and doubtless better paid, dispensary patient. To this patient, the dispensary physician is all courtesy for fear the patient may be a friend of a friend who has a friend on the board of managers, notwithstanding he knows that this particular individual represents the class that is doing most harm to the medical profession, and in itself constitutes the entire dispensary evil.

Experience has taught the young dispensary physician, or he has learned from the experience of his friends, that his surmise regarding the well dressed, economical layman who frequents the dispensaries is correct, and, what is still more disheartening, this layman seems to have no difficulty in getting some one on the board to champion what he regards as his rights in the hospital. Why this should be the case is very difficult to understand unless the board is fearful lest contribution from some anonymous, or perhaps well known source, should be jeopardized. Such must be the case, however, since the very poor are seldom so interesting to the board and the dispensary physician's handling of the case is always sanctioned without question. The same may be said of the patient who pays a moderate fee for board and attention in most of the hospitals. Such patients seldom get the attention that these dispensary "beats" obtain.

For perfectly obvious reasons, the physicians are powerless to interfere. The hospital connection is an honorable one, and the experience is necessary to the young man. If the physician attempts to learn for himself of the patient's financial standing, he is accused by the public and the management of trying to "work" the dispensary; if he fails to do so, his colleagues accuse him of robbing the profession of its just dues, and he has a lurking suspicion deep down in his heart that he is not doing the right thing by the other patients, by the hospital, and by himself. Consequently, the evil is allowed to run on indefinitely, becoming greater every day, requiring more physicians, more buildings, and more money for maintenance.

The social service as instituted in most of the larger hospitals, and many of the smaller hospitals in the eastern cities, is made up of a corps of trained, paid, and voluntary workers, whose business it is to determine just how really poor the patients are and whether the sociological features of the individual contribute to the illness, and whether these can be altered with a view of supplementing the purely medical treatment. This minding of other people's business is considered highly proper and legitimate as long as it has to do with the submerged tenth, and there is no question about the good results that are certain to follow this investigation into the home life of the patient.

These workers are astounded very often to find the poverty and neglect much greater than was thought to be the case by the physician who recommended the patients to the service. Kind and intelligent workers are in a position to accomplish much good for such patients. Unfortunately, the social service in many of the hospitals is restricted to these extreme cases which are especially recommended to the service for aid. A few institutions have all the patients pass through the service's inquisition before they receive any attention. It is the latter plan which is commended by the author of this modest communication.

Assuming that one of these dispensary "beats," with a comfortable salary, presents himself for treatment, the social service in its abstract way, without any of the kindness previously implied, can proceed to determine, through its workers, the man's salary, his habits, his home life, etc., and infringe upon so many of the patient's rights guaranteed to him under the constitution (according to his view) that he will voluntarily, in most instances, refrain from continuing to draw upon the hospital for relief, particularly if he finds the same performance follow each application to another hospital.

Any law passed, imposing fines or other punishments upon such persons, is certain to fail of its purpose, as the offenders are equally clever in circumventing it as the lawmakers were in conceiving it. Any questions asked by the superintendent, or clerk, or physician in attendance, are sure to be answered by falsehoods if the truthful answers are likely to deny the service and attention of the hospital to the applicant. Now if the social service workers are sent to the patient's homes to verify these answers, a different color is given to the whole affair.

Most of these "beats" like to pose as persons of some importance in their neighborhood and often impress some of their neighbors to that effect. Visits from social workers are not likely to further this impression, and the indignation of the "beats" following these visits will result in a cessation of their visits to the particular hospital, and to other hospitals when it becomes known that this is the routine. In other words, the "beat" will be made to leave voluntarily by a resort to his pride, such as it is.

1901 Mount Vernon Street.

POSTGRADUATE WORK IN VIENNA AND BUDAPEST,*

By Frank McMorrow, M. D.,
Syracuse, N. Y.

When I was asked to present my views regarding my experiences in Vienna and Budapest, it occurred to me that the members of the society would be most interested in a description of the clinical advantages and opportunities for postgraduate work, giving some idea of the work each instructor deems most important in his treatment, diagnosis, and technique in gynecology, obstetrics, and functional kidney diagnosis, as these are the branches to which I devoted my entire time.

On arriving in Vienna I became a member of the American Medical Association, which was founded in 1903 by the American physicians then residing in Vienna. This association has steadily grown, and is now on a sound basis both scientifically and financially. The club is located opposite the Allgemeines Krankenhaus, and consists of five rooms, one containing a large reference library, most of the books having been presented by members and friends of the association. Another room is used as a reading and writing room, where can be found the leading American medical journals and some of the American newspapers and magazines. The main room is devoted to the posting of courses, registration books, and also the secretary's quarters. The secretary's hours are from 2 to 10 p. m.; and one finds him most willing to give any information desired.

The allgemeine or general hospital of Vienna is known all over the world. Its renown brings hundreds of medical men from all parts to further their studies after they have taken their degrees in their own country. The hospital was founded by Josef II. In his time it was the greatest hospital in the world, and is considered so now. The building has been enlarged from time to time, and now contains nine courts and fourteen clinics. The hospital contains 3,000 beds, and with the ambulatory cases treated, more than 1,000 patients are attended to a day. The patients come from all parts of the Austrian Empire, Balkan Provinces, from Roumania, and from the East. From this, one can form some idea of the amount of practical work to be obtained there.

Although the hospital is an old one, the death rate is very low. The new hospital situated above the old is almost completed; in fact, some of the clinics are now being held there. One objection has been made, that the nursing is not done by trained nurses, but this is only partly true. In the operating rooms the nurses act as assistants, handing the instruments, and are very well trained and fully able to do the work required of an expert assistant.

Some of the great surgeons and physicians are known all over the world, notably Stoerk, Eiselsberg, Neumann, Politzer, Lorenz, Fuchs, Zuckerkandl, Neusser, Hochenegg, von Noorden, Finger, Shauta, and Wertheim.

All courses given in the hospitals are posted about the twentieth of the month, thus giving the men an opportunity to sign before the first of the following month. The right of priority to join these courses is established by the date of one's registration, the courses being limited from five to ten men. There are eighteen courses given during the month in gynecology and obstetrics, and as many parallel courses can be arranged if desired.

The association appoints one man representing the most important branches of medicine and surgery, whose duties are to furnish the men with all necessary information for their rapid orientation on arrival in Vienna. Meetings are held Friday evenings, and are addressed by prominent members of the university staff. These lectures as a rule are in English, and are most interesting and instructive, as they deal with the latest subjects in surgery and medicine. The meetings are popular, and are greatly appreciated by the members, as evidenced by the large attendance at each meeting.

One of the most popular courses given is by Professor Stoerk, in gross pathology, which is generally taken by physicians, independently of whatever line they are following. Professor Stoerk is a young man, but he has been connected with the hospital for the last ten years. He devotes almost his entire time to anatomical work, giving one course in gross pathology in English and one in German during the month. He is considered an excellent teacher and a splendid anatomist, and has unlimited material at his command. His demonstrations take place in the morgue, four days of each week, and consist of presentation of specimens, with a clear and concise description of the anatomical findings and pathological changes in the organs.

All physicians are invited to attend the post mortem examinations at the pathological institute of the Allgemeinen Krankenhaus. They begin at 8 a. m. daily. Silence is desired. There is here a printed programme stating when post mortem examinations in the various wards are held. Numbered death cards will be found on the desk, giving the names and date of admittance of the patients, the date of their death, the wards which they were in, the clinical diagnosis, the names of the clinicians, and the time when the autopsy will be made. Each death card bears the same number as that attached to the great toe of the corresponding cadaver.

Professor Tandler, who is considered one of the leading anatomists of the world, and who has published several editions of wonderfully learned and at the same time practical and concise books, *A Description of the Ureters in the Female Pelvis*, and *Etiology and Anatomy of Prolapse of the Uterus*, and who, as he states, has devoted the last ten years of his life to a study and investigation of these subjects, is chief of the anatomical and pathological institute, and as such has not the time to give many courses, his time now being devoted to the students of the university, having sometimes five hundred students dissecting.

After persistent effort for three months on my part, I secured his consent to give one course on each day of the subjects named. There were two others physicians associated with me, and they were unanimous in their opinion that he is one of the best teachers in medicine and surgery they had ever

*Read before the Syracuse Academy of Medicine, November 14, 1911.

listened to, that he presented the subject in such a clear and able manner as to be thoroughly understood. In his lectures and demonstrations on the dead body, he attempts to prove that all operations for suspension of the uterus are fruitless, unless the pelvic floor muscles, and especially the levators, are united. He endeavors to show by experiments made by himself that neither the peritoneum, the arteries, veins, or nerves, the ligaments of the uterus, the fascia of the pelvic floor or skin, are concerned in the support of the uterus, demonstrating on the cadaver that the round ligaments are never on a tension in the living or the dead subject, that if you grasp the cervix and pull it down to the vulva, these same ligaments are still curved. He maintains that on account of the structural arrangements of these ligaments, even where they are shortened, they will elongate and hypertrophy, and will not hold the uterus for longer than from three to six months unless the uterus is supported by the levators, and, furthermore, the round ligament does not hold the uterus by contraction; if it did it would have to be in a state of contraction continually.

He further remarks in his lectures that in flexions of the uterus it is necessary to shorten the round ligaments to bring the uterus to its normal position, but if one expects it to stay there, the pelvic floor muscles must do the work.

Professor Tandler further states that the one and only function of the round and uterosacral ligaments is to prevent the uterus from ascending higher in the abdomen following confinement. On one other point he laid great stress, that congenital prolapse is nothing more or less than spina bifida, that the levators are paralyzed, due to an interference of the function of the fourth sacral nerve, which supplies them. In his dissections he shows that he is master of this work, and one could not help but admire the man who could so skillfully, and with such precision, expose the various floor muscles, making them stand out in a manner never to be forgotten.

Professor Frankel, who gives courses on gross pathology and histopathology of the female generative organs, is the chief assistant in the Shauta clinic. He is not only a teacher, but an original investigator, who devotes almost his entire time to the clinic, having but an hour a day for his private consultation work. In his lectures he lays most stress on the early diagnosis of cancer of the uterus, insisting in every case that where there exists an erosion of the portio vaginalis at all suspicious, excision should be made immediately and microscopical examination made for carcinoma, and a timely operation thus secured.

Professor Frankel states that in erosion of the portio vaginalis, the stratified epithelium is destroyed and pushed aside to be substituted by high columnar cervical epithelium. In the cervical cavity this epithelium sends glands into the stroma, and here it retains the same quality, sending glands into the stroma of the portio vaginalis, hence in erosion, instead of the normal stratified epithelium, there exist glands with high columnar epithelium.

These erosion glands, treated locally with silver nitrate, iodine, etc., are rarely cured; a superficial epithelium forms which bridges over the glands and allows the development of carcinoma within the fundus of the glands under the newly formed superficial epithelium.

He recommends as the best treatment, excision, leaving only healthy tissue. Malignant chorioepithelioma is spoken of in his lectures as being the most malignant tumor in the whole body, very often cancer being given as the cause of death, which is incorrect.

The diagnosis is made, according to Frankel, by a history of the patient having had a hydatidiform mole some weeks previous. After being curetted, the patient complains of pain, slight bleeding, a pinkish discharge, and has a great amount of cachexia, out of all proportion to the amount of blood lost. On vaginal examination a hard mass is felt in the fundus of the uterus.

If with these symptoms a cystic enlargement of the ovaries is felt, which, he states, is almost pathognomonic, a curettement should be performed, and if the scrapings show this condition under the microscope, no time should be lost in removing the uterus by an early radical operation by the Wertheim method.

Doctor Frankel takes up many other subjects in his course which are highly instructive, one of the most interesting being the physiology of menstruation, both normal and pathological. In the former he shows that the mucous membrane of the body is constantly changing, repeating the series every four weeks, and demonstrates, by the aid of slides under the microscope, under high and low power, and with various methods of staining, and by his drawings on the blackboard, the digestion of the uterine mucosa by the tryptic ferment which is thrown out in the mucus from the uterine glands.

At the end of his course he gives a lantern slide demonstration, which consists of a review of the work done during the month.

In his gross pathology class, the men are allowed to go to the laboratory and study the specimens for an hour before the course begins. At the beginning of the lecture hour he quizzes each man on one specimen, asking him to describe in detail the organ which he studied beforehand, and then make the diagnosis. No man in this line of work is considered a more faithful teacher than Doctor Frankel. He tries to give the men the best that is in him, and is held in high esteem by all who have heard him lecture.

In gynecological diagnosis, Christifoletti is considered the best man in this line. He is one of Shauta's assistants and has served as attendant gynecologist for the past ten years. He gives no courses in English, but his classes are always filled by the older men, in point of registration. He has been engaged during the whole of his professional career in teaching in clinics, hospitals, laboratories, and the lecture room. He has a great amount of material to draw from, and his methods of instruction and his presentation of cases are considered among the best given in Vienna.

In the obstetrical clinics 12,000 women are delivered annually, and one can therefore form some opinion of the immense amount of work and the great field of material for those wishing to study

labor cases, complicated by accident and disease, together with the various abnormities of the pelvis.

Where Cæsarean section is indicated, the classical operation is seldom performed; they prefer the extraperitoneal method, especially if the patient has been examined per vaginam for two weeks previous to the time of delivery. It is maintained by the obstetricians that there is much less danger of infecting the peritoneum, and with the improvement of technique and with the perfection of asepsis in such surgery, the statistics have steadily improved, so that their mortality loss by the extraperitoneal method is much less than by the classical operation.

The courses given in cystoscopy and catheterization of the ureters is considered the most practical in Vienna. There are at least a dozen men who are conducting classes in functional kidney diagnosis. Most of the men who have been some time in Vienna arrange private classes, taking the course themselves or with another physician, in this way the case can be thoroughly studied, as a scientific use of the cystoscope requires constant practice to acquire a good working knowledge. It also requires time to master the technique of its use.

They place in Vienna a great amount of stress upon the observation of the smallest detail in technique and upon gentleness in manipulation of the instrument, as these are the cardinal factors in a successful examination, and, coupled with patience, render most ordinary difficulties which may be encountered, surmountable. The Nitze cystoscope is most frequently used, viewing the object by indirect vision, although the direct method is used at times.

After one has acquired a working knowledge of the mechanics of the cystoscope, he is required to pass an instrument armed with the catheter. He then examines the bladder, noting the color, glistening appearance, and smoothness of the bladder mucosa, and is taught to observe the conditions of the trigonum where most pathological conditions exist. He then proceeds to catheterize the ureter and perform various tests for functional kidney diagnosis.

There are four methods used in Vienna, first: Cryoscopic, comparing the freezing point of the urine with that of blood; second, pigmentation or indigo carmin; third, phloridzin; fourth, experimental polyuria.

In regard to the operative work, most of the gynecological surgery is performed in the Wertheim and Shauta clinics. These two modern hospitals have been completed since 1908, are thoroughly equipped, and each contains 300 beds.

In the Wertheim clinic the operations begin at 8 a. m. Most of the operations are performed by the abdominal route. The abdomen is scrubbed with soap and water the day before, the parts are rendered sterile before the operation by free use of alcohol and ether, and when thoroughly dried tincture of iodine is applied. The abdominal cavity is then opened, the skin incision beginning at the umbilicus, ending at the pubes, going through the linea alba, dissecting the sheath, and separating the recti muscles. All sutures are made with silk, each one being interrupted (their statistics prove that they encounter very little trouble from the great amount of silk buried in the abdomen).

A great many cases of cancer of the uterus are operated in daily, rarely a day going by without at least one case of carcinoma of the uterus being removed by the Wertheim method.

Professor Wertheim, chief of the clinic, is about fifty years old. He gives no courses, but one can hear him lecture every day in German before the university students. He is a writer of some note, a trained anatomist and surgeon, and has gained considerable reputation by the operation which bears his name. He has extensive statistics, as he began ten years ago to perform this operation systematically, and has in his records 500 such cases. He asserts he has held all these patients carefully under his control, fifty-nine per cent. having remained free from relapse after five years of observation. In his last 200 cases only nineteen patients succumbed to the operation, a little over nine per cent. mortality, hence, as he says, the reproach that "this operation is dangerous" is definitely refuted by the increased number of good results, and in view of these results he hopes the operation will be more and more generally adopted.

Professor Shauta is seventy years of age and is chief of the clinic which bears his name. He is a court physician, and as such is able to enjoy considerable prestige and influence. He now rarely if ever operates, most of the work devolving on Christofelletti, the first assistant. All cases are operated in by the vaginal route, such as shortening the round ligaments, the interposition of the uterus between the walls of the vagina, enucleation of myomata, etc.

In cancer of the uterus, they remove the organ and its appendages with as much parametrium and connective tissue, dissecting away the ureter by the vagina, but the superiority of the abdominal operation shows itself to every one. One can imagine the great difficulty in recognizing the boundaries of the disease in vaginal work, where the dissection of an adherent ureter meets with insurmountable obstacles, where gushes of blood obscure the field of operation, and where, on account of fixation and infiltration, the affected organ is hardly movable. In abdominal work one can at a glance recognize what a difference there is in the clearness of view and in the accessibility of this operation over the vaginal route, and it puts one quite differently in a position to become master of the same.

The operation for repair of the pelvic floor muscles is the same as that advocated by Tandler and is performed at both the Wertheim and Shauta clinics.

One can gain some idea from the foregoing of the clinical advantages and the opportunities for real practical work, combined with the services of well trained and competent instructors, who are ever ready and willing to give whatever courses are desired. When one takes into consideration the unlimited supply of material from all over the Austrian Empire, together with the thorough organization of this work by the American Medical Association of Vienna, it is not to be wondered at that so many Americans go abroad for postgraduate instruction.

After completing my work in Vienna I was fortunate enough to meet Professor Onodi, of Budapest, through Doctor Halsted, of Syracuse. Pro-

fessor Onodi, who is one of the leading rhinologists in Budapest, was very kind to me and spoke to his friend, Professor Tauffer, of the gynecological clinic, in my behalf. The latter invited me to act as assistant in his clinic for a few months. Professor Tauffer enjoys the reputation of being one of the best gynecologists in Europe. He was formerly an assistant of Hagar, at Freiburg, and was elected one of the presidents of the gynecological congress held at Munich last spring.

Budapest is situated on the beautiful blue Danube, about 150 miles southeast of Vienna, has a population of nearly one million, and is fast becoming celebrated for the number and character of its educational institutions. The Hungarians have made wonderful progress in the last thirty years, especially in the science and art of medicine and surgery. Their hospitals are nearly all modern buildings, well situated as regards light and air, with pleasant surroundings, and well equipped with the latest and best appliances for x ray, laboratory, and pathological and clinical work.

I was connected with the second of the two gynecological hospitals, which are a part of the Royal Hungarian University, and can speak from practical experience. The hospital contains 150 beds, half of the building being devoted to the gynecological cases and the other half to obstetrics. There is a separate building for septic cases and one for dispensary cases. In the latter department from forty to fifty patients are examined and treated every morning from 8 to 11 o'clock.

In the obstetric division, from six to eight women are confined daily and one can see here in a short time, the various abnormities of the pelvis and any number of difficult labor cases, ranging from forceps operations to the extraperitoneal Cæsarean sections. A great many cases of craniotomy were performed during my residence there, as it is their conclusion that where there is no question of the death of the child in utero, in case of contracted pelvis, it is far better to open the head and deliver the child easily with a cranioclast than to apply the forceps to the head at the superior strait and subject the mother to the delay, pain, and danger of a prolonged forceps operation, when nothing is to be gained by it.

In post partum hemorrhages, Momburg's method is used to control the hemorrhages. In the cases in which it was demonstrated in the clinic, it was successful with the exception of one case, the patient being in extremis when she arrived. The case was one of accidental separation of the placenta, the patient having been flowing profusely prior to her admission. Version was quickly performed, but when the belt was applied, the patient was pulseless and died soon after its application.

The method of its use is as follows: A good, strong, rubber gas tube, about five yards long, having about the thickness of the index finger, is passed through under the back of the patient to be grasped by the hand of an assistant, who stands at the other side of the operating table. The tube is stretched to the utmost and is passed by the surgeon around the abdomen, two turns being sufficient in slim individuals. In stouter patients it sometimes requires four or five turns, sufficiently to compress the circulation, which can be ascertained by noting the cessation of the femoral pulse. When the patient is fairly anemic the obstetrician resorted to Trendelenburg's posture, and where the anemia was of a serious character, both extremities were bandaged with elastic bandages from the toes up.

For any physician wishing to do postgraduate work in gynecology or obstetrics this place has a great many advantages over other large European cities. Every opportunity is afforded to make the examinations, treat the patient, and follow the case from beginning to end.

The supply of material is unlimited, and the number of physicians coming here for work is not so large as in some other medical centres, so that one can have plenty of opportunity to work along the lines most desired.

Emergency cases are treated, when practicable, at the homes of the patients, and at least from twelve to fifteen new patients are attended daily. Even in the poorest of homes, the most wonderful results are obtained, and seldom is there a case of infection following confinement or miscarriage, as the asepsis is the most thorough and rigid that could be put into practice.

In the gynecological division there are two main operating rooms, which are of modern construction and contain all improved methods. An apparatus devised by Roth, in which the exact number of drops of ether and chloroform can be measured, and in which oxygen is given at the same time, is used for anesthesia. Most of the operative work is done by the abdominal route after the method of Wertheim. No soap or water is allowed on the abdomen, but the skin is hardened by an application of equal parts of acetone and alcohol, after which tincture of iodine is applied. All sutures used are catgut, treated with iodine after the Billmann method.

They are having considerable success in the treatment of annexa tumors by the method suggested by Professor Zweifel, of Leipsic.

Obstructive dysmenorrhea is treated by a posterior incision of the cervix, inserting a Bossi dilator, leaving in for two weeks, the patient remaining in bed for eight to ten days. They assert excellent results by this method.

I saw, during my service in the clinic, a great many cases of induced abortion, especially in tuberculosis. Where there are the slightest evidences of tuberculous infection, the assistant does not hesitate to inject into the uterus from ten to fifteen c.c. of alcohol, which is found to be effective. Sometimes a second and third injection is necessary. An alcoholic solution of iodine was used, but this was found to cause considerable pain when it penetrated into the tubes, so they have discontinued using it.

One of the pleasantest recollections of my life will be my association with the men of the women's clinic of Budapest. Having lived in the clinic as I did, and being closely associated with them in their work, I learned to know them as a hard working, sincere lot of men, men of experience, displaying great skill and some doing original work of a high order. To the assistants, Scipiades and Frigyesi, I shall be ever grateful for their many acts of kindness and the personal interest shown me during my residence in Budapest, and also to the other assistants who contributed so much to make my stay one long to be remembered.

A PLEA FOR USE OF THE METRIC SYSTEM IN PRESCRIPTION WRITING.

By H. Sicherman, M. D.,
Buffalo, N. Y.,
Acting Assistant Surgeon, U. S. P. H. and M. H. S.

It is quite a number of years now since the first attempt was made to induce American physicians to adopt the metric system in writing prescriptions. I can assign no other reason for their tardy acceptance of this simple and exact method than a fear that they cannot master it easily and so are liable to mistakes or to damnable hesitancies in the eyes of a critical patient.

Now this is exactly what the physician who adopts the metric system need *not* fear. I assume that all American physicians are perfectly familiar with the old grain-drachm-ounce system. I shall outline a little plan whereby the size of the doses as remembered in grains or fractions thereof will help in writing entire prescriptions in the metric system.

To simplify the method as much as possible, we we must take a prescription of a certain size, having a certain number of doses, as a unit; so we take a two ounce mixture, a teaspoonful at a dose. This would make approximately fifteen doses; not quite, but this number is close enough for practical purposes, and above all, makes a number that can be easily doubled, tripled, or quadrupled, as necessity may require. Now, two ounces are approximately sixty grammes, and one gramme contains approximately fifteen grains. This being the case, one can easily see that all we have to remember is the dose of the drug *in grains* to be able *immediately and without any uncertainty* to put down the number of grammes for the entire sixty grammes (or c.c.) mixture (the dose being one teaspoonful or approximately four c.c.). Take for example potassium acetate and potassium bromide. We wish to give fifteen grains of the former and ten grains of the latter at a dose. Without more ado we write the prescription so:

		G. or C.C.
℞	Potassii acetatis,	15
	Potassii bromidi,	10
	Syrupi, }	
	Aquæ, }	q. s. ad 60

Sig.: One drachm in half a tumbler of water, *ter in die, post cibum.*

In the signature I say ʒi because that amount has grown to be synonymous with teaspoonful. It adds to the simplicity of things.

When the dose is less than a grain, it is just as easy. We simply take that decimal part of the gramme which our dose in parts of a grain indicates. Suppose we prescribe gr. ¼ of codeine sulphate:

		G. or C.C.
℞	Codeinæ sulphatis,	.25
	Syrupi tolutani,	30
	Aquæ,	q. s. ad 60

M. Fiat solutio. Sig.: One drachm *tertia quaque hora.*

The amount of syrup of tolu is about thirty minims, or about half a teaspoonful.

Alkaloids, and other drugs like arsenic, mercuric chloride, etc., which have very small doses, must be approached from another direction, but this is one which leads just as straight as the other to simplicity. We take strychnine and atropine for our standards. We will say that the average dose of strychnine is one sixtieth grain and that of atropine, one one hundred and twentieth. That would be in the metric system one milligramme for strychnine (0.001), and half of that for atropine (0.0005). All the other strong drugs can be calculated from these two standards, as can the variations in dose:

		G. or C.C.
℞	Strychninæ nitratis,	.015
	Atropinæ sulphatis,	.0075
	Aurii et sodii chloridi,	.03
	Aquæ,	q. s. ad 60

M. Fiat solutio. Sig.: One drachm *bis in die.*

Here strychnine nitrate was given one sixtieth grain per dose, atropine sulphate one one hundred and twentieth grain, and gold and sodium chloride one thirtieth grain. The best and easiest way is to calculate the number of doses for the total, as follows: For strychnine 0.001 × 15 = 0.015; for atropine 0.0005 × 15 = 0.0075, or half of 0.015, as one hundred and twentieth grain is half of one sixtieth grain.

Suppose we wished to give the strychnine in doses of one forty-fifth grain instead of one sixtieth grain; that would be half as much more: instead of 0.015 for the entire amount, it would be 0.022. The same way one thirtieth grain to a dose would be twice 0.015, or 0.03. In this way the size of the dose can be very finely regulated.

Suppose we wished to make the foregoing prescription suitable for hypodermic use, and we wanted, say, ten drops to contain the dose as prescribed above (i. e., strychnine nitrate, one sixtieth grain; atropine sulphate, one one hundred and twentieth grain; and gold and sodium chloride, one thirtieth grain), if we wished to make about fifteen doses, the total amount of the drugs would remain the same, but the solvent would be added up to ten c.c. instead of to sixty c.c. (15 × 10 drops = 150 drops or 10 c.c.) as follows:

		G. or C.C.
℞	Strychninæ nitratis,	.015
	Atropinæ sulphatis,	.0075
	Aurii et sodii chloridi,	.03
	Aquæ destillatæ,	q. s. ad 10

M. Fiat solutio. Sig.: Give ten drops hypodermically, morning and night.

A very interesting short cut is noticed about the hypodermic solution; in the standard fifteen dose prescription the number of drops to contain the amount for one dose corresponds to the number of cubic centimetres that the whole is made up to. In the foregoing prescription, if we added distilled water to twelve c.c., we should have to give twelve drops to have the patient get the required dose. If made up to fifteen c.c., fifteen drops would have to be given, etc.

If the pharmacist finds any difficulty in weighing milligrammes or parts thereof, he may use the ready made hypodermic tablets. Those for atropine, for example, come in one one hundred and twentieth grain sizes, and fifteen of these may be dissolved in the mixture to make up the required seven and one half milligrammes.

In giving medicine by mouth in amounts of two teaspoonfuls, the amount of drug to two ounces would be one half; if the amount given is one tablespoonful, the amount in two ounces would be one quarter, as, for example, giving tincture of nux vomica in doses of four minims:

G. or C.C.

℞ Tincturæ nucis vomicæ, ... 1
Tincturæ cinchonæ compositæ, ...30
Aquæ, ...q. s. ad 60

M. Sig.: One tablespoonful *ter in die*, one half hour before meals.

Now, this is a good place to illustrate multiplication of our standard sixty gramme mixture. A tablespoonful at a dose of the foregoing amount of medicine would not last very long, so we give more. One half as much would be ninety c.c., and twice as much would be 120 c.c.; but by this time we should look to exactness; sixty c.c. are not quite two ounces, and do not contain quite fifteen teaspoonfuls, and the dose of active drug the patient is receiving is too large; therefore, for a three ounce mixture, one supposed to contain about twenty-two teaspoonful doses, 100 c.c. would be nearer the mark. In the same way and for the same reason a four ounce mixture, one which is supposed to contain about thirty teaspoonful doses, should be made up to 125 c.c. This is a number that can be easily multiplied, twice being 250 c.c. (about a tumblerful), and four times being 500 c.c. (about one pint).

Now, as to children's doses, the simplest method, and one more applicable to the metric system than Young's rule, is the one that takes the twenty year individual as requiring an adult dose; twenty being therefore the denominator of the fraction, of which the numerator is the age of the child in years, a ten year old child requiring ten twentieths or one half of the adult dose, a five year old child requiring five twentieths or one fourth of the adult dose. In calculating the dose for an infant less than a year old, we do not take twelve as the denominator: that would not be in accordance with the requirements of the metric system. Some would complain that I place natural facts subservient to an artificial system. "There are twelve months in the year, and not ten," they would say. But does it really make much difference if a month old infant receives one twelfth or one tenth of what a year old child would get? The difference is not worth considering. The following simple prescriptions serve to illustrate what I have just said, making tincture of aconite serve as an example—a drug of whose doses we cannot afford to be uncertain.

For an adult, giving one minim to the dose every hour:

G. or C.C.

℞ Tincturæ aconiti, ... 1
Aquæ, ...q. s. ad 60

M. Sig.: One drachm every hour for five doses.

For a child five years old:

G. or C.C.

℞ Tincturæ aconiti, ... |25
Aquæ, ...q. s. ad 60|

M. Sig.: One drachm every hour for five doses.

For a child one year old:

G. or C.C

℞ Tincturæ aconiti, ... |05
Aquæ, ...q. s. ad 60|

M. Sig.: One drachm every hour for five doses.

For a child five months old:

G. or C.C.

℞ Tincturæ aconiti, ... |025
Aquæ, ...q. s. ad 60|

M. Sig.: One drachm every hour for five doses.

The doses of those drugs which children take more readily, and those which they cannot stand so well should be changed in conformity with the needs of the individual patient.

Now, as to powders, ointments, etc., little need be said. It is best, as a rule, to call for fifteen powders, and then we have the same simple procedure to go through as when ordering sixty c.c. of a liquid medicine. Ointments are best prescribed in percentage strengths. How much simpler it is to prescribe a three per cent. ointment of this, or a ten per cent. ointment of that, than to say so many grains to the drachm or the ounce! Here is an average amount (about one ounce) of a three per cent. ointment of salicylic acid:

G. or C.C.

℞ Acidi salicylici, ... 1
Petrolati, ...30

Fiat unguentum. Sig.: Use as directed.

This is a little stronger than three per cent., but what of it? It is three per cent. for practical purposes, and the metric system is the best, not alone for scientific purposes, as is conceded by all, but is eminently the best *for practical purposes.*

I wish to say a word about the ethical side of the metric system. As the metric system is used on the continent of Europe, notably by German physicians, whom we consider the leaders in medicine, the sight of a prescription written in the metric system reflects very favorably on the writer. So many drachms of this, and so many ounces of that look like a cooking receipt instead of a scientific formula for a medicine.

In conclusion, I suggest that those physicians who adopt the metric system (and as it is bound to be adopted in medicine as well as in the sciences), should have their prescription blanks printed in the metric system and so prevent all possibilities of mistakes. Have the printer put in a heavy vertical line about one half inch from the right border and extending to within an inch of the bottom of the sheet and of the head—the lower space for the signature and the upper for the ℞ sign and for grammes or c.c. immediately above the vertical decimal line, as in the following example:

TELEPHONE..... OFFICE HOURS.....

Physician's Name .....

Address .....

℞ Date .....

For .....

G. or C.C.

Signature .....

228 Federal Building.

THE DUTY OF ONE PHYSICIAN TO ANOTHER.*

By Arthur J. Huey, M. D.,
New York,
Instructor in Laryngology, New York University and Bellevue Hospital Medical College; Attending Laryngologist, New York Health Department Tuberculosis Clinic; Visiting Laryngologist, Riverside Hospital.

For the few minutes that I am to speak this evening I wish to preach a short sermon. The subject is The Duty of One Physician to Another, and the text is the Golden Rule.

The relation that one physician bears to another is a peculiar one, and we may consider it from two radically different points of view. In the first place, we may consider all true physicians to be partners—partners working in a common cause, the prevention and cure of disease. Thus the duty of one physician to another becomes the duty of one to his partner, and this point of view will justify two thirds of all our professional ethics.

I said that all *true* physicians were partners. Who, then, are we to include as worthy of membership? Naturally all who are qualified by education and training, who maintain their right to recognition by conscientious work toward the common object. Just as surely, however, must we protect the standing and good name of the profession by excluding all those unqualified persons who would enter wholly for their own advantage and reap the rewards of professional standing at the expense of the health and well being of those whom we are pledged to heal and protect.

Let us consider, then, for a few minutes, the duties that we owe one another as partners. If a partner is doing his work conscientiously one has no right and should have no wish to interfere with his success, either directly by assuming charge, or as is so often done by indiscreet and meddlesome gossip with his patients concerning his treatment and the results obtained—often criticising with only the slightest knowledge of the case and the difficulties with which he has had to contend. Rather should we uphold one another, remembering how often our own best efforts fail, and even the results of which we are justly proud are misinterpreted and criticised.

If a partner finds himself in difficulty and asks for help, it should be given, freely and generously, aiding one another with our varied experiences and observations. If he has been wrong we may advise and instruct, if possible, but whenever we disagree do let us keep it among ourselves, remembering that not only the success of the individual, but the success of the whole profession rests primarily on the confidence of the patient and the community. Our president remarked at the last meeting that the physician did not hold the confidence of his patients to-day in anything like the degree that he did twenty-five or thirty years ago. I believe the cause may be found right here. In the great mass of knowledge and theory brought before the profession during that time it was inevitable that differences of opinion and arguments should occur, but we have made the mistake of carrying our disputes with us to our patients, resulting in a loss of confidence, the handicap of which we have all been made to feel. If a partner has been wrong and erred through ignorance, we may privately instruct him if we can, and if possible bring him to a better understanding of the case at hand. Even if his mistake is one of carelessness, unless it is flagrant and repeated, we may admonish in private, but should refrain from outside criticism for the protection of ourselves and all the other members of the great partnership. Only when by repeated offences of carelessness and self seeking, a physician proves himself unworthy of his profession, does the duty of his fellow physicians to the public demand that they disown him and his methods, and that he forfeit his right to partnership.

In all this let none of us think too highly of himself and his attainments. To-day we may play the rôle of counselor and consultant and to-morrow we may seek counsel and be glad to find help in some difficult problem that confronts us.

The practice of concealing our differences of opinion from the patient is often criticised as a deception practised on the public for the good of the profession. But, "When doctors disagree, who shall decide?" Surely not the patient, and Lord deliver us from the patient's friends! The truth is, that a layman is in no way fitted by training or experience to understand the problem. Settling our disputes in private is a duty that we owe to one another, that has been honored from ancient times, and in no other way can we retain the respect of the public and present a solid front against all forms of quackery and all those who would exploit the sick and suffering for their own gain.

Medical treatment of a fellow physician and those dependent on him without compensation should be classed as a privilege rather than a duty. Such a call for personal advice and medical or surgical aid, is the most sincere praise that one physician can give another, and is a call which has always met with a generous response from medical men.

All this we owe to one another as partners in a common cause. On the other hand, we may consider physicians as also related to one another as competitors, and, so considered, we owe the duties of an honest competitor. Most of us are competing to earn a living. The task is not an easy one in this great city, and some must fail. Let it not be because of unfair competition from those who succeed—lowering of recognized standards of fees (painfully low as they already are), unjust criticism, and similar practices too often apparent. We are also competitors for places of trust and honor in hospitals and teaching institutions. Though we all know that these positions are seldom the reward of unassisted merit, but are obtained through the keenest competition and rivalry, let not the merit be lacking, but by constant study and application may we all be worthy of whatever recognition is given to us and be ready to fill a higher position when it may come.

Finally we come back to the principle with which we started. The duty of one physician to another is summed up in the Golden Rule. Let us remember to treat a fellow physician as we wish to be treated by him when the situation is reversed and we exchange positions.

15 Central Park West.

*One of the papers of a symposium on The Physician Himself, read before the Manhattan Medical Society, January 26, 1912.

SEX HYGIENE IN RELATION TO EUGENICS.*

By Isabelle Delany-Barbour, B. A., M. D.,
New York.

Every practising physician has at some time or other wrestled with the question of hereditary avoidable disease, and with a hopeless feeling that the work was a generation too late. If only they might have warned the parents. It is not too late for the coming generations. Sidney Smith said that the best way to civilize a man was to begin with his grandmother, which means that it takes several generations to get the best results. The proverb, "Rome was not built in a day," is well exemplified in this case, but something may be done to better the human race physically. Among breeders and farmers we hear everywhere the cry for thoroughbred stock,—nothing else is worth the feeding. Seedmen are giving us to-day fruits and flowers that were undreamed of years ago. To these subjects the government has given its best attention, but with regard to the human race, the only treatment has been indifference. It reminds one of the story of a man who was motoring out West, and stopped at a settler's door and asked for the loan of a monkey wrench. The Westerner looked at the traveler in a helpless sort of way and said: "Stranger, you must be joking; we have a horse ranch, a sheep ranch, and a cattle ranch, but nobody ever heard of a monkey ranch."

The hope of every nation is in her young men and women that are growing up to be the parents and statesmen of the future. To fit them for this, we must first have the best possible physical conditions we can obtain for them. Physical training classes, playgrounds, and gymnasiums are doing an excellent work in these directions. During the summer I visited all the playgrounds and recreation centres in the city, and was filled with admiration for the work that is being done.

Along educational lines we find the greatest activity in every department. In the beautiful new Congressional Library at Washington we find the motto, taken from the writings of Confucius, "Give an education to those who cannot procure it for themselves," and no country is more alive to the importance of this bit of philosophy than America.

There is one line of education, however, which for many years has been neglected, namely, the instruction of the youth of our land with regard to specific diseases that are avoidable.

The time has come when in the name of home and motherhood we must ask for an "open vision," for knowledge of the dangers that beset the path of youth. In the days of chivalry the young knight was carefully instructed "how best to manage horse, lance, sword, and shield, and so fill up the gap, where strength might fail, with skill and finesse." But in these days there are some teachers who would have us believe that ignorance was the best equipment for life's tourney. There are those, however, who see the danger, and are trying to devise a remedy.

Is it asking too much of the parents of future generations that they should have some suitable qualification for the position to which they aspire? All life insurance companies require a rigid examination of the applicant by their own physician before he is accepted. All benefit societies make a like demand. The municipal buildings require that even the scrubbing women must pass a physical examination. All this we concede to be right and proper, but it just falls short; why not go a little farther?

In the Bureau of Marriage License at the City Hall we find a staff of politicians,—why not a staff of physicians instead? Then a license would have some meaning from a eugenic standpoint. Not only are the physical conditions carefully scrutinized, in a position of trust, but, as in the case of a bank clerk, his previous record is searched, where he spends his evenings, who are his companions, and what are his habits. Excellent! Just what should be done! A collector of bills must give bonds according to the value of the money he handles. All these precautions are observed where money is at stake; but where the babe, the mother, the home, the human race itself is concerned there is indifference. It would seem almost like *criminal indifference* on the part of the medical profession, to whom the following facts are known:

That the two diseases which are the result of impure living damage or destroy the functions through which life is perpetuated, causing sterility or tainted offspring; seventy-five per cent. of these children are born dead or die in infancy; the remainder fill up the ranks of idiocy, insanity, paralysis, and locomotor ataxia. The crops are never a failure when wild oats is sown,—it is as true today as it was when uttered two thousand years ago, —"Whatsoever a man soweth that also shall he reap." Unfortunately, too often some woman helps him to reap the crop. I know of no more pathetic sight than that of a young mother, who has looked forward with hope and pride to the birth of her first born, fashioning its dainty little garments with her own hands, when the day comes that she must look on the poor little body, a mass of disease, and realize that no love, no care of hers can save its life; or the mother who in silence and sorrow year after year goes down to the gates of death, only to see the poor still face of the dead born child.

Much of the suffering classified as *women's diseases* comes from the two diseases; as already mentioned, seventy-five per cent. of all the special operations performed on women are the direct result of the same; fifty per cent. of the sterility of men and women is due to the same cause.

For many years it was deemed the duty of the physician to keep his women patients in ignorance of the nature of all specific disease. Even the prescription was carefully masked behind a bit of Latin, lest the drug used should convey any inkling of the truth. The case of one young woman comes to me at this moment. At the age of seventeen years she crossed the ocean full of life and ambition; soon the husband brought a doctor, who put her on treatment, the long misery of failing health, pining for the children of a man who had thrown away his manhood before he met her. The

*Prepared at request of and read under auspices of the Public Health Education Committee of the Medical Society of the County of New York, at New York Academy of Medicine, March 6, 1911.

long drawn out death in life, from locomotor ataxia, completes the picture.

We believe that safety lies in knowledge, as all poisons must be carefully labelled and their sale restricted for the protection of the public, or as we would warn a child against poisonous berries that might be growing within its reach; so we would teach our young people of the dangers that lie before them. We would try to impress on them that the single standard of morals was of more importance than the *single tax*. All will not hear, but at least no one should "perish for lack of knowledge."

There are some other avenues which should be guarded for the protection of young girls. The moving picture show should have all pictures scrutinized by competent judges, and a matron should be in attendance to whom a young girl could appeal in case of annoyance,—the hall is in darkness, the company promiscuous,—the rest can be left to the imagination.

All excursion boats should have a matron, responsible only to the board of health. On many of these boats conditions obtain that, to quote the great apostle, "It would be a shame to speak of the things that are done by them in secret."

Some protection should be afforded to the immigrant girl who seeks our shores; she is virtually under the care of the stewardess, who is usually an ignorant woman, about the rank of a housemaid, not as well paid as the firemen, her position forfeited if she comes under the displeasure of any of the ship's officers. These conditions make it impossible for her to give adequate protection to those poor, helpless girls who, homesick and heart sick, grasp at any little kindness shown them, as a drowning man clutches at a straw. Stewards, waiters, and petty officers are all in a position to show some little attention.

The captain might be appealed to, but he has the care of his ship, property to the amount of several millions of dollars, the lives of two or three thousand passengers, and in bad weather never leaves the bridge, not even for his meals. It is quite impossible that he should be responsible for these girls. There is only one solution of the problem, and that is that every ship carrying such girls should have a woman physician, responsible only to the State. The destination of these girls makes it imperative that something should be done. The majority of them go into American homes as nurse, housemaid, or laundress, handling our children, our food, and our clothing.

Many of them have been infected morally and physically while coming to this land of the free. Those who have had any experience with the immigrant girl know how true this is. Sometimes she falls to the level of the street to hide her shame; in other instances we find her in the maternity hospital, broken in health and spirits. It is a dark picture, and one to which we would not wish to call attention, except with the hope of finding a remedy.

A prominent magazine, when urged to take the matter up, said: "Yes, it ought to be done, but these companies carry our magazines at special rates, and we could not say anything."

The work to be done in safeguarding the helpless and innocent is difficult and thankless; it will meet with opposition and ingratitude. It would, therefore, seem to be the especial province of the medical profession, whose duty it has ever been to shoulder unflinchingly "the white man's burden."

24 CATHERINE SLIP.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXX.—What are your views on the various substitutes, commercial and other, for mother's milk? (Closed March 15, 1912.)

CXXI.—What does hematuria signify to you and how do you treat it? (Answers due not later than April 15th.)

CXXII.—What medicines, dressings, etc., if any, would you recommend to equip a family medicine cabinet? Give details as to quantities, labeling, and arrangement. (Answers due not later than May 15th.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short, if practicable no one answer to contain more than six hundred words; and our friends are urged to write on one side of the paper only.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to Question CXIX has been awarded to Dr. F. McKelvey Bell, of Ottawa, Canada, whose article appears below.

PRIZE QUESTION CXIX.

DRUGS CONTRAINDICATED DURING MENSTRUATION.

BY F. MCKELVEY BELL, M. D.,
Ottawa, Canada.

The drugs which should be withheld during menstruation differ largely with the character of the catamenial flow, because the same drugs which might prove deleterious during a scanty menstruation might be beneficial during a profuse or menorrhagic period and vice versa. For the purpose of brevity I make two drug divisions:

1. Drugs which should be withheld during *scanty* or normal menstruation;

2. Drugs which should be withheld during *profuse* or normal menstruation.

It is understood *a priori* that any drug which either stimulates or retards the menstrual flow should be discontinued during this period unless there are important reasons for its exhibition or continuance. In a short paper such as this it will be impossible to more than touch upon the majority of these drugs, with a few additional words upon those which seem to the writer of most importance; the latter being given precedence in the somewhat arbitrary subdivisions following. During scanty menstruation, apart from that caused by systemic disease such as anemia, tuberculosis, etc.

(where amenorrhea may be a conservative process), we are anxious to encourage the flow and must avoid:

A. The vasoconstrictors and drugs which stimulate muscular contraction of the uterus; such as ergot, adrenalin and suprarenal extract, pituitary, thyroid, mammary, and thymus extracts, and those drugs which are in addition astringent during excretion, such as hamamelis and hydrastis.

B. Drugs which act as coagulators of the blood, such as calcium lactate and all sera (horse, antidiphtheritic, antistreptococcic, etc.) and to a less extent those astringent acids, tannic and gallic.

C. Heart stimulants, such as digitalis and cimicifuga, except in uncompensated heart lesions.

On the other hand and for opposite reasons, during normal or menorrhagic menstruation we should avoid:

A. The vasodilators and stimulants of the generative organs such as apiol, alcohol, ovarian and testicular extracts, aloes, viburnum prunifolium, nitroglycerin and nitrites, and irritants such as cantharides, rue, and savin.

B. Drugs which decrease the coagulability of the blood, such as citrates and tartrates.

C. Hematinics such as iron salts and albuminates, manganese, and arsenic. On theoretical grounds I do not see why these chemicals should produce or favor menorrhagia, but in personal experience I find it almost invariably to be the case.

D. Heart stimulants such as strychnine and quinine, and, to a less extent, preparations of phosphorus.

Undoubtedly the importance of withholding any or all of the drugs mentioned varies considerably with the individual case, but in normal menstruation most stress should be laid upon withholding ergot, apiol, alcohol, calcium lactate, sodium citrate, iron and arsenic preparations, sera, and the extracts of the ductless glands.

Dr. Sterling O. Fields, of Philadelphia, writes:

The matter of what drugs one shall withhold just prior to, during, and shortly succeeding the catamenia, is one which every practitioner will, in the main, decide according to his own personal experiences with such drugs. For it is well known that on this point one encounters a veritable maze of statements and beliefs, as varied as they are diametrically contradictory. So it seems here that there is justification only for a mere indication of one's practices and beliefs; to utter anything with certainty is to invite ridicule (and based on logical ground at that) from those who entertain opposite opinions.

In the administration of, or the avoidance of certain medicines during the period of the catamenia, one can fairly well stay near the line of safety by simply bearing in mind a general working outline of the pharmacological action of such drugs as he has under consideration. This, however, should go hand in hand with one's knowledge and appreciation of the results which one has obtained. To begin then with the discussion of our theme:

We have invariably noted, here at our hospital, that the administration of volatile oils and their preparations is undesirable during the menstrual period. Particularly is this so in the case of such preparations as rue, tansy, sage, and pennyroyal. It is highly probable that all volatile oils act as menstrual excitants, by the local intestinal irritation or inflammation which they provoke and the consequent marked pelvic congestion.

Care is necessary also in giving those drugs which comprise what is known as the vegetable purgative group. This group is divided further into the anthracene division (rhubarb, senna, aloes, frangula, cascara); the jalap and colocynth group (colocynth, jalap, podophyllum, scammonium, elaterium, euonymus); the purgative oil division (castor oil and croton oil). Of the vegetable purgatives we have found castor oil and cascara the least undesirable. The compound cathartic pill and the compound vegetable pill are olso open to objection, because they contain members of the foregoing group. The members of this group owe any emmenagogue action they possess to their property of producing intestinal inflammation, thereby causing a greater amount of blood to be determined to the pelvic organs. There is a general belief, however, that aloes exerts some specific effect on the uterus.

Potassium permanganate, in even moderately large doses, might be objectionable during menstruation for the same reason that is advanced against the preceding drugs. Personally, however, we have never seen a single case where this drug has increased the menstrual flow, or exerted the slightest effect upon it.

It has been our practice to avoid the use of camphor preparations internally during the monthly flow. The nervous system is already at a high state of tension at this time, and camphor with its stimulating effect on the higher nervous centres might augment this tension. For the same reason also one of my colleagues absolutely forbids the use of caffeine at the monthly epoch.

Iron and iron preparations were once considered to be contraindicated during the catamenia. But we have never seen a single untoward result from their administration at such a time. It is probable that the erroneous idea concerning the influence of iron on the menstrual epoch arose from its effects on the amenorrhea of chlorosis and anemia, which the iron relieved by ameliorating the chlorosis or anemia.

In this connection I would not leave this subject without commenting upon the employment of alcohol in any form during the period of the menstrual flow. It is now generally recognized that alcohol exerts its characteristic action by lowering and depressing the higher or controlling centres. Seeing that this is so, it requires only a very slight effort of the imagination to realize the harmful effects of alcohol upon a menstruating woman at the time when all her sexual sensibilities are increased and her general moral tone, on the whole, lowered.

But in this, as in every matter pertaining to medicine, the physician must exercise those qualities which are the keynote to his whole profession—good judgment and common sense.

Dr. Hartzog Kandt, of Brooklyn, New York, points out that—

Menstruation involves physiologically an engorgement of both uterine and ovarian circulation. During this period, therefore, we should withhold:

1. Drugs which tend unduly to increase this normal pelvic congestion, as drastic purgatives (aloes, podophylin, salts), hot drinks (alcoholic or otherwise), hot water, sitz or full baths, vaginal douches, poultices of mustard, flaxseed or kaolin to the lower abdomen.

2. Drugs which would tend to hinder this normal congestion, as cold water (ice cold drinks, full or sitz baths), cold applications to the lower abdomen (ice coil, ice bag).

3. Drugs changing the coagulability of the blood (calcium chloride, calcium and strontium lactate).

4. Drugs tending to cause abnormal contraction of involuntary muscle, by either paralyzing the nerve endings (belladonna, atropine) or by direct stimulation of the uterine muscle (ergot, quinine, strychnine, asafetida).

With the average modern woman, menstruation is not merely a localized pelvic process, but seems to unbalance to some extent her mental and psychic equilibrium. We should not add to this disturbance by the exhibition of general stimulants (strong alcoholic beverages) or general depressants (bromides, chloral).

Finally, it may not be amiss to protest against the administration of opiates during this period, except in emergencies, for fear of creating a habit.

Correspondence.

LETTER FROM LONDON.

The Position of Voluntary Hospitals under the National Insurance Act.—Salvarsan Fever.

LONDON, ENGLAND, *March 14, 1912.*

A largely attended meeting under the auspices of the Incorporated Society of Hospital Officers was held a few days ago at St. Bartholomew's Hospital. Mr. Kershaw, president of the association, was in the chair and in the course of his remarks explained the purpose of the meeting was neither in praise nor blame of the National Insurance Act, but to inquire what were its possibilities.

Mr. Worthington Evans, M. P., then addressed the meeting. He disclaimed any special knowledge of the management of hospitals, though he had been on the committee of a voluntary hospital. But he had been trying to understand the clauses of the act as they applied to voluntary hospitals. If an agreement for payment were made by a hospital or convalescent home with the friendly society in which an insured person is then all or part of the sickness and disablement benefit to which that person may be entitled could be paid over to the hospital or convalescent home, provided such person had no dependents. That was the first possible source of income of hospitals and convalescent homes under the act. If the patient had dependents, then those dependents received the sick benefit while the patient remained in the hospital. Dependents, however, were not defined in the act.

Another source of income was the thirty shilling maternity benefit, payable to the "doubly insured woman," a woman who was herself employed and was at the same time the wife of an insured man. She, on confinement, was entitled to seven shillings, and sixpence a week for four weeks as sick pay, and, by virtue of being the wife of an insured man, she was entitled to thirty shillings. In that event the thirty shillings may, if the friendly society wish, be paid over to the hospital. Nothing was likely to be received by the hospitals from the large class known as deposit contributors, namely, those who had such poor health that they were unable to pass the medical test for admission into a friendly society and had to have their contributions placed to their credit in the post office. That class was likely to come more frequently to the hospital.

Another possible source of income was under Section 21, under which the friendly societies and county committees might subscribe to the hospitals, but there was no compulsion. The new act did not include any hospital benefit. There was a sickness benefit, a disablement benefit, a maternity benefit, a sanatorium benefit, but there would be no contribution for diseases other than tuberculosis. The additional cost of the extra patients which hospitals would have to deal with if every man who had paid weekly contributions had the right to hospital treatment would be very great. The medical staffs would under these conditions probably require some sort of payment.

As to how hospitals were likely to be affected under the act, one thing was certain, that for every male and female employee of hospitals those hospitals must make a weekly contribution. In a hospital of 250 beds there would probably be employed thirty-two males and 128 females, and the annual payment for them would be £104, and, in addition, the male and female employees would contribute together £120, including £52 a year for medical benefit. It seemed odd that it should have been thought necessary to make employees of hospitals—entitled as part of their service to treatment without payment—pay a penny, halfpenny a week each toward medical benefits, which hitherto they had received for nothing.

Dealing with matters of a more speculative character, he thought the effect of the act would be somewhat to diminish the attendance at the out patient departments. Employed people would have the right to go to their doctor for treatment, and some of them not having previously had that right had drifted to out patient departments.

He believed there would be a definite increase of in patients. The first reason was a wholly estimable one. If a very widespread system of medical treatment were set up, brought within the reach of large numbers who had perhaps hesitated to go to their doctor before, a large number of cases would be discovered who required and deserved treatment in hospitals and who otherwise might have gone on to death. Another reason was that human nature was human nature, even in doctors. If one compelled a doctor to take on by contract large numbers of patients he would discover who were the troublesome ones, that doctor might fall into the same temptation as the German doctors had and shift such patient off to the hospital.

At a meeting of the Pathological Section of the

Royal Society of Medicine, Mr. Edward C. Hort and Dr. W. J. Penfold communicated a paper on salvarsan fever. Salvarsan fever was the latest addition to the group of injection fevers. Other instances of injection fevers were water fever, salt fever, sugar fever, ferment fever, protein fever, tissue fever, etc. In all these the fever after injection had been attributed to the action of different pyrogenic substances. Salvarsan fever, however, although at first looked upon as salt fever, had recently been attributed to gross bacterial infection of the solutions. This theory was first advanced by Wechselmann and was later endorsed by McIntosh, Fildes, and Dearden, as a result of independent observation. The theory was based mainly on the discovery of large numbers of organisms in the solutions injected, and on the experience that if saline made with pure water was used, fever no longer occurred.

Doctor Penfold and Mr. Hort came to the following conclusions: 1. There was no evidence to show that salvarsan fever was necessarily due to the injection of microorganisms or of unbroken bacterial protein. 2. That the presence in the solutions of a heat stable filtrable substance, which might be a degradation product of bacterial protein, was an important factor in the production of salvarsan fever. 3. That demonstration of the sterility of any watery solution of salvarsan was no guarantee that this pyrogenic substance was not present. 4. That the only certain method of preventing salvarsan fever was (a) to use for the solutions only water that had been freshly distilled in glass and to inject immediately, or (b) if storage was desired the water must have been at once collected direct into sterile vessels, which were then hermetically sealed and autoclaved. Water treated in this way would not acquire pyrogenic properties, even after standing many weeks.

Therapeutical Notes.

The Treatment of Nocturnal Enuresis in Children.—Ruhräh (*American Journal of the Medical Sciences*, February, 1912) has had remarkable results in a certain class of cases of enuresis, through the administration of thyroid extract. These cases have been described by Williams as follows: The children have a subnormal temperature, the usual range being from 96.2° to 97.2° F. (in some cases even lower); they complain of being cold, even when somewhat overclothed, and they have what is spoken of as "dead fingers"—one or more fingers becoming blanched and very cold when the child is exposed to cold, and often at other times; they feel cold even in summer, and suffer more at night than during the day. They are undersized and under weight. About one half have adenoids, but nasal respiration is free. The high arched palate is present in all these cases, and Williams believes that these things together indicate thyroid insufficiency.

To these children between two and six years of age, one half grain of dried thyroid is given twice daily, and this amount may be increased somewhat for older children. The increase in dose should be made slowly, as directly opposite results are occasionally induced by overdoses. In every instance of favorable result, a marked difference was noticed after giving one or two doses, and in all cases within a week. It has not been found necessary to continue the thyroid over long periods of time.

Yoison has called attention to the use of hypnotism, with or without epidural injection of artificial serum; the latter was supposed to act through suggestion.

Genouville has successfully used the following device: Two metal plaques, separated by a piece of flannel or absorbent cotton are connected with wires, each to one pole of a battery and a bell. When the infant urinates the cotton becomes wet, completes the circuit, and causes the bell to ring. The child awakes and micturition ceases, and after being awakened several times, the patient is frequently cured.

Cathelin injects salt solution either directly into the spinal canal by means of lumbar puncture, or subcutaneously in the sacral region. Jaboulay suggests retrorectal injections of 100 to 150 grammes of salt solution; Cahier injects from 60 to 70 grammes, making the injections one or two cm. on either side of the median line.

Lozano and Forès use the epidural method, injecting the solution into the spinal canal, making the injection low down in the sacral region toward the bottom of the canal.

Of the older methods of treatment the use of atropine has served the author best, but it must be given in doses sufficient to produce the physiological effects of the drug, a dose at 5 p. m. and at bedtime in nocturnal cases, and every three hours in cases occurring during the day and night.

Treatment of Paroxysmal Tachycardia.—Herbert M. Rich (*Journal of the American Medical Association*, February 24, 1912) describes as follows a method devised by him: He seated himself in front of the patient. Putting his right hand flat over her heart, and his left on her back directly opposite, he directed her to take a deep breath, close her glottis, and fix strongly the walls of her chest. He then squeezed the chest walls with some force, attempting to exert some pressure on the upper part of the heart. Instantly she expressed relief. The pulse, which had previously been 220, had dropped to 110.

Treatment of Cough Associated with Difficult Expectoration.—Robin (*Bulletin général de thérapeutique*, January 15, 1912) finds that the expectoration becomes more fluid through the use of carbonated drinks, and steam inhalations medicated with glycerin and tincture of benzoin. In the most rebellious cases he uses ipecac in small doses, or the following:

℞ Terpini hydratis, }
Pulveris Doveri, } ..... āā gr iiss
M. Ft. Cachet No. 1.

The ordinary expectorants (antimony and Kermes mineral) should not be used (on account of their harmful action upon the stomach) except in those cases in which by the retention of the sputa the cough brings on attacks of vomiting accompanied by cyanosis and dyspnea.

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THE CONQUEST OF HOOKWORM DISEASE.

The outer world is apt to accuse the inhabitants of the United States of "spread eagleism," but if there is any truth whatsoever in the accusation, there may be placed in the other scale the singular modesty—or is it ignorance?—of the average American regarding the good deeds of his public services and public servants. Although Washington publishes and distributes with a lavish hand the official documents bearing upon the activities of the public health services, little notice is taken by the daily press of the work that is being accomplished by them; there is little or no public acclaim over their victories; little or no public recognition of individual merit, and certainly no advertisement *urbi et orbi* of American triumph. Some notice, it is true, has been taken of the remarkable results obtained by Gorgas and his staff in the Canal Zone—of the reduction of the death rate among the employees from 41.73 per mille in 1906 to 10.89 per mille in the first six months of 1911—but even here it is foreigners who have visited the works who have been most unstinted in their praise. Only after the deaths of Walter Reed and Carroll was an inadequate meed of appreciation bestowed upon the commission which in Cuba accomplished the swiftest, most brilliant, and triumphant conquest over disease that this world has seen. The vaccination campaign and eradication of smallpox in the Philippines and Porto Rico have been treated as little more than a matter of course, and—to come to the point—over the remarkable achievements of Ashford, King, and Gutierrez, in their campaign against the hookworm disease in Porto Rico, the American press, to all intents and purposes, is mute—and inglorious. If this be modesty, it may be permitted to an outsider to sound the praises.

There lies before me a well illustrated volume of some 330 pages, published at Washington as a Senate document, under the direction of the Secretary of War, and this, as we learn, at the suggestion of one keenly interested in tropical medicine—Dr. Henry W. Wellcome, of London, the well known founder of the Gordon Laboratory at Khartoum. It gives the substance of the successive official reports and communications to medical bodies and medical journals that have emanated from the Anemia Commission, and shows in temperate, straightforward language how Dr. Bailey K. Ashford, of the Medical Corps of the U. S. Army; Dr. Walter W. King, of the Public Health and Marine Hospital Service; and Dr. Pedro Gutierrez, health officer of Bayamon, Porto Rico, initiated and carried on a work which has revolutionized the health conditions upon the island, a work in which more than 300,000, or no less than one third of the inhabitants of Porto Rico, have been shown by microscopical examination to suffer from this one, slowly fatal disease, and what is more, have been successfully restored to health.

It is an extraordinary picture that is revealed by this volume—that of a lovely and fertile tropical island in which Nature is bountiful, and existence should be ideal, but in which for many generations the inhabitants, mainly of Spanish descent, have been notorious for their laziness, feebleness, and incapacity. Under nine per cent. of the million or so inhabitants live in towns of more than 8,000 inhabitants, and while there is in the country a relatively wealthy planter class, the majority is formed of *jibaros*, the "poor white" peasantry, engaged fitfully upon the coffee, sugar, and tobacco plantations. It is this class that supplies *el palido* (the pale man).

From 1890 to 1897 the mortality from "anemia" constituted from 13.5 to fifteen per cent. of the total mortality. It more than took the place of tuberculosis in temperate zones. In 1898 it exceeded twenty-two per cent. Then, upon August 18, 1899, came the great hurricane, with its loss of over 3,000 lives and destruction of all plantations and trees over the greater part of the island. The army of occupation promptly grappled with the situation. At Ponce, Doctor Ashford was placed in charge of a provisional field hospital to accommodate some of the thousands of sick *jibaros* who thronged into the city. He soon found that the anemia was not

a result of want of food; good and abundant food had no effect in improving the condition of the unfortunates. Evidently, with their debility, pallor, edema, dyspepsia, and cardiac weakness, they all suffered from one common disease. But what was it? Blood examination proved that it was not malaria, but at the same time revealed a general eosinophilia, and thus suggested the presence of animal parasites. With this indication, Doctor Ashford made an examination of the stools, and found in them hookworm eggs. The hookworm was the cause of the widespread anemia. This discovery, after being first communicated to Washington, was published in the pages of this Journal on April 14, 1900.

In 1902, Stiles, working over the material collected by Doctor Ashford, along with other hookworms from the "poor white trash" of the Southern States, determined that these differed from the European form sufficiently to establish them as a new species, and then began an unfortunate play with names. It mattered little whether we spoke of *ankylostomum* or *anchylostoma,* there could be little doubt as to what was meant, and ankylostomiasis had been a recognized disease for sixty years and more. But a new name must be given—so *uncinaria* was evolved, and under the guidance of the higher powers we, on this continent, began to write about *uncinariasis,* only to find, as this new name was becoming established on this continent, that for some reason *uncinaria* had been deemed improper, and that we ought to speak of *Necator americanus.* To systematists it may be a matter of life and death to christen a worm properly, but the medical world is, we must confess, not a little disgusted, and, like to the Jews of St. Paul, regards the whole matter as a stumbling block, where it does not with his Greeks regard it as foolishness. No one, to our knowledge, has coined a disease terminology out of *necator;* the Porto Rico commission recommends that *uncinariasis* be adhered to; workers outside of the United States persist in writing about *ankylostomiasis,* and for international happiness their example should be followed; among ourselves it is simplest and all sufficient to speak of "hookworm disease."

The report gives a vivid picture of the difficulty encountered in stimulating the Porto Rico Legislature to act in the matter of a campaign against the disease. Only after four years of demonstration and agitation did the Assembly, in February, 1904, make an appropriation of $5,000 for the use of a commission, and those whose names have already been given were appointed by Governor Hunt. The authorities at Washington appointed Doctor Ashford and Doctor King to act as commissioners. It is worthy of note that neither of these received at any time payment from the insular government for their services.

Beginning at Bayamon, considerably more than 600 patients presented themselves in less than a month, and as those cured returned to their families, the number presenting themselves at each clinic became overwhelming. A removal was then made to Utuado, and here again patients poured in in such numbers that within five months the appropriation was exhausted. For patients registering from eight to thirty per cent. of hemoglobin, a field hospital of fifty-four to sixty-six beds was provided, and at the end of five months 5,049 cases had been treated. So great was the success that other districts demanded dispensaries and field hospitals, and in 1905-1906, Aibonito, a town in the mountains, was chosen for the central dispensary; ten substations were established in the surrounding little towns, the largest stations at Lares and at Utuado. The physicians of the island, seeing the good results, volunteered their services, procured microscopes, and undertook the care of the substations.

In 1906, the Legislature passed a law organizing a permanent commission for the extermination of uncinariasis with Doctor Gutierrez as president, and Dr. Gonzales Martinez and Dr. Sein Sein as members. Requests for dispensaries came from nearly every town in the island until there were as many as thirty-five in 1907. In November, 1908, the number had increased to fifty-nine. No patient was treated until microscopical examination of the stools had revealed the existence of the condition. The sum total of persons treated up to June 30, 1910, was 287,568; at least 30,000 more, it was estimated, had been treated apart from government work, or to repeat, practically one third of the population of Porto Rico had received specific treatment for uncinariasis, that treatment in the main being by thymol, experience showing this to be definitely superior to male fern and beta naphthol. Thymol was given once a week as long as ova remained in the feces; 97.8 per cent. of those who expelled all their hookworm received thymol five times or less; 41.8 per cent. expelled all in one dose; 32.1 per cent. expelled all in two doses; in other words it is pointed out that, making every deduction, 68.6 per cent. of these chronic invalids were cured in less than thirty days, 93.4 per cent. within two months.

Space forbids that interesting studies upon blood and other conditions should here be dealt with. The report contains a very full study of the mode of infection upon the coffee plantations, of blood cell counts, of eosinophilia and of hemoglobin percentages, as also the clinical symptoms of the condition; for these matters we must refer those interested to the original. Our main object is to call

attention to a work which has owed its origin to the scientific enthusiasm and humanity of two members of the Public Medical services of the United States, and of a country practitioner of Porto Rico. They have demonstrated the cause of the prevalent disease of the inhabitants, and shown how this disease can be arrested. Through their efforts the disease has been cured, and from being feeble and incapable, the victims of a progressive malady ending in death, the inhabitants of Porto Rico have had their vitality restored to them, have received health, strength, and happiness.

But herein, let me repeat, is a distinct defect in conditions upon this continent: Having no method worthy of respect whereby respect and gratitude can be officially proffered to those who have accomplished much for their fellows, that respect and gratitude find no adequate utterance. After all titles at times are useful. But if the conferring of relative rank is clearly out of the question, it may well be suggested that the United States follow the example of Great Britain and grant an O. M. or Order of Merit to those whom the country ought to honor in science and art, in literature, and philanthropy. J. George Adami.

CHANGED CONDITIONS AFFECTING PROFESSIONAL INTERESTS.

Medicine may justly be regarded as an altruistic profession, and we trust it may always remain so. In the triumphs of preventive medicine the physician sees his income steadily reduced, and of this, as a disinterested lover of his kind, he does not complain. There are other conditions, however, affecting his economic status, against which it is his duty to protest, as inimical alike to his own and the public welfare. There are among our own numbers recreant leaders lacking in loyalty to the honored traditions and high ideals of the profession, and this is one of the serious evils confronting the practice of medicine to-day. When a great university establishes under its ægis a "school of optometry" to enable unqualified men to take a short cut to the practice of a difficult branch of medicine, and when its affiliated hospital appoints a trained nurse to the important office of anesthetist, there is something radically wrong in the ranks of the profession itself. In the annual report of this institution occurs the following approving paragraph of this dangerous innovation: "A new field of activity recently open to nurses is that of trained anesthetist. Three of our graduates have already taken up this branch, one having the appointment in this hospital." In this extraordinary statement it would appear that in the judgment of the medical board of this hospital, a course in nursing turns out anesthetists superior in "training" to the qualified possessor of a medical degree. It is perhaps a matter of trifling consequence to the sponsors of this unjustifiable departure from sound medical policy that according to the laws of New York State it is as illegal for a nurse to administer chloroform or ether as for her to prescribe opium or digitalis, or perform a minor surgical operation. If the nurse is ambitious to practise medicine let her prepare herself properly in one of the many excellent medical colleges now open to women.

Until comparatively recently the activities of health boards were limited to the enforcement of established principles of general hygiene and sanitation, the collection of vital statistics, and measures to prevent the spread of epidemics. More and more are health departments invading the sphere of treatment, the latest proposal being that operations on diseased tonsils and adenoids in school children should be performed in New York city by health department physicians. These paternalistic extensions of the health department's functions may or may not be in the public interest, but they certainly do increase the burdens of the taxpayer, and encroach seriously upon the domain of legitimate medical practice. They further unfavorably affect the medical profession in creating a small army of ill paid municipal doctors, recruited from the ranks of recent graduates and unsuccessful practitioners, obliged by their necessities to accept small salaried positions under conditions which preclude their ever obtaining an independent practice. The limited opportunities for advancement to the higher grades in the medical bureaucracy are determined as frequently by skill in playing the game of politics as by professional ability.

The methods, also, of life insurance companies in recent years have exerted a similar unfavorable effect upon the prosperity and dignity of the profession. Less than twenty years ago the office of examiner in the large companies was frequently held by practitioners of standing, and the remuneration on the fee system was somewhat commensurate with the value of the services rendered. To-day the practice of many of the companies is to have their medical examinations made by young physicians who can be obtained for the salary of a clerk. The youthful graduate who is thus exploited, accepts the meagre salary as a temporary expedient to tide him over the difficult period of waiting for patients, he puts in long hours at the down town office of the company, and drifts into middle age still clinging to his monthly stipend. At a period of life when he lacks courage and initiative to make a change, he discovers, too late, that he has given up an honorable profession to become the hired servant of a corporation.

There is no good reason, in these days of liberal hospital endowments, why the physician should not be paid for hospital service, as he is universally abroad, in countries far inferior in wealth to the United States. It is a strange anomaly that in private hospitals endowed with millions, where even the chaplain is a salaried officer, the physician alone should be expected to give freely of his time and services without compensation. Payment of hospital physicians would, we believe, insure better service and elevate medical teaching and research in this country. Under existing conditions medicine in New York city is fast becoming a rich man's profession.

SALVARSAN IN THE TREATMENT OF YAWS.

The *Public Health Reports* for March 22, 1912, gives a report of Consul Franklin D. Hale, at Trinidad, British West Indies, in which it is stated that the surgeon general sent a special message to the governor and legislative council on the use made of salvarsan at the St. Augustine Hospital, from January to October, 1911, where 500 cases of frambœsia tropica were treated with dioxydiamidoarsenobenzol in doses of nine grains for an adult as an intramuscular injection, with the following results: Four hundred and nine patients (eighty-two per cent.) cured with one treatment; seventy-five patients required a second injection, while fourteen had to be treated a third time; thus making 498 cures or 99.6 per cent. At the time of submitting the message there were only two stubborn cases, but the patients were subsequently reported as cured. There were only five relapses after the treatment, or one per cent., whereas before the use of salvarsan was begun, the number of relapses after treatment was twelve or fourteen per cent. No local gangrene was observed, no nerve or ear complications, and no dimness of sight resulted from the use of the salvarsan.

THE SEARCH FOR ALBUMIN IN THE SPUTUM.

Roger has pointed out the importance of the search for albumin in the sputum on several occasions, and has shown that the expectoration of tuberculous subjects always contains it, so that a negative reaction will allow one to reject the diagnosis of a pulmonary tuberculosis undergoing its evolution.

Again taking up his study on this question, he seems to prove (*Gazette médicale de Paris*, August 12, 1911) that the albumin reaction will allow one to differentiate the secretions of tuberculosis from the ordinary bronchial secretions and to follow the evolution of a tuberculosis and affirm its cure. It furnishes a diagnostic means in bronchopulmonary affections, so that when it is present in a supposedly simple bronchitis it should lead one to suspect a bronchopneumonia, or the existence of a cardiopathy.

Consequently, it is a diagnostic factor of considerable importance, while its detection is easy. All that is necessary is to place some recently expectorated sputum in some water and then add a few drops of acetic acid; the whole is then filtered, and in the liquid thus obtained albumin is searched for by the ordinary procedures.

A HARVEY LECTURE ON MALARIA.

Dr. William Sidney Thayer, professor of clincal medicine in Johns Hopkins University, gave the Harvey lecture at the Academy of Medicine on March 23d, taking as his subject malaria. He pointed out that the absence of a National department of health had caused the United States to lag behind Italy and Greece in the prophylaxis of the disease, despite what had been accomplished in Cuba and the Canal Zone, and that the consequence was that malaria took an enormous annual toll of the population, larger probably than was actually known owing to the absence of reliable statistics, which absence was due to general ignorance and indifference on the subject. Education of the public in the dangers and sequelæ of malaria is imperatively demanded; it is probable that even the identification of the mosquito as the carrying agent is not yet a matter of popular knowledge. Nowhere is life held so cheaply as with us and our singular indifference appears in this impatience with, or hostility to governmental control of infection.

THE BROOKLYN MEDICAL LIBRARY.

It is to be hoped that the public exhibition of the treasures of the Brooklyn medical library, which ends to-morrow, the 31st inst., will serve to stimulate general interest in the superb collection, which is surpassed in the United States by only three others, including that of the surgeon general at Washington. An endowment fund is needed and it is from our generous lay friends that this must come. The Brooklyn collection is a monument to the scholarship and painstaking care of a list of librarians extending through ninety years of conditions never too favorable, and, in its completeness, as well as in its possession of priceless first editions and other bibliographical gems, it merits the generous attention of those who temper their philanthropy with discrimination.

Medical Law.

VIII. CIVIL MALPRACTICE.

The case of Robinson v. Crotwell, 57 Southern, Rep. 23, recently decided by the Supreme Court of Alabama, is one replete with trouble, legal complication, and evident regret to all parties.

The plaintiff had been treated for some years by defendant and other physicians for tic douloureux and had received no benefit from medical treatment. Defendant, who kept a hospital, advised an operation, and recommended his brother, who made a specialty of surgery, but who was not interested in the hospital or connected with him in a business way. Arrangements were made with the brother, who performed an operation at defendant's hospital, removing a piece of plaintiff's skull 2.5 by 1.5 inches, but without affording the relief sought.

The plaintiff sued defendant on two theories:

First, that defendant performed, or caused to be performed on plaintiff a serious operation different from that consented to by plaintiff, and,

Second, that defendant unskillfully or negligently diagnosticated or treated plaintiff's ailments.

The case was tried before a judge and jury. The jury rendered a verdict against defendant for "a good round sum," which the judge refused to set aside, and an appeal was taken to the supreme court, which, after reviewing the law and the evidence, set the judgment aside.

As to the first theory upon which the action is brought, it is the law that if defendant cause a dangerous operation to be performed upon plaintiff, after assuring him that the operation to be performed would be a mere trifle, as operations go, and should involve no serious consequences, defendant's conduct was indefensible. The evidence upon this point as reviewed by the supreme court showed that defendant was a reputable physician; that he had attended plaintiff at intervals since the latter's childhood, and through many months he had treated him for the specific disease of which it was proposed to relieve him by the operation in question; and that he had plaintiff's confidence. The operation was performed in the presence of three other physicians, nurses, and three brothers of the plaintiff. The operation was dangerous, difficult, and of doubtful result at best. The defendant and two of the other physicians swore that the plaintiff was specifically informed of the nature of the operation which it was proposed to perform. The plaintiff, on the other hand, testified that if he were informed after his faculties had been benumbed by an opiate, administered by the defendant, that he could not and did not understand and consent; but it was undisputed that nearly a year elapsed after the operation before the plaintiff, or any one for him, intimated that he had a grievance, and in the meanwhile, without complaint or reproach, he returned to defendant for treatment, and consulted with him about having the operation repeated. Said Mr. Justice Sayre, after summing up the evidence under the point in consideration:

> The wrong attributed to the defendant was so utterly without motive, so wide a departure from the principles and practices of an honorable profession, the complaint so long delayed, and the general lack of verisimilitude so great, that without going further into detail, and after indulging that large intendment in favor of the verdict of the jury and the judgment of the trial court which the law demands of this court on appeal, we state our conclusion that, if the verdict in this case is to be referred to that theory of the plaintiff's case now under consideration, it ought to have been set aside on the defendant's motion.

Upon the theory of negligence, a review of the evidence showed an entire absence of any lack of skill or negligence in diagnosticating or treating the case. The operation had been performed by another surgeon, proceeding upon his own judgment as to what ought to be done and how, and who was practising his profession as an independent agent. Under these circumstances the defendant would not have been liable even though the operating surgeon might have been guilty of negligence.

The plaintiff endeavored to show that defendant was liable on the ground that he contributed to the result of the operating surgeon's alleged negligence by furnishing an inadequately equipped place in which to perform the operation. The court, however, expressed the view that this left the question at issue to depend upon defendant's responsibility for the operating surgeon: for, if the condition of the hospital and its equipment was such as, in itself, to import an element of negligence or unskillfulness into an operation performed there, the responsibility for that element of the operation rested upon the surgeon, whose judgment determined upon and directed the operation. Moreover, witnesses, including one introduced by plaintiff, gave their approval of the hospital. Under all of the circumstances, the appellate court was clearly of opinion that justice, and the law as well, required the judgment of the court below to be reversed.

X. THE PHYSICIAN AS WITNESS.

In the case of Lack Malleable Iron Co. v. Graham, 143 Southwestern, Rep. 1016, the defendant contended that the testimony of a physician who testified on behalf of the plaintiff should be excluded because it appeared upon cross examination that the physician had not been paid by plaintiff for his services in examining and treating the plaintiff, and that the pay would necessarily come from the amount plaintiff recovered from defendant. The court very properly rejected this contention, and in discussing the effect of such a doctrine Mr. Justice Lassing said:

> In the first place it would be a serious and unwarranted reflection upon the integrity of a physician to say as a matter of law that his testimony was warped or influenced by the fact that, unless a recovery was had, he would not be paid for his services * * *. In the second place, if such a rule obtained, it would have a tendency to deprive those in need of the services of a skilled physician of such services, or at least put them to the necessity of paying for such services as had been rendered before the physician could testify. It is competent, when a physician has testified as to the character, nature, and extent of an injury, to ask him the amount of his bill and whether or not it has been paid, for the purpose of showing bias and affecting his credibility upon this point. But when a jury, with these facts before them, has returned a verdict in favor of plaintiff, evidently based, at least in part, upon the opinion of such physician, the court would not be warranted in disregarding that evidence and setting aside the verdict.

In this case the plaintiff, who was suffering from a burn on one of his feet had been attended by three physicians. The physician whose testimony is referred to in the preceding paragraph did not examine the plaintiff until some time after the injury occurred. He testified that in his judgment the injury was permanent and that the plaintiff would never have the same use of the foot he before had; that it was burned into the bone, and in his judgment, the injury to the foot was permanent, and that the toe next to the great toe would have to be amputated. The jury gave a verdict for $2,500 which was affirmed.

An expert, having once answered a question as an expert without objection, it is too late to raise the question of his competency by a general objection to a specific question. This was attempted in the case of Patton v. W. M. Ritter Lumber Co., 73 Southeastern, Rep. 166, wherein the court stated that such objection at that stage was not available.

News Items.

Change of Address.—Dr. Arthur J. Herzig, to 103 West 121st Street.

Personal.—Dr. Horace D. Arnold, of Boston, has been appointed dean of the graduate School of Medicine of Harvard University, a department recently established at the university, and not of the Harvard Medical School, as stated in last week's issue. Dr. Henry A. Christian's successor has not yet been appointed.

Vital Statistics of New York.—During the week ending March 23, 1912, there were 1,534 deaths from all causes reported to the Department of Health of the City of New York, corresponding to an annual death rate of 15.47 in a thousand of population, as against a rate of 17.86 for the corresponding period in 1911. The death rate for the first twelve weeks in 1912 was 15.66, and for the corresponding period in 1911 it was 16.81.

New Medical Society Organized in Buffalo.—The Buffalo Medical and Surgical League is the name of an organization of physicians formed in Buffalo on the evening of March 14th. Officers for the first year were elected as follows: Dr. A. W. Hengerer president; Dr. M. Allen Richter, vice-president; Dr. Julius Richter, secretary; Dr. Edmund P. Reimann, treasurer; Dr. George A. Stesel, chairman of the board of governors.

Medical Banquet, U. C. N. Y. 1892.—On Wednesday evening, April 3, 1912, a reunion and banquet of the 1892 class, Medical Department of the University of the City of New York, will be held at the Hotel Martinique, 56 West Thirty-third Street, with the following committee in charge: Dr. J. Emmet Tower, Dr. J. F. Hagerty, Dr. John S. Stetson, Dr. George B. Campbell, and Dr. Robert E. Coughlin. All members of the class are invited to attend.

A Discussion on the Teaching of Obstetrics.—At a meeting of the Section in Obstetrics and Gynecology of the New York Academy of Medicine, to be held on the evening of April 25th, Dr. J. Whitridge Williams, of Baltimore, will read a paper entitled, What Can be Done to Improve the Teaching of Obstetrics in This Country? A discussion will follow which will be participated in by Dr. William M. Polk, Dr. E. B. Cragin, Dr. J. Clifton Edgar, Dr. J. W. Markoe, and Dr. Austin Flint, Jr.

Free Lectures at the Skin and Cancer Hospital.—A course of seven lectures is being given at the New York Skin and Cancer Hospital, on Wednesday afternoons, at 4:15 o'clock, which is free to the medical profession on the presentation of professional cards. The first six lectures in the series are by Dr. L. Duncan Bulkley, on Diet and Hygiene in Diseases of the Skin, the three remaining to be given on the afternoons of April 3d, 10th, and 17th. On April 24th, Dr. William Seaman Bainbridge will lecture on Some Recent Methods of Treatment for Malignant Diseases. Each lecture is preceded by a half hour clinical demonstration of cases.

The Brooklyn Medical Library Exhibition.—To morrow, March 31st, is the last day of the interesting exhibition given by the Brooklyn Medical Library. Every afternoon and evening during the past week the building has been open to the public, and access given to the shelves, containing volumes and manuscripts of great antiquity, many of them dating back to the earliest days of printing, and before. The librarian and the officers of societies connected with the library have been on hand to point out objects of special interest and to give explanations of what was of greatest interest. This library is one of the largest and finest medical libraries in the world, and it is said that only three in the United States surpass it in size and completeness. One is the national medical library at Washington, and the others are those of the New York Academy of Medicine and the College of Physicians of Philadelphia.

Five Million Inches of Publicity.—Publicity in newspapers and magazines on tuberculosis and its prevention is being given by the press of the United States to the amount of 1,500,000 inches a year, according to a statement issued recently by the National Association for the Study and Prevention of Tuberculosis. In the last four years, during which time an active publicity campaign has been carried on, it is estimated that over 5,000,000 inches, or more than ninety miles of press notices on tuberculosis have been published.

A Meeting of Neurologists in Chicago.—Under the auspices of the Chicago Medical Society, a meeting will be held in Chicago on April 17th, 18th, and 19th, for the purpose of discussing the various phases of mental diseases. Invitations to attend this meeting and participate in the discussions have been sent to alienists and neurologists from several States, and an interesting programme has been arranged. The object of the meeting is to instruct the public in the prevention of nervous and mental diseases, and to aid the general practitioner and the specialist in their work of treating these conditions. All who are interested are invited to attend.

All Cases of Infantile Paralysis Must Be Reported.—The Department of Health of the City of New York has sent notices to physicians calling their attention to the fact that according to Section 133 of the Sanitary Code, acute poliomyelitis is a communicable disease, and every case must be reported to the board of health within twenty-four hours after a diagnosis has been made. Notification should be made on the regular postal card issued by the department for the reporting of infectious disease, and these will be furnished upon application. For further information regarding the matter apply to the Division of Communicable Diseases, Department of Health, Fifty-fifth Street and Sixth Avenue, New York.

A Graduate School of Medicine at Harvard University.—A Graduate School of Medicine, as a department of Harvard University, has been established, and on October 1, 1912, will take control of all graduate instruction in medicine. It will be administered by a separate dean and administrative board, and will thus be placed on an equality with the medical school proper and the dental school. A dean has been appointed and the work of organization started. This is the first time in this country that the development of graduate medical teaching has been undertaken on a university basis. The object is to extend to graduates in medicine opportunities for further studies that are as thorough and scientific as the best instruction given in first class medical schools, and to offer to those who are equipped the best opportunities for advanced study and research work in all branches of medical science. Graduate teaching has been carried on at Harvard for many years, and it was the growing demand for such instruction that led to this plan of a more systematic organization and a greater development of the work. The new feature in the movement, therefore, lies in the recognition that the work is of sufficient importance to warrant the establishment of a separate department.

Meetings of Local Medical Societies to be Held during the Coming Week:

Monday, *April 1st.*—German Medical Society of the City of New York; Clinical Society of the Nose, Throat, and Lung Hospital; Brooklyn Hospital Club; Roswell Park Medical Club, Buffalo; Hornell Medical and Surgical Association (annual).

Tuesday, *April 2d.*—New York Academy of Medicine (Section in Dermatology); New York Neurological Society; Syracuse Academy of Medicine; Buffalo Academy of Medicine (Section in Surgery); Long Island Medical Society.

Wednesday, *April 3d.*—Brooklyn Society for Neurology; Society of Alumni of Bellevue Hospital; Harlem Medical Association; Schenectady Academy of Medicine.

Thursday, *April 4th.*—New York Academy of Medicine; Brooklyn Surgical Society; Practitioners' Club of Buffalo.

Friday, *April 5th.*—New York Academy of Medicine (Section in Surgery); New York Microscopical Society; Gynecological Society of Brooklyn; Manhattan Dermatological Society; Practitioners' Society of New York.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

March 14, 1912.

1. R. H. Fitz: Continuous *versus* Interrupted Hospital Service.
2. Adelaide Nutting: Nursing and Public Health.
3. Ernest Bo[illegible]n Young and John T. Williams: Outdoor Treatment of Puerperal Infection.
4. J. Dellinger Barney: Tuberculous Epididymitis: End Results of Seventy-one Cases.
5. William Pearce Coues: Bone Lesions Accompanying Chronic Leg Ulcers.
6. Stephan Rushmore: Disappearance of Ovarian Tumor after Vesicular Mole.

3. Outdoor Treatment of Puerperal Infection.—Young and Williams say that the outdoor treatment has reduced the mortality of severe puerperal infections by nearly twenty per cent. It probably exerts its action chiefly by increasing the amount of hemoglobin in the blood. Sunlight is probably quite as important as fresh air. Curettage is contraindicated in puerperal infection, because it increases the mortality nearly ten per cent. A single intrauterine douche of sterile salt solution should be the only local treatment, and some writers deny the value of even this. Antistreptococcic serum and vaccines have not proved of much value. The outdoor treatment is the most effective known at present for puerperal infections, but the search for new methods should be continued.

4. Tuberculous Epididymitis.—Barney draws the following conclusions from an analysis of the end results of seventy-one cases: 1. After the removal of one or both epididymides the large majority of patients are found to be in good condition and to have gained weight. 2. In two thirds of the cases there is no demonstrable evidence of tuberculosis elsewhere than in the genitourinary tract. When present, it is most commonly found in the lungs or bones, but any organ may be attacked. 3. Renal tuberculosis rarely follows an infection of the epididymis. 4. Tubercle bacilli were present in eight out of ten urines, as shown by the guineapig test. These urines also contained blood and pus, while those giving a negative reaction were normal. 5. A small majority of cases have a normal urine and no urinary disturbances either before or after operation. 6. Postoperative sinuses are found in twenty-five per cent. of cases, but as about two thirds of the patients were seen during the first year after operation, and as many sinuses remain open for several months, this figure would be ultimately much reduced. Although there are, as yet, not a large number of cases to prove it, the author is firmly convinced that the use of tuberculin after operation hastens convalescence and the closure of sinuses more than any other measure. 7. No patient upon whom epididymectomy was performed is known to have had a recurrence in the corresponding testicle. 8. Tuberculosis of prostate and vesicles is found in more than half, and it is probable that this number would be greater were our methods of detecting early and centrally located lesions more accurate. 9. In a very large majority the sexual function is undisturbed, but the semen is found to be sterile in eighty-five per cent. 10. A comparison of many orchidectomies with a few epididymectomies show the latter to have resulted more favorably. It is a fact, however, that infection of the second epididymis is to be expected with or without operation on the first epididymis, and whether that operation be orchidectomy or epididymectomy. 11. The mortality of operations for tuberculosis of the epididymis is 5.47 per cent., the cause of death being a general miliary tuberculosis.

5. Bone Lesions Accompanying Chronic Leg Ulcers.—Coues says that long continued ulceration of the leg, whether varicose, specific, or undetermined, is often accompanied by extensive changes in the underlying long bones, often demonstrable only by radiographs. They are of great importance as regards treatment, and occur too commonly to be ignored or passed over as occasional. He thinks that long continued ulceration of the soft parts finally produces an effect upon the periosteum. In specific cases he believes the bone is not involved by direct extension of the process in most cases, and in some there is a direct extension outward from a specific process in the periosteum to the soft tissues, forming an ulcer. Potassium iodide will help both kinds, specific and nonspecific, many of these cases having a high blood pressure. All cases of ulcers of the legs should have radiographs taken of the underlying bones and be tested carefully for tabes. Many that are supposed to be varicose from the condition of the veins are in reality specific.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

March 16, 1912.

1. Irving M. Snow: Oppenheim's Myatonia.
2. John D. Cantwell: Supernumerary Axillary Mammary Glands.
3. R. C. Creasy: Lactation from the Mammary Gland in the Male.
4. Patrick S. O'Donnell: X Ray Findings in the Differential Diagnosis of Early and Late Pregnancies.
5. Angus McLean and P. M. Hickey: X Ray Diagnosis of Pregnancy.
6. Jules M. Brady: Malt Soup in Nutritional Disturbances of Infants.
7. Dudley Roberts: New Test Meal.
8. E. M. Stanton: Frequency of Surgical Lesions of the Kidney and Ureter as Estimated from Autopsy and Hospital Records.
9. J. H. Long: Definition of Normal Urine.
10. Frederic G. Hallett: Organization and the System of Examinations of the Conjoint Examining Board of the Royal College of Physicians of London and the Royal College of Surgeons of England.
11. Paul E. Bowers: Paretic Patients Sent to Prison.
12. D. J. Davis and E. C. Rosenow: Epidemic of Sore Throat Due to Peculiar Streptococcus.
13. Ettore Levi: Clinical Use of Carbon Dioxide with Oxygen.
14. Ira S. Wile: Maternal Nursing. Return of Milk after the Discontinuance of Nursing.
15. Herman O. Mosenthal: Atropine Therapy in Diabetes Mellitus.
16. Penn G. Skillern, Jr.: Wright's Solution with Bier's Hyperemia in Infections of the Extremities.
17. Herbert W. Fudge: Gunshot Wound of the Pregnant Uterus.
18. James T. Greeley: New Device for Hypodermic Medication.

2. Supernumerary Axillary Mammary Glands.—Cantwell reports this rare case in a primipara, aged twenty-two years. A tumor as large as an orange was found in each axilla, lying between the latissimus dorsi and the pectoralis major, and separated from the normal breast by a distance of one inch. These tumors, freely movable on the underlying tissue, had at the centre of the dome of each tumor a darkened area, one half inch in diameter, from the centre of which there projected a small nipple, one eighth of an inch in diameter and the same in height. A milky fluid escaped from both nipples on slight pressure. These glands increased in size until the sixth day of the puerperium, and then gradually diminished until the fourteenth day, when only the nipple and the areola remained.

3. Lactation from the Mammary Gland in the Male.—Creasy reports a case of this character in a

Russian who was in the habit of manipulating and massaging his left mammary gland during his idle time. When seen by the writer the patient complained of pain in the gland and a milklike secretion oozed from his nipples, both symptoms being much increased during and after his working hours. Belladonna internally to full physiological effects and belladonna ointment externally over the gland relieved the pain and completely checked the secretion.

4. **X Ray Findings in the Differential Diagnosis of Early and Late Pregnancies.**—O'Donnell has developed a technique which not only shows clearly the fetus in the uterus, but also any abnormities. The position of the fetus can be clearly determined from the fourth month. He uses an exposure of less than one fifth of a second with a medium tube.

6. **Malt Soup in Nutritional Disturbances of Infants.**—Brady has used Keller's malt soup extensively for the past five years in milk nutritional disorders of children. The malt soup is prepared as follows: Mix two ounces of wheat flour and eleven ounces of whole milk, and then pass the mixture through a sieve. In a second vessel three ounces of malt extract are mixed with twenty ounces of warm water. These two mixtures are placed in a porcelain vessel, and two and one half drachms of eleven per cent. potassium carbonate are added, and the whole cooked with constant stirring for twenty minutes and then brought to a momentary boil; any loss of volume is made up by the addition of boiled water. This formula is designed for babies weighing from 6.5 to ten pounds from the third to the ninth month. For babies under three months old the flour is reduced to one ounce and the malt extract to two ounces. Keep on ice and warm before using. Brady has found that even when metabolic disturbance has existed so long that it has produced marasmus, the malt soup has been of great service, the maximum good being obtained when the babies have a high carbohydrate tolerance. This preparation has frequently proved to be a good diet in diarrhea.

7. **New Test Meal.**—Roberts has experimented with various substances to discover one which, when added to the test meal in definite quantity, would indicate, on its passage from the stomach, at the lapse of an hour, the amount of test meal which remained. He has found in lactose the desired substance. The test meal is made as follows: To 300 c.c. of freshly made tea are added thirty grammes of lactose. With this he allows one pilot biscuit or two plain unsalted soda biscuits. After this meal has remained in the stomach for an hour, a liberal portion is extracted. Then about 200 c.c. (but necessarily a definite quantity) of water is forced into the stomach through a stomach tube, and the contents of the stomach are thoroughly mixed by partly withdrawing and then returning the stomach contents several times. A second sample is then extracted and the two samples are then ready for analysis.

14. **Maternal Nursing.**—Wile has found that maternal nursing may be reestablished through the regular sucking of an infant, even though several months have elapsed since the breasts were used for this purpose. Mastitis, unless there is pus in the milk, nor the mild infections contraindicate breast feeding. While developing the maternal supply, especially during the first month, mixed or supplemental feeding is of great value. The regulation and development of the maternal supply for puny infants, is best accomplished by putting older or stronger infants to the mother's breast. In all cases it is desirable to make every effort to give the infant its natural food, the maternal breast milk.

15. **Atropine Therapy in Diabetes Mellitus.**—Mosenthal has tested out two cases of diabetes mellitus with atropine sulphate, and concludes that the drug does not effect any change in the carbohydrate tolerance of sufficient importance to make it clinically valuable in the treatment. He reports the two cases in full, with diet, uranalysis, and medication.

MEDICAL RECORD

March 16, 1912.

1. R. G. Eccles: Importance of Disease in Plant and Animal Evolution.
2. W. A. Newland Dorland: Relation of Pelvic Disease in Woman to Osteoarthritic Joints.
3. William N. Berkeley and S. P. Beebe: New Antiserum for Cancer.
4. William M. Ford: New Antiserum for Malignant Disease.
5. Victor G. Heiser: Beriberi; Governmental Aid in Its Eradication.
6. Ira S. Wile: Schools for Midwives.
7. Paul E. Bechet: Treatment of Eczema Rubrum of the Lower Extremities.
8. Alfred C. Henderson: Malaria in an Infant Five Months Old, Simulating von Jaksch Anemia.
9. Walter S. Mills: Heredity, Environment, or Accident?
10. William J. Robinson: Peculiar Foreign Bodies in the Vagina
11. Richard Stein: The Autopsy. A Letter to the Public.

1. **Importance of Disease in Plant and Animal Evolution.**—Eccles demonstrates, from *Amœba proteus,* the simplest animal form known to man, to the mammalian, the persistent action of disease (parasitic and others) in eliminating the weaker members of each group to the betterment of the species. In the lower forms of cell life there is a tendency of the outer cells to become sterile (soma cells), as they are most exposed to the action of parasites. Ascending in the scale of living things the fertile cells (germ cells) gradually disappear until the front and periphery of the organism is wholly deserted by them, until they become located in positions of maximum safety from parasites, the germ cells finally disappearing from every place of great exposure as if to hide behind and beneath the soma cells (sterile cells). In the vertebrates their reduction and hiding proclivities are particularly pronounced. It seems that the struggle for existence, as related to tissue cells, is a struggle against parasites. Parasitic castration is a common occurrence in many kinds of plants and animals. Ward says that "when a parasite develops in an organism it causes sterility in its host, which sterility may be direct (by destroying the genital glands mechanically) or indirect (when not in direct relation with the genital glands); and this parasitic castration may be temporary and disappear when the parasite is suppressed." Bacterial castration (avian tuberculosis, bird malaria) in birds has been fully demonstrated; in the human subject the gonococcus produces in women permanent and irremediable sterility by occluding or constricting the Fallopian tubes, and in men by obliterating the ducts of the epididymis, and by changes produced in the

semen (a gradation in the reduction of viable spermatozoa indicating the presence within the circulation of a cytotoxine—a cell poison). The attacking of the nuclei of cells by the cytotoxine is important, as the nucleus is now generally conceded to be the seat of the cell's hereditary qualities. These and many other instructive and interesting points are brought out by the writer in the course of the discussion of this subject.

3. New Antiserum for Cancer.—Berkeley and Beebe believe it axiomatic that a scientific remedy for cancer shall be soluble in the blood, transmissible by the blood and lymph currents to all parts of the body, and have a selective affinity for the cells of the tumor to be destroyed. Such a remedy may be a chemical substance or compound, or it may be a physiological antibody, developed in an alien species by successive injections of a cancer extract. The latter has been the line along which the authors have worked, their most serious problem being to produce the antibody in clinical quantities. They have found that by successive injections of a specific human cancer extract (the cancer being partially removed by operation) into an alien mammalian species they have obtained a serum which, injected into the muscles, or better, into the veins, in increasing doses into the original host, causes a rapid retrogression and disappearance of the remains of the tumor. They have found that this cannot be done with a normal alien serum. They explain it as a cytolysis of the tumor cells. They find that there is a strictly quantitative relation between the amount of serum used and the amount of tumor that will disappear. The serum injections (sixteen cases) have produced no ill effects other than local swelling and the anaphylactic fever and vasomotor disturbances following the use of an equal amount of normal alien serum. They have found the relation of one antiserum ("stock serum") to cancers that differ histologically to be variable and full of surprises. The authors believe that autogenous serum is much more effective than stock serum, and that treatment to be effectual must be started early. The cases so far successfully treated are too few to warrant any extravagant claims for the future.

5. Beriberi; Suggestion for Governmental Aid.—Heiser considers it proved that beriberi in the East occurs most frequently from the use of polished rice. To establish a standard as to what constituted polished (overmilled) or unpolished (undermilled) rice, a series of experiments was made on chickens, which resulted in the conclusion that any rice which contained 0.4 per cent. of phosphorus pentoxide (P_2O_5) or more might be regarded as undermilled and therefore safe as a staple article of diet, and any rice that contained less than this percentage should be regarded as overmilled, and therefore unsafe as a staple article of diet. Recent experiments showed that potassium and other substances found on the outer portion of the rice grain might furnish an equally safe index of the degree of polishing. A great reduction in the number of beriberi cases followed the use of undermilled rice in the military and civil departments in the Philippines, but its continuous use even there could be brought about only by the most urgent insistence, as the more ignorant believed, from the darker color, that the government was trying to force upon them a cheap and inferior article. The remedy suggested was that the government should place a tax on polished rice (standard as above stated), and exempt from tax the unpolished grain.

6. Schools for Midwives.—Wile feels that, as it is practically impossible to eliminate midwives, at least in many sections of the country settled by foreigners, their position should be strengthened. To this end he would establish schools for their instruction and issue permits or licenses after a six months' course followed by a satisfactory examination and personal attendance upon at least twenty cases under the supervision of a properly qualified obstetrician, thus guaranteeing them protection and placing the full measure of responsibility.

8. Malaria in an Infant Simulating von Jaksch Anemia.—Henderson, while admitting that malaria in infants is probably not rare (many cases not, however, being correctly diagnosticated), reports this case on account of the blood findings simulating von Jaksch anemia (pseudoleuchemia of infancy) and the age of the patient. Microscopical examination of the blood revealed numerous malarial organisms. Four grains of dihydrochloride of quinine daily, in divided doses, were given, and although the temperature rose to 104° F. the day after medication, the child's recovery was otherwise uneventful. An interesting point in this case is that the malarial organism may be the etiological factor in an anemia of the pseudoleuchemic type.

BRITISH MEDICAL JOURNAL.

March 9, 1912.

1. E. S. Reynolds: The Practice of Medicine as a Fine Art.
2. J. G. Emanuel: A Common Form of Heart Disease.
3. E. F. Coghlan: Cardiac Failure in Diphtheria.
4. J. C. Voigt: Suprarenal Extract in Cardiac Dyspnea and Dropsy.
5. E. H. Coleman: Anginal Spasm.
6. J. P. Candler and S. A. Mann: Wassermann Test on Serum and Spinal Fluid Post Mortem.
7. J. L. M. Symns: Accurate Method of Estimating the Vibratory Sense.
8. R. Row: Leishmania Culture Vaccine in Oriental Sore.
9. C. W. M. Hope: Enucleation of the Tonsils.
10. W. C. Rockliffe: The Blind.
11. R. F. D. MacGregor: The Casualties in Tibet.

1. Medicine as a Fine Art.—Reynolds offers us a most readable discourse upon the elements of art and science as applied to the practice of medicine. He cites some of our recent advances along strictly scientific lines, and expresses the opinion that all advance of the future must be of a purely scientific nature. While he does not scoff at science in medicine, or desire to belittle its value in any way, he sounds a note of warning to those who are wont to base their diagnoses on one or other of the newer scientific methods without due consideration for what may be learned by the exercise of one's trained special senses. It must be borne in mind that many of the newer methods of aiding diagnosis are quite unavailable to the average physician, either owing to the expense, or the time their use requires. When, too, we remember that no two human beings are alike and that no individual can be considered as being the same on two examinations by means of instruments of precision, it becomes obvious that an investigation of one's condition can never be a matter of pure science, but merely of science in which there is much sur-

mise. Bacteriological or x ray examinations alone, for example, have been the cause of most serious mistakes when implicitly relied upon, owing to pure errors or to imperfect methods. The fallacy of induction by enumeration is a frequent one for if we consider a phenomenon that is present in eighty or ninety per cent. of cases, a reliance upon this frequency will often lead to diagnostic error. The von Pirquet test is an instance of a worthless method in diagnosis, for it has so many fallacies that it cannot even be considered confirmatory evidence of phthisis. In the matter of treatment by the newer methods and in the administration of drugs the science of the former may fail when the art of the latter is successful. And so on through the use of the art of the detective, the lawyer, the priest, we have our scientific attainments placed in the position of a foundation upon which we build our edifice by the exercise of our art and our art alone.

3. **Cardiac Failure in Diphtheria.**—Coghlan has had good results from his treatment of this complication. He keeps the patient in bed with his head low to avoid cerebral anemia. When vomiting develops he interdicts all food by mouth and feeds by rectum. A mixture containing atropine, strychnine, and adrenalin is given by hypodermic injection every four hours, successfully combating the cardiac depression. General measures designed to remove all sources of irritation are of prime importance.

4. **Suprarenal Extract.**—Voigt finds the use of this alkaloid by vein or subcutaneously to be of great value in certain cases of cardiac dyspnea or dropsy, in which all the usual measures and drugs have failed. He gives notes of two cases in which he used it in this manner with an increase in the amount of urine in twenty-four hours of from three to five times the original in periods from three to seven days of treatment. He makes the striking statement that the dried gland given by mouth in doses of five grains has an effect similar to the alkaloid given by vein.

6. **Wassermann Test on Post Mortem Fluids.**—Candler and Mann examined the cerebrospinal fluids from 112 cases with a positive result in twenty-five cases of general paralysis and a negative in two cases; a negative result in eighty-five cases other than general paralysis and no positive results in cases not general paralysis. Therefore in 112 cases a correct result was obtained in ninety-eight per cent. The blood serum of ninety-two cases was examined with nineteen positive results and one negative in general paralysis and in non-paralytic cases a positive result was seen in ten of seventy-two; four of these had undoubted syphilis, leaving six positive results in nonsyphilitic cases. The variability of results in post mortem cases was much greater in the hands of some of other observers, and Candler and Mann explain this uncertainty of response on the basis of the growth of microorganisms in the fluid. This explanation they have been able to confirm experimentally in many ways. This growth may change a positive fluid into a negative one or vice versa. Sterilization of the fluid with phenol allows of its being kept for months without suffering any change in its reaction. Satisfactory results may therefore be hoped for in the case of fluids obtained post mortem, if they are collected sterile as soon after death as possible, and examined promptly or kept sterile by the addition of phenol.

7. **Estimation of the Vibratory Sense.**—Symns uses an Edelmann tuning fork which is so arranged as to vibrate at a given rate of 108.75 in a second. At its upper portion are affixed two pieces of steel in such a way as to leave a window between them when the fork is vibrating, but which window disappears when the oscillations reach a certain definite amplitude. The moment the window vanishes Symns applies the fork to the bony part to be tested and starts a stop watch at the same time. The patient is taught to give a signal as soon as he ceases to appreciate the vibrations. The time elapsed is then accurately read. By a long series of these observations on normal subjects it is possible to obtain a norm for each bony prominence. One can chart this time in the form of a curve and in the examination of a patient compare his time response in the form of a curve with the normal curve previously obtained.

10. **The Blind.**—Rockliffe suggests the necessity for some better classification of defective vision or blindness for the sake of more accurate records, and better to provide for those who can see nothing, in contrast with those who can see enough to be of some use to themselves in an earning capacity. He offers the following: 1. No perception of light; these are totally blind. 3. Those able to read the ordinary test type, 6/60; that is can read at twenty feet what a normal person could read at 200 feet. These are not blind. 2. An intermediate class to be subdivided into, A, those who can differentiate; that is can count fingers; these are partially blind; B, those who cannot differentiate but can only see an object held before them. Rockliffe also cites some interesting statistics of the causes of blindness in 590 cases in the Hull Blind Institution. Atrophy of the optic nerve leads the list with 160 cases, ophthalmia neonatorum with only ninety-one comes second, and glaucoma is third with eighty-two. Ophthalmia is usually considered the most frequent cause, so these figures are quite striking. Further, taking the incidence of this disease alone since 1884 in that institution there is a marked decline in its frequency. In that year there were fifty-three cases, in the decade from then to 1894 there were listed twenty cases, from 1894 to 1904 sixteen cases, and from then up to 1911 but 2 cases. The influence of preventive measures is obvious.

LANCET.

March 9, 1912.

1. A. E. Garrod: Glycosuria (*Lecture III*).
2. H. Morris: Malignant Disease of Testicle.
3. J. McIntosh, P. Fildes, and H. Dearden: Causation and Prevention of Toxic Symptoms after Salvarsan.
4. W. Trotter: Operative Treatment of Graves's Disease.
5. W. H. Kelson: Aching Throat.
6. H. G. and A. S. Gruenbaum: Treatment of Inoculated Rat Sarcoma.
7. E. M. Corner: Treatment of Talipes Equinovarus.
8. N. Raw: Value of Pneumococcus Vaccine in Pneumonia.
9. T. D. Lister: After Care of Sanatorium Patients.
10. D. W. Buxton: C. W. Long, The Pioneer of Anesthesia.

1. **Glycosuria.**—Garrod concludes his trio of excellent lectures on this disease with a discussion

of the rôle of the ductless glands in its causation. Of the thyroid, he says that excess of thyroid secretion tends to induce glycosuria, whereas hypothyroidism has the opposite effect. The mechanism of this is not understood. These effects are also by no means constant and there may be no lowering of sugar tolerance in a severe case of Graves's disease. What has been said of the part played by the thyroid is equally applicable to that taken by alterations in the pituitary. Hyperglychemia and glycosuria are likely to be present in any disease which causes an excessive supply of epinephrin to the blood, and the evidence at hand suggests that this secretion may play the chief part in the regulation of the glucose content of the blood. The glycosuria of pregnancy has been ascribed to the well known influence of this state upon the glands of internal secretion, especially the thyroid and pituitary. In concluding, Garrod directs attention to the very many different morbid conditions which may bring about disturbances of the carbohydrate metabolism, and to the fact that such disturbance may be manifest in several ways, as simple lowering of glucose tolerance, transitory spontaneous glycosuria, and persistent glycosuria with its associated symptoms. The effect of these observations is to obliterate the conception of diabetes as a well defined disease, and to present the malady as the maximal phase of a series of steps away from the normal of carbohydrate metabolism. Thus, strictly speaking, there is no such thing as nondiabetic glycosuria save possibly the "renal" form.

3. **Causation of Toxic Symptoms after Salvarsan.**—McIntosh, Fildes, and Dearden describe the fever, rigor, and general malaise which come on a half to one hour after the intravenous injection of salvarsan as the normal accompanying effect of "606." There may be additional symptoms, as vomiting, pains in the back, etc. So frequent are these symptoms that the authors have never observed complete absence of some fever when the temperature was taken hourly after the injection. From a careful analysis of their cases and a study of the views of others upon the subject, the authors came to the conclusion that the fever was independent of the salvarsan, of the concentration of the sodium chloride, as some had suggested, and that in all probability it was due to the presence of toxic substances in the distilled water. By experiment they found that the redistillation of toxic saline solutions rendered them wholly nontoxic, and that these redistilled solutions could be kept indefinitely in a nontoxic condition. It was also found that water distilled but once was not toxic if used immediately, though it became toxic on standing. This eliminated inorganic poison coming from the still pointed to the presence of microorganisms. Upon investigation of once distilled water for their presence they were surprised to find no less than 180 millions in 300 c.c. of water, the usual amount used in the injection of salvarsan. They were mostly nonpathogenic cocci and bacilli, and all were dead. The toxicity was therefore attributed to the presence of the dead bodies of the bacteria. This was confirmed by filtration, sufficient to remove the organisms, but to allow any toxines to pass. This completely removed the toxicity. Applying these observations in their use of salvarsan they confirmed their expectations, and by the use of redistilled water eliminated the symptoms previously constantly seen. Fever and accompanying symptoms did, however, occur in acute secondary syphilis and in primary cases, just before the appearance of the rash; this is due to the destruction of large numbers of spironemata. They confirmed all these observations by animal experiment and found, in addition, that no anaphylaxis could be induced by a second injection of the toxic solutions; also that the effects were not due to any one variety of organism or to endotoxines, but to the bacterial bodies themselves. The practical deductions from these observations are self evident.

4. **Operative Treatment of Graves's Disease.**—Trotter speaks from an experience in nearly fifty cases and draws two definite conclusions: First, that patients with a small, firm thyroid and marked symptoms scarcely ever show more than a temporary improvement as a result of operation; second, patients with early, mild cases, without an abrupt onset, and showing a well marked interval between the appearance of physical signs and the development of symptoms invariably do well and are cured by a single operation. The operation is a partial thyroidectomy with removal of one lobe and the isthmus.

5. **Aching Throat.**—Kelson has studied this common affection in the hope of finding out something about its obscure etiology and its medical relief. He finds that it is more commonly associated with flatulent dyspepsia than with anything else, and this seems to be due either to the formation of toxines or to referred pain from the gastric disorder. There may be local conditions which may either be causative or merely aggravate the condition. These are to be sought out in each case by thorough and careful examination of the nasopharynx, its accessory sinuses, and the teeth.

6. **Rat Sarcoma.**—The Gruenbaums report upon a series of these inoculated tumors treated with a combination of antivenom serum with adrenalin. Of seventy-seven tumors, ranging up to one fifth of the animal's body weight, thirty-four of the largest were treated and forty-three kept as controls. Of the thirty-four treated, seventy per cent. regressed, while only 18.6 per cent. of the untreated did so, though these were the smaller growths. Moreover, in the treated animals, metastatic deposits were not seen in those which died under treatment, while in the untreated they were common. Further, in studies on the antihemolytic powers of the blood against cobra venom, they found that the power was considerably less in tumor bearing animals than in the resistant ones; that in man the results were less constant, but that here also in cases of sarcoma the serum assists hemolysis, while that from normal man inhibits it. But in man, infective conditions also aid hemolysis, and this may have a suggestive significance. One human inoperable recurrent sarcoma has shown marked diminution in size and relief of symptoms under the treatment mentioned.

8. **Pneumococcus Vaccine.**—Raw used a stock vaccine in a series of 207 cases with a mortality of sixteen per cent. and a total absence of empyema

and the development of but few complications. He saw no effect in hastening the appearance of the crisis or in shortening the duration of the disease.

AUSTRALASIAN MEDICAL GAZETTE.

February 10, 1912.

1. A. Jefferis Turner and J. Lockhart Gibson: Fatal Reflex Syncope during Chloroform Anesthesia.
2. P. T. Thane: Postoperative Cardiac and Pulmonary Embolisms.
3. J. W. B. Bean: Romance of Medicine.
4. Gordon R. Ward: Death during Thyreoidectomy.

1. Death After Chloroform Anesthesia.—Turner and Gibson relate a case in which death took place shortly after the completion of an operation that of itself did not endanger life. There appeared to be no overdose, and the anesthesia was presumably higher when the fatal accident occurred. The pulse and respiration had continued good up to that moment.

PARIS MÉDICAL.

March 2, 1912.

1. Milian: Dermatology and Syphilography in 1912.
2. Jeanselme and Vernes: Wassermann"s Reaction in Syphilis.
3. Nattan-Larrier: Yaws and Its Spirochete.
4. Marcel Pinard: Supersyphilization.
5. Burnier: Cultivation of *Spirochæta pallida.*
6. Jacquet and Debat: Intensive Plurimercurial Treatment.
7. Milian: Deaths in 1912.

March 9, 1912.

8. Paul Carnot and Nedey: Length of Sojourn in Stomach of Different Medicines.
9. Léopold Lévi: Late Infantilism in an Adult.
10. A. Schwartz: Treatment of Cold Abscesses of the Thorax.
11. Derecq: "Luxeuil Injections" in Pelvic Affections.
12. Dopter: Analysis of Tuberculous Sputum.

PRESSE MÉDICALE.

March 2, 1912.

1. Paul Ravaut: Late Nerve Reactions Noted in Syphilitics Treated by Salvarsan.
2. A. Cerné: Postoperative Cystic Pneumatosis Following an Undrained Hydatid Cyst.

March 6, 1912.

3. F. Terrien: Visual Disorders Provoked by Electricity.

1. Late Reactions from Salvarsan.—Ravaut has noted remarkable changes in the cerebrospinal fluid of patients treated with salvarsan, varying from simple overtension with slight increase of albumin to a strong cellular reaction with lymphocytes, multinuclears, cells of the *Plasmazellen* type, great increase in albumin, and a positive Wassermann reaction. Death has resulted in vigorous subjects from sixty gramme doses of salvarsan. Ravaut has found that the remedy acts best in the primary stage, when initial lesions tend to heal rapidly; this is likely due to the absence of involvement of the nervous system at this stage. He associates cyanide of mercury with salvarsan, and finds the combination very active and effective. In the secondary stage, particularly if the nervous system is in the least involved, salvarsan should be given with great caution, for a certain type of lesion will relapse and reappear in a more virulent form. In such cases Ravaut precedes the salvarsan by a course of mercury and gives his injections of the former at long intervals.

SEMAINE MÉDICALE.

March 6, 1912.

Wladissavliévitch: Methods of Securing Material for the Research of *Treponema pallidum* in Syphilitic Lesions.

Research of Treponema Pallidum.—Wladissavliévitch points out that the discovery of the treponema is a sure diagnostic sign of syphilis, much more certain than the Wassermann reaction; it should therefore be looked for in the initial lesion, before it has invaded the entire organism, so that treatment may be instituted at once if it is found, or not instituted at all if it is absent. He has observed that if a chancre is scraped, and a short interval is permitted to elapse, the proper serous fluid is easily obtained by an application of sterile gauze, care being taken not to include in the liquid red corpuscles, which greatly hinder ultramiscroscopic work. Many other microbes are taken up, but this does not matter. In mounting the serum, if care is taken to exclude bubbles of air, the treponemata preserve their vitality much longer.

BERLINER KLINISCHE WOCHENSCHRIFT

February 12, 1912.

1. A. Fraenkel and W. Körte: Present Status of Surgery of the Lungs.
2. Walter Gaehtgens: Bacteriological Typhoid Diagnosis Based upon Recent Experience Gained in the Practical Fight against Typhoid.
3. Oscar Beck and Paul Biach: Reflexes of the Labyrinth and Tendons.
4. Gustav Stümpke and Erwin Brückmann: Toxic Effect of Salvarsan.
5. Fritz M. Meyer: Investigations with Epiphanin Reaction in Syphilis.
6. Otto Gaupp: Clinical Experience with Codeonal.

February 19, 1912.

7. Boas: Gastrogenetic Diarrheas in Stenosis of the Pylorus.
8. E. Sonnenburg: Fracture of the Cervical Vertebræ.
9. L. Casper: Suspension of the Action of the Bladder in Severe Cases of Tuberculosis of That Organ.
10. Ishio Haga: Statistics on the Appearance of Fat and Myelin in Tumors.
11. J. Bauer: Origin of the Anaphylactoxine.
12. M. Saenger: Psychic Components of the Causes of Asthma.
13. A. Fraenkel and W. Körte: Present Status of Surgery of the Lungs (*Concluded*).
14. Desider von Balázsy: Engel-Turnau Urine Reaction.

2. Bacteriological Typhoid Diagnosis Based upon Recent Experience Gained in the Practical Fight against Typhoid.—Gaehtgens bases his experience upon the bacteriological examination of 528 patients with typhoid fever; he remarks that blood culture in typhoid fever, especially during the first week of the disease, gives good results. The examination of the feces and of coagulum is not so important as that of the blood culture. The culture of typhoid bacilli from the secretion of the tonsils and from the scrapings from the tongue does not give important diagnostic points.

4. Toxic Effect of Salvarsan.—Stümpke and Brückmann report one case of icterus and one of herpes zoster, produced through salvarsan injections.

9. Suspension of the Action of the Bladder in Severe Cases of Tuberculosis of This Organ.—Casper gives the history of two cases in which he successfully excluded the action of the bladder from the urinary system. In both cases he used nephrostomy. The first patient, who was moribund, died a few days after the operation, while the second patient is well.

10. Statistics on the Appearance of Fat and Myelin in Tumors.—Haga has examined 113 patients and finds that the appearance of fat and myelin in the cells of a tumor is a sign of degeneration; both appear oftener in malignant, especially primary, tumors, than in benign or secondary tumors.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

February 15, 1912.

1. Julius Dollinger: Treatment of Neuralgia of the Fifth Nerve with Schlösser's Alcohol Injections.
2. F. Schieck: Importance of Complement Binding Tuberculous Antibodies.
3. R. Kraus, Yshiwara, and Winternitz: Action of Embryonal Cells toward the Blood of the Cord and Serum of the Retroplacenta.
4. G. Seiffert: Relation between Natural Immunity and Specific Sera.

5. Erwin Popper: Difference of Action of Morphine and Opium in the Intestines.
6. W. Scholtz: Results of a Combined Salvarsan and Mercury Treatment in Syphilis.
7. Erich Hoffmann: Diagnostic and Therapeutic Importance of *Spirochæta pallida*, with Remarks on the Most Successful Fight against Syphilis.
8. W. Dibbelt: New Experimental Researches on the Pathogenesis of Rhachitis.
9. Otto Goetze: Use of a Perforated Drill for a Puncture of the Brain.
10. Ludwig Pernice: Twin Pregnancy with Heterotopic Location of the Fetus.
11. F. Brüning: Traumatic Appendicitis.
12. M. Kern: Injuries of the Abdomen from Shot.
13. B. Ulrichs: Diagnosis of the Carcinoma of the Stomach by Röntgenography.

February 22, 1912.

14. Karl Zieler: Personal Prophylaxis of Sexual Diseases.
15. Bettmann and Laubenheimer: Influence of Salvarsan upon Anthrax.
16. F. Fülleborn and Werner: Influence of Salvarsan on Bilharziosis, with Remarks of the Emergence of the Mirachidia.
17. Paul Lazarus: Therapeutical Technique of Radium Emanation.
18. Erich Harnack: Toxicology of Ethyl Alcohol.
19. Taizo Kumagai and Bunzo Inque: Etiology of Paroxysmal Hemoglobinuria.
20. L. Heusner: Extension Treatment of Fractures of the Lower Extremity.
21. H. Riese: Combined Operation of Carcinoma of the Rectum.
22. Schopohl: Bacteriological Diagnosis of Diphtheria.
23. Walter Thinius: Apparatus for Intravenous Infusion of Salvarsan.

1. Treatment of Neuralgia of the Fifth Nerve with Schlösser's Alcohol Injections.—Dollinger reviews the results obtained from alcohol injections in facial neuralgias, referring to the technique proposed in 1903 by Schlösser, who used from two to four c.c. of 80 per cent. alcohol, injected in the immediate neighborhood of the nerve, and received very good results. Dollinger remarks that in this method we have an absolute cure for neuralgia of the fifth nerve, even in the most severe cases. Usually the attacks will recur after from one to five months, but with a marked decrease of severity, when a new injection will again abort the attacks. Sometimes a third injection will become necessary; and in such cases it has been found that the patients have been without an attack for over a year. Whether they have been permanently cured only the future can show. He says that these results will demonstrate that the injection treatment is vastly to be preferred to incision of the nerve.

2. Importance of Complement Binding Tuberculous Antibodies.—Schieck has made experiments on the eyes of rabbits in reference to the theory of von Wassermann and Bruck, on the effect of tuberculosis, and he found that the encounter of tuberculous antigen and tuberculous complement binding antibodies does not attract leucocytes as complement carriers, as far as the anterior chamber of the eye is concerned. He does not think that the complement binding tuberculous antibody affects the results produced by the tubercle bacillus.

3. The Action of Embryonal Cells toward the Blood of the Cord and Serum of the Retroplacenta.—Kraus, Yshiwara, and Winternitz investigated the carcinoma reaction of Freund-Kammer and found that embryonal cells show a similar biological behavior to carcinoma cells. Serum from the blood of the cord dissolves fewer carcinoma cells and embryonal cells than normal serum, or serum from the retroplacenta.

4. Relation between Natural Immunity and Specific Sera.—Seiffert finds that serum contains substances of thermostabile nature which exert upon bacteria a specific influence, stimulating the growth. These substances are relative to the natural immunity of the species and the individual, but these relations are not the same for all diseases and cannot be brought into a uniform schedule. It has been found that for two groups of diseases there exists a different attitude between serum structure and susceptibility. This susceptibility will be bactericidal in diseases, the bacteria of which easily form endotoxines, and produce immunity, an expression of unchecked development. In infections of septichemic nature, and in which the bacteria may find an unrestrained increase in the infected person, an unchecked growth of the inactive serum means susceptibility, while here bactericidal interception means total or relative immunity of the individual.

6. Results of a Combined Salvarsan and Mercury Treatment in Syphilis.—Scholtz observed that the results obtained from the combined salvarsan and mercury treatment are very good. Such a treatment would consist of two or three injections of about 0.7 gramme of salvarsan in an interval of three to five weeks, with a sublimate treatment during these weeks. His period of observation comprises about a year.

7. Diagnostic and Therapeutic Importance of Spirochæta Pallida, with Remarks on the Most Successful Fight against Syphilis.—Hoffmann states that in primary, as well as in secondary syphilis, treated or not, the demonstration of spirochetes is of greater importance than the Wassermann reaction and is the only method to give a safe diagnosis. His treatment consists in four or five intravenous injections of salvarsan, each of 0.4 gramme, and thirty-six inunctions or twelve injections of mercury salicylate.

14. Personal Prophylaxis of Sexual Diseases.—Zieler observes that personal prophylaxis of sexual diseases should be applied before as well as after coitus, in the male and female alike. But the condom is the only absolute safe preventive against disease from intercourse. To protect themselves, physicians, midwives, and nurses should use the best known prophylaxis and asepsis in treating cases, sexually diseased or not.

15. Influence of Salvarsan upon Anthrax.—Bettmann and Laubenheimer remark that salvarsan has a therapeutical influence upon an experimentally produced anthrax in animals, and that the drug should be also tried in man.

17. Therapeutical Technique of Radium Emanation.—Lazarus states that radium emanation can be introduced into the body in many ways, by inhalation through the lungs, by absorption through the stomach and the intestines, by diffusion through the capillaries of the lymphatic and portal systems, through the skin, and through injections. The chemical condition of the blood is not changed by radium emanation, as its solution is purely physical and follows the laws of respirable gases. The best method for ordinary emanation cures would be the sipping of water containing radium, which water is also very active through the skin in bathing.

18. Toxicology of Ethyl Alcohol.—Harnack says that ethyl alcohol is a very weak poison, but

the danger lies in the chemical change of ethyl alcohol through oxidation into formic acid in the intestinal canal.

PRAGER MEDIZINISCHE WOCHENSCHRIFT.

February 22, 1912.

1. B. von Barth-Wehrenalp: Physical Therapeutics of Diseases of the Stomach and Intestines.
2. Oskar Klauber: Surgery of Solitary Stone of the Gallbladder.

February 29, 1912.

3. Theodor Frankl: Purgatives, Their Mechanism of Effect, and Their Practical Use.

3. Purgatives.—Frankl gives a very good, condensed review of purgatives, their indication, and use. Without adding anything new to our knowledge, the article is well worth reading, but cannot be reviewed in a short article.

ZENTRALBLATT FÜR CHIRURGIE.

March 2, 1912.

1. L. Heidenhain: Laminectomy in Local Anesthesia.
2. E. Streissler: New Method of Resection of the Cervical Ribs from Behind.
3. O. J. Lauper: Operation for Perforating Ulcers of the Stomach and of the Duodenum.

ZENTRALBLATT FÜR INNERE MEDIZIN.

March 9, 1912.

1. I. W. Schultz: Time Required for Coagulation of the Blood and Leucocytosis.
2. V. Chlumsky: New Method of Treatment for Grave Rheumatic Diseases.

2. Rheumatism.—Chlumsky, on the ground that rheumatism is an infectious disease caused by microorganisms, prescribed for patients who were not benefited by the usual treatment, camphenol, which had been of good service to him in erysipelas, and obtained a rapid improvement.

INTERNATIONAL JOURNAL OF SURGERY.

February, 1912.

1. C. B. Kenyon: Splenectomy for Chronic Malarial Poisoning with Acute Infection.
2. E. J. Melville: Margin of Safety.
3. O. W. Hunter: Widely Divergent Views anent Specific Urethrorrhea.
4. G. H. Sherman: Bacterial Vaccines in Wound Infections.
5. O. Glogan: Perichondritis of the Cricoid and Epiglottic Cartilage.
6. W. T. Matthews: Report of Cases of Fracture at the Shoulder and Elbowjoint. Treatment and Results.
7. B. S. Little: Pellagra.
8. L. C. Ruter: Psychic Phenomena.

1. Splenectomy for Chronic Malarial Poisoning with Acute Infections.—Kenyon cites a case in which there was a history of a presumable malarial attack eight years ago, and in April of last year another attack with daily chills, alternating with high fever and sometimes sweating. The detection of a mass in the left abdomen and the finding of much albumin, casts, and kidney cells in the urine led to a diagnosis of abscess of the left kidney, and so a lumbar incision was made and much pus evacuated. Prompt recovery followed, but four months later there was a recurrence of symptoms. On attempting nephrectomy the kidney was found to be sound, but the spleen was found diseased and very greatly enlarged. The incision was extended and another incision made to form a Y, and through this the spleen was with much difficulty removed. Invasion of the peritoneal cavity was unavoidable, as the omentum was grown fast, and had a well established circulation with the spleen. Much pus was evacuated. Careful hemostasis was observed, the peritoneum carefully closed, the deep wound sutured, and the remainder packed with gauze. Recovery was perfect, and there has been no recurrence. He states that a spleen enlarged from leuchemia is not to be operated on as a rule, but enlargements due to infection are amenable to surgery.

3. Widely Divergent Views anent Specific Urethrorrhea.—Hunter reviews the literature of this affection, and shows that many men noted as experts in the genitourinary field hold widely divergent opinions as to the curability of gonorrhea. Many assert it cannot be cured, and twenty-four prominent gynecologists declare that forty-one per cent. of female pelvic inflammations and fifty per cent. of sterility are traceable to supposedly cured gonorrhea in the male. The Neisser diplococci have been known to invade every part of the body except the liver, spleen, and intestinal tract, and some gynecologists regard gonorrhea as more serious than syphilis, and less easily cured. In man a cure is rarely obtained in less than ten to sixteen weeks, and longer if complications develop. O'Neill states that methylene blue internally will cure gonorrhea in from four to nine days. Lyons treated over 400 cases of gonorrhea by the method given below and got ninety-five per cent. of cures in six days, many in twenty-four hours. "A four per cent. solution of silver nitrate is injected into the urethra and retained about three minutes. If germs are still found in twenty-four hours a two per cent. injection is given, and twenty-four hours later a one per cent. solution, if necessary. If the gonococci have not entirely disappeared by this time the abortive treatment is stopped and the usual symptomatic plan of treatment is pursued." In conclusion, he regards gonorrhea as an exceedingly grave disease in either sex, fraught with danger in the acute stage, doubtfully curable after having become chronic, and sometimes accompanied or followed by sequelæ, which consitute a serious menace to life.

4. Bacterial Vaccines in Wound Infections.—Sherman asserts that bacterial vaccines are very effective in treatment of wound infections, and no case should be looked upon as hopeless unless in collapse, the vaccines being of benefit in every case. The earlier the treatment is given the better. In all cases where a possible tetanus infection is suspected, antitetanic serum should be given at once. In rapidly spreading infections with red lines along the lymphatic channels, streptococcic vaccines are to be given, while if the infection is localized, staphylococcic vaccines are indicated. Since the infections are usually mixed and bacteria other than the two mentioned above are seldom found, a mixed streptostaphylococcus vaccine should be used. Thirty million streptococci, combined with 100 million each of staphylococcus aureus and albus, is a good average dose and should be repeated on the second or third day, or within twenty-four hours if no material improvement occurs. Improvement should be observed within twenty-four hours after the first inoculation. In erysipelas the best vaccine is one of *Streptococcus erysipelatus* and staphylococcus combined. In burns infection is responsible for much of the secondary pain, and a streptostaphylococcic vaccine is highly useful, allaying the pain and aiding the healing process. Rest and local treatment may be carried on as usual. Two cases are cited.

JOURNAL OF EXPERIMENTAL MEDICINE.

March, 1912.

1. W. S. Halstead: Report of a Dog Maintained in Good Health by a Parathyroid Autograft Approximately One Fourth of a Millimetre in Diameter.
2. W. S. Halstead: Bulkhead Suture of the Intestine.
3. R. L. Cecil and K. Bulkley: Lesions Produced in the Appendix by *Oxyuris vermicularis* and *Trichocephalus trichiura*.
4. G. H. Whipple: Pregnancy and Chloroform Anesthesia. Study of the Maternal, Placental, and Fetal Tissues.
5. G. H. Whipple: Insusceptibility of Pups to Chloroform Poisoning during the First Three Weeks of Life.
6. P. Rous and J. B. Murphy: Histological Signs of Resistance to a Transmissible Sarcoma of the Fowl.
7. Carrel and R. Ingebrigtsen: Production of Antibodies by Tissues Living Outside of the Organism.
8. C. W. Duval and M. Couret: Experimental Production of Leprosy in the Monkey (*Macacus rhesus*) with a Critical Study of the Culture Employed.

1. Report of a Dog Maintained in Good Health by a Parathyroid Autograft.—Halstead reports in detail the case of a dog in which an autotransplantation of parathyroid tissue had been done. The dog was observed for fifteen months, and was in good health until the performance of the final operation, at which a parathyroid autograft, too small to be visible to the naked eye, was removed. The death of the dog from hypoparathyroidism occurred about three months after the removal of the tiny transplant, which was only 0.25 mm. in one diameter and little more than this in the other. Accompanying the parathyroid there had been a thin film of thyroid tissue, and its hypertrophy is given credit for bringing about the disappearance of the myxedema that had appeared after the final removal of all of the thyroid gland. Concerning the transplantation of the parathyroid glandules, the author states, provisionally, the existence of the following law: Unless considerable deficiency in parathyroid tissue has been created, the autografts do not live.

3. Lesions Produced in the Appendix by Oxyuris vermicularis and Trichocephalus trichiura.—Cecil and Bulkley review the literature dealing with the importance of intestinal parasites as the exciting cause of appendicitis. They then report a study of 129 cases of appendicitis in children, in nineteen of whom the appendix contained the oxyuris or the trichocephalus, the former parasite seventeen times, the latter twice. In fifteen of the nineteen cases the parasites were associated with a nonsuppurative catarrhal type of appendicitis; in the four remaining cases the appendix was gangrenous. The authors conclude that these parasites, when present in a diseased appendix, are, in most cases, the exciting cause of the pathological changes found.

4. Pregnancy and Chloroform Anesthesia.—Whipple studied the resistance of pregnant animals with the idea of comparing the degree of late chloroform poisoning with that of the nonpregnant. He concluded that pregnant dogs are susceptible to chloroform administered shortly before delivery or during labor, and show about the same degree of liver injury as normal dogs. He also shows that chloroform anesthesia causes no injury to the liver of the fetus nor to any other fetal organ, in spite of the fact that it can be demonstrated to be present in these tissues. Chloroform may be admissible for the few minutes at the end of delivery, but when operative measures are necessary, before or after delivery, it is a dangerous anesthetic and surely capable of producing injury to the liver in the manner recognized in the case of normal persons. The final conclusion is that probably normal and pregnant human beings are equally susceptible to chloroform poisoning, that chloroform anesthesia during any part of the gravid period is capable of causing liver necrosis, and, consequently, that chloroform is a dangerous anesthetic.

8. Experimental Production of Leprosy in the Monkey.—Duval and Couret report further upon the occurrence of leprosy in a monkey in whom the disease developed thirteen months after the first, and nine months after the last injection of a pure culture of *Bacillus lepræ*, the infection being identical in symptom complex with that in man, and terminating fatally. They describe in detail the culture employed, and make critical remarks relative to other acid resisting species with which the specific organism might be confounded.

JOURNAL OF OPTHALMOLOGY AND OTOLARYNGOLOGY

February, 1912.

1. A. H. Andrews: Detection of Alleged Visual Defects.
2. C. W. Hawley: Trachoma Treated by Jequirity.
3. A. J. Ochsner: Surgical Treatment of Exopthalmic Goitre.

1. Detection of Alleged Visual Defects.—Andrews gives various tests that may be made for the purpose of detecting malingerers.

2. Trachoma Treated by Jequirity.—Hawley reports four cases, in the first of which the results were most brilliant. In the second and third cases the results have been very good, while in the fourth sufficient time had not elapsed to say what the ultimate result will be, as in all cases the improvement continues for many months after the treatment.

NEW YORK STATE JOURNAL OF MEDICINE

March, 1912.

1. A. T. Bristow: Public and Medical Profession.
2. C. G. Kerley: Inaugural Address.
3. H. W. Lincoln: Peristaltic Hormone and Its Uses.
4. A. L. Cofer: Advantages of National Quarantine.
5. A. F. Holding: Röntgen Rays in Gastrointestinal Examinations.
6. W. W. Skinner: Gastric Ulcer.
7. H. G. Webster: Neurasthenia.
8. H. E. Smith: Ocular Hyperemias.
9. W. W. Quinton: Diagnosis of Syphilis.
10. William Stone and T. L. Hein: Combined Vaccines in Gynecological Infections.

3. Peristaltic Hormone.—Lincoln reports his results from the use of this agent in a series of twenty-six cases of constipation with but fair success. There was some degree of improvement in the condition seen in about fifty per cent. of the cases treated. The duration of the favorable effects was very variable, but in general quite brief. The longest time that the good effects lasted was four months and one week.

JOURNAL OF LARYNGOLOGY, RHINOLOGY, AND OTOLOGY

February, 1912.

1. P. Tetens Hald: The Teaching of Otology and Laryngology in Denmark.
2. William Hill: Idiopathic Spasm of the Esophagus as a Common Diagnostic Error.
3. Dan McKenzie: Submucous Resection of the Nasal Septum. An Analysis of 130 Cases.
4. Jobson Horne: Simplified Insufflator for Use in the Treatment of Diseases of the Throat, Nose, and Ear.

2. Idiopathic Spasm of the Esophagus.—Hill states that true spasm of the esophagus as the result of organic disease of the nervous system is considered a rare condition; whereas functional spasm is thought to be of frequent occurrence and sometimes responsible for secondary lesions of a gross nature. The author has expressed his opin-

ion, however, "that purely functional tonic spasm of the gullet, not associated with inflammatory tumefaction, was a condition often heard of, but never seen." He further states, without hesitancy, that functional dysphagia is usually due to pharyngeal paresis, and rarely to pharyngeal spasm.

JOURNAL OF PATHOLOGY AND BACTERIOLOGY.

January, 1912

1. E. Glynn and L. Cox: Further Observations upon Certain Sources of Error in the Opsonic Technique.
2. J. F. Gaskell: Changes in Glomeruli and Arteries in Inflammatory and Arteriosclerotic Kidney Disease.
3. J. W. M'Leod: Hemolysins Produced by Pathogenic Streptococci, and on the Existence of Antihemolysin in the Sera of Normal and Immunized Animals.
4. H. H. Dale and P. P. Laidlaw: A Simple Coagulometer.
5. J. O. W. Barratt: Incomplete Fixation of Complement and Amboceptor.

2. Changes in Kidney Disease.—Gaskell emphasizes the importance of the changes in the arteries and glomeruli in the various forms of general disease of the kidney which are not associated with pyogenic or specific organisms. The changes dealt with fall into two groups, those accompanying and consecutive to acute inflammation of the kidney and those due to alterations which are primarily vascular in origin. In the inflammatory group the author places that form which affects the tubules of the kidney only and causes in them changes primarily toxic in nature. The cells chiefly affected are those of the convoluted tubules, in all probability owing to the direct poisoning effect of the excretion of the various irritants through the normal channels. The second form is that associated with the earlier stages of scarlet fever, and usually known as acute interstitial nephritis. It is characterized by great infiltration of round cells around the large vessels and later around the glomeruli. The first of these two forms probably never leads to permanent functional change of the organ; and, as far as present observations are concerned, there is no evidence that acute interstitial nephritis leads to a chronic form of kidney change. In the vascular group are two subdivisions. In the first are those which are due to the very slow alteration of the organ which senile arteriosclerosis produces. In the second are those due to changes which affect especially the small arteries and arterioles of various organs of the body, the "genuine *Schrumpfniere*" or "primary contracted kidney." These two subdivisions are distinguished by age incidence and their clinical significance. The lasting inflammatory changes, with the exception of that accompanying ulcerative endocarditis, are always due to a true glomerulotubular nephritis. This group can again be subdivided into different stages: 1. The acute, commonly known as acute parenchymatous nephritis; 2, the subacute, or reparative stage, commonly called large white kidney; and, 3, the sclerotic, commonly designated secondary contracted kidney, or, most inaccurately, small white kidney. This form of disease frequently leads to death from uremia at a comparatively early age. The primary change in the senile arteriosclerotic group is initially localized in the aorta and large vessels. It then spreads into the arterial branches of the kidney. This causes disuse, atrophy, and degeneration of glomeruli and their tubules owing to the direct involvement of the interlobulares and afferents. Clinically, this group is of little significance, though it often gives rise to a high degree of kidney contraction. There is no heart hypertrophy. The cause of death is intercurrent disease; the kidney change is only marked in old people. The genuine *Schrumpfniere* type is a part only of a general pathological complex consisting of hypertrophic changes in the heart and aorta, and vascular changes in the kidney and other organs, in particular the brain. These are directly dependent on a severe primary arteriosclerosis of the small arteries and arterioles. Death in this group is due, usually, to cerebral hemorrhage, and occurs in the middle period of life.

3. Hemolysins Produced by Pathogenic Streptococci.—M'Leod reports a series of investigations in which a considerable number of strains of streptococcus were tested quantitatively for their power of producing hemolysin. By following the methods described he was able to obtain constantly from cultures of certain streptococci filtrates containing an active hemolysin, the amount of which was approximately proportional to the extent to which the medium favors active and protracted multiplication. The streptolysin is destroyed by exposure to a temperature of 50 to 55° C. for thirty minutes. In this respect it closely resembles tetanilysin, staphylolysin, and megatheriolysin. It also deteriorates rapidly on incubation at 37° C. No trace of an immune antihemolysin was found in the sera of rabbits or guineapigs which had been treated with large injections of streptolysin during a period of seven or eight weeks, nor was any found in the sera of men who had suffered from infections due to hemolytic streptococci. The author also found that the virulence and hemolytic power are closely associated among pathogenic streptococci.

MEDICAL CHRONICLE.

February, 1912.

J. Philip Buckley: A Study of the Iliopsoas Muscle, Especially as Regards Its Rotating Action in the Normal and Some Abnormal Conditions.

Iliopsoas Muscle.—Buckley asserts that the iliopsoas muscle is an internal rotator under normal conditions; as regards its action of flexion on the thigh, that it is not the muscle that begins flexion, but is especially brought into play in the later part of the movement. In unimpacted fractures of the femur above the lesser trochanter it becomes an external rotator, thus helping to produce the characteristic position of the external rotation. In the second stage of tuberculous disease of the hip joint the fact that the strong tendon of the muscle comes into contact with the joint, while the muscle belly for the most part is not in close relation, renders it possible for extensive destruction to take place among the external rotators at the back of the joint, while the iliopsoas remains practically unaffected; thus the iliopsoas, which has been contracted all the time, is enabled to emphasize its internal rotatory action. At a certain stage in coxa valga the rotatory action changes from internal to external and thus an external rotatory muscle is added to, and an internal rotatory muscle is removed from the mechanism of the joint, so that the typical position of external rotation is produced, the muscle being by no means a weak one.

PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE

January, 1912.

1. Dudley W. Buxton: Crawford Williamson Long (1815-1879): Pioneer of Anesthesia and First to Suggest and Employ Ether Inhalation during Surgical Operations.
2. A. H. Tubby, Sir Anthony Bowlby, and A. Butler Harris: Treatment of Tuberculous Joint Disease in Children.
3. V. Zachary Cope: Achondroplasia.
4. C. A. Ballance: Ligation of the Innominate Artery for Subclavian Aneurysm.
5. Herbert Tilley: External Suppurating Frontal Sinus Fistula Cured by Intranasal Operation.
6. George Wilkinson: Infection of the Accessory Sinuses by Entry of Water into the Nose during Bathing.
7. Otto May: Diplegia Treated by Posterior Root Section.
8. P. W. Saunders: Hypopituitarism.
9. Beckwith Whitehouse: Primary Carcinoma of the Female Urethra.
10. S. G. Shattock: Arteriomyomatosis and Phlebomyomatosis.
11. T. H. Kellock: Radical Cure of Hernia in Infants and Young Children.
12. Robert Jones: Treatment of Claw-foot.

(Titles of the fifty-six other contributions in this periodical cannot be given because of space limitations.)

1. Crawford Williamson Long.—Buxton writes an interesting biography of Long, the Georgia country physician who, already in 1842, removed a cyst from the neck of one James M. Venable after placing him under ether anesthesia. Though this was undoubtedly the first instance of the use of ether for surgical purposes, Long failed to publish an account of this and other cases until 1849, and thus lost the credit of the discovery of ether anesthesia to Morton, whose demonstration in 1846 constituted the first attempt to bring the value of the ether method before the world at large.

2. Tuberculous Joint Disease in Children.—Tubby, discussing the indications for surgical interference and the after results, concludes with the statement that the experience gained during the last decade shows unquestionably that conservative treatment is the better in childhood. Time is saved, the resulting deformity is diminished, and there is less risk of generalized tuberculosis, when the treatment is nonoperative.——Bowlby reviews the surgical pathology of tuberculous joint disease in correlation with the treatment. He adopts a very optimistic view of the possibilities of cure in children and also states that in 900 cases of all stages treated at the Alexandra Hospital the mortality was less than four per cent. In the treatment of abscess cavities, he has not seen much advantage in the introduction of iodoform emulsion or sulphur. His object in dealing with such a condition is merely to open the abscess aseptically, clear out the contents most completely and very gently, and see that the cavity is adequately drained for a few days at least. Often the drainage tube can be removed within a week or two. He thinks there is too much tendency to make numerous incisions. Counter openings are hardly advisable unless the abscess tracks to another place near the skin. In operating one should avoid as much as possible passing through numerous intramuscular spaces, as widely spread extension of the tuberculous process in the limb may occur in these spaces. Though this is not always preventable, at least there should be no unnecessary incisions.—Harris considers the question of vaccine therapy in tuberculous arthritis, and adduces evidence to show that there is some benefit from the use of tuberculin. In his opinion the infection in children is often of bovine origin, and occurs through the alimentary canal, the infecting food being usually milk. The occurrence of autoinoculations, as evidenced by fluctuations of the opsonic index, is a valuable guide not only to diagnosis but also to the determination of whether or no a cure has been effected. Apart from this, it is not necessary to employ the opsonic index during the whole course of treatment, provided that the case, clinically, is pursuing a favorable course. Tuberculin, given in small doses, under conditions of surgical rest, is a remedy which tends to accelerate the rate of recovery. Children have a natural recuperative power which apparently is called out by the use of a bacterial vaccine in certain cases which do not automatically respond to surgical rest and improved environment.

3. Achondroplasia.—Cope reports a case of achondroplasia which is suggestive of a relation between this affection and derangement of the thyroid. The mother of the patient, a boy aged nine years, showed a marked enlargement of the right lobe of the thyroid which had been present as long as she can remember.

4. Ligation of Innominate Artery for Subclavian Aneurysm.—Ballance records a case of aneurysm involving the third, second, and all but one half inch of the first part of the right subclavian. The upper half of the manubrium sterni was removed and the innominate ligated. Recovery took place, the tumor slowly decreasing in size. The right pupil, previously contracted, was dilated for twenty-four hours after the operation; it then again contracted and remained so, suggesting that changes of blood pressure in the eye are sometimes responsible for inequality of the pupils in aneurysm rather than pressure on the sympathetic.

5. Frontal Sinus Fistula.—Tilley presents a case of suppurative frontal sinus disease with fistulous opening above the inner canthus. The radical canine fossa operation was performed on the antrum, with the intention of opening the frontal sinus at the same time, but the patient bearing the anesthesia badly, only the middle turbinal and the anterior ethmoidal cells near the frontonasal canal were removed. The frontal sinus was then easily irrigated on subsequent days with warm, weak antiseptic lotions. The fistula gradually healed. It is sometimes stated that an external fistula indicates the radical external operation, but this case shows that such a rule may have exceptions.

6. Infection of Accessory Sinuses.—Wilkinson reports four cases of this nature in three of which the entry of water into the nose during bathing as starting point of the disease, while in the fourth a similar origin seemed probable. Two cases ended fatally.

7. Cerebral Diplegia and Posterior Root Resection.—May records the case of a boy of five years who was unable to walk and showed extreme spasm of the adductors, hamstrings, and calf muscles, with other symptoms of cerebral diplegia. The second, third, and fifth lumbar, and the second sacral posterior roots were resected on each side according to Küttner's technique. The immediate result was a loss of practically all the spasm, with abolition of both knee and ankle jerks. The spasticity later returned to some extent. The power

of walking did not reappear as fully as expected, the child apparently being unable to balance himself.

8. Hypopituitarism.—Saunders presents a case which he regards as an instance of Fröhlich's syndrome or dystrophia adiposogenitalis occurring apart from a pituitary tumor. Head and Guthrie, in the discussion, think it probable that the obvious testicular ill development in the case is primarily responsible for the conditions. Garrod, however, states that since the obesity and other symptoms developed very much in the last year they could not be ascribed to a congenital condition.

9. Primary Carcinoma of Female Urethra.—Whitehouse has collected forty-three undoubted cases of this affection in the literature. He reports an additional case, and discusses the condition in general. Several cases appear to have originated from a urethral carbuncle. Vulvourethral growths are by far the more common, but strictly urethral growths also occur. The preponderating type of tumor is a squamous celled epithelioma; adenocarcinoma originating in the periurethral glands, is uncommon. The treatment consists of wide excision of the urethra together with the inguinal glands wherever possible, although the latter are frequently uninvolved. When only the distal segment of the canal is affected it may be possible to leave sufficient mucosa to suture to the anterior vaginal wall. Where operation is contraindicated, the cautery, radium, or x ray is resorted to.

10. Arteriomyomatosis and Phlebomyomatosis.—Shattock describes a form of vascular lesion hitherto unrecorded, a muscular overgrowth of the vessels, differentiated from hypertrophy of the media as results simply from increased function by its inordinate degree and by the fact that the muscle cells no longer strictly retain the normal and circular disposition, but lie in bundles which intersect after the manner of a myoma.

11. Radical Cure of Hernia in the Young.—Kellock attaches considerable importance to preparatory treatment in these cases. When an infant has a hernia of any size that comes down easily, he has him kept for a few days before the operation in the Trendelenburg position, the feet being fastened over a wedge pillow. After a few days the hernia rarely, if ever, makes its appearance, and when it has not been seen for a day or two the operation is done and the child returned to the same position for another five or six days.

12. Claw Foot.—Jones divides claw foot into five stages or degrees. The first he designates as "rectangular contraction" of the tendo Achillis. The child walks clumsily and tumbles easily. Though there is no visible deformity, the foot cannot be dorsiflexed beyond a right angle. The treatment is to elongate the tendo Achillis, remove most of the heel from the shoe, and put a bar a half inch thick across the sole just behind the heads of the metatarsals, thus compelling the patient to walk with his heels down and toes tipped up. In the second degree there is definite cavus or flexion at the midtarsal joint, the metatarsophalangeal joints are dorsiflexed, the extensor tendons of the toes stand out prominently, and the interphalangeal joints are flexed; but the toes are not rigid. The treatment is operative and consists of subcutaneous division of the tense plantar fascia, followed by free wrenching to correct the deformity; tenotomy of the extensor tendons of the second, third, fourth, and fifth toes; transplantation of the extensor proprius hallucis tendon into the head of the first metatarsal, a hole being drilled vertically through the bone and the tendon pulled through it. The after treatment is that of the first degree. In the third degree, the toes are rigid and do not relax when the ball of the foot is pressed up with the finger. The operation consists in dividing the plantar fascia and both the flexor and extensor tendons of the toes; vigorous wrenching until every resisting structure yields; transplantation as under the second degree. In the fourth degree the deformity resembles equinovarus. There are hard, painful callosities across the ball of the foot, and both the toes and the midtarsal joints are very rigid. All possible correction by wrenching and tenotomy should be secured, the foot put up in plaster in the fully corrected position for a fortnight, and then, if necessary, a portion from the middle of the shaft of each metatarsal bone and also the astragalus removed. Sometimes even removal of the heads of all the metatarsals is required in addition. In the worst type of claw foot, the patient has tried all sorts of treatment to relieve his pain, and finally the foot and toes are quite rigid, with huge callosities and intolerable pain. In four such cases the author has had very successful results with the following procedure: Preliminary correction by wrenching and tenotomy; at a second operation, removal of the astragalus, followed by amputation of all the toes, including the heads of the metatarsals, by means of a dorsal and plantar incision running along the bases of the toes; transplantation of the extensor tendons into the metatarsals. The result is a mobile ankle and no callosities. Amputation of the foot is thus rendered unnecessary.

KLINISCHE MONATSBLÄTTER FÜR AUGENHEILKUNDE.

February, 1912.

1. W. Tschirkowsky: Passage of Antibodies into the Fluid of the Anterior Chamber in Eye Operations.
2. P. Verderame: Presence of the True Meningococcus of Weichselbaum on the Human Conjunctiva.
3. Kumagai: Fate of the Cartilage of the Ear when Used in Plastic Operations on the Eyelid.
4. S. Suganuma: Pathology of the Pigmentary Degeneration of the Retina.
5. B. Kayser: Three Cases of Glaucoma Treated by the Elliott Method of Trepanation.
6. B. Agricola: Methods and Restrictions of Incomplete Anesthesia (*Dämmerschlaf*) by Scopomorphine Alone and of Mixed Narcosis of Scopomorphine with Chloroform or Ether in Operations upon the Eye.
7. E. Wiegmann: Use of Salvarsan in Luetic Diseases of the Eye, Including a Report of a Case of Paralysis of the Eye Muscles Favorably Influenced.
8. R. Hesse: Mechanics of the Motion of the Iris; Innervation of the Muscles of the Iris.
9. N. Inouye: Paralysis of the Musculus obliquus inferior.
10. J. Hoppe: Recognition of Dystrophia epithelialis corneæ.
11. P. Stoewer: Malignant Nævus of the Caruncle.

2. Presence of the Meningococcus on the Human Conjunctiva.—Verderame calls attention to the difficulty of determining whether or not a certain diplococcus present on the conjunctiva is the meningococcus. The close resemblance between it, the gonococcus, the pneumococcus, and *Micrococcus catarrhalis* render the differentiation difficult. Morphological characteristics are not sufficient, it being necessary to compare the growths on artificial media. The author also mentions that the meningococcus is not an uncommon frequenter of the nasal pas-

sages without giving rise to any disturbances. A clinical point of value is that when the meningococcus does set up an inflammatory process in the eye it runs an unusually mild course as compared with that when the infection is due to the gonococcus.

7. Salvarsan Treatment in Syphilitic Diseases of the Eye.—Wiegmann gives a complete synopsis of the literature and then reports four cases of his own. In these there was an undoubtedly favorable action of the salvarsan, especially upon the paralysis of the internal muscles of the eye. In two cases the paralysis disappeared completely, in a third it was much improved, while the fourth remained unchanged. The loss of accommodation disappeared in three and improved in the fourth.

11. Malignant Nevus of the Caruncle.—Stoewer discusses nevi from two points, first from the scientific side as to the origin, and second from the practical side since such tumors may become malignant. Concerning their origin the author does not commit himself, but merely states that they probably spring from the epithelium and belong to the class of basal celled carcinoma of Krompecher, or else belong to the sarcomata. Since nevi may undergo a malignant activity he recommends that in their removal the incision extend well into the sound tissue.

MONATSSCHRIFT FÜR KINDERHEILKUNDE.

Volume X, No. 10.

1. Ernest Schloss: Chemical Analysis of Human Milk.
2. Th. Hoffa: Visible Gastric Peristalsis in Infants.
3. Hans Hahn: Prognosis of Tuberculosis in Infants.
4. R. Halburtstadt: Acute Nephritis and Impetiginous Eczema.
5. Konrad Mallinckrodt: Vitiligo and Chorea.

2. Gastric Peristalsis in Infants.—Haffa reports a series of five cases in which he shows that visible gastric peristalsis does not always mean pyloric stenosis or hypertrophy. In none of these cases was there any vomiting or any other signs or symptoms of pyloric stenosis except visible peristalsis.

3. Infantile Tuberculosis.—Hahn recalls that formerly it was supposed that every patient with infantile tuberculosis died. Hahn reports sixty-nine cases of tuberculosis—forty-six cases were diagnosticated during the first year of life with a mortality of 77.3 per cent., and twenty-three cases in the second year of life with a mortality of 60.9 per cent. Thus it is shown that not all patients with infantile tuberculosis die. Most of these patients were followed up five years or more. The prognosis in infantile tuberculosis is so bad because in most of the patients a general miliary tuberculosis develops. And a general miliary tuberculosis or tuberculous meningitis always ends in death. In general, prognosis depends upon the ability of the infant's organism to keep the process confined to the lymph glands. If the lung is affected then the prognosis becomes very unfavorable, but even then some infants recover. Pollak agrees with Hahn when he says that not all infants with tuberculosis die. So many authors have had such bad results in treating children and even adults with tuberculin that Hahn considers it no mistake to ignore this treatment entirely. We should pay more attention to prophylaxis and hygiene.

4. Nephritis and Eczema.— Halburstadt reports a case of hemorrhagic nephritis following impetiginous eczema in a girl, ten years of age. Recovery took place in a very short time.

ZEITSCHRIFT FÜR AUGENHEILKUNDE.

January, 1912.

1. A. Gutmann: Anatomical and Topographical Investigations Concerning the Relation of the Orbit and the Eyeball to the Air Cells in the Skull of *Bos taurus*.
2. L. Bach: Etiology and Course of Diseases of the Uveal Tract.
3. R. Deutschmann: Formation of Holes (*Lochbildung*) in the Macula.
4. A. Birch-Hirschfeld: Inflammation of the Orbit and Its Treatment.
5. C. H. Sattler: Field of Vision in Glaucoma.
6. H. Kuhnt: Simple Method of Controlling the Effect of Tenotomy.

4. Inflammations of the Orbit and Their Treatment.—Birch-Hirschfeld reports in some detail several cases of inflammatory processes, the first being one in which the diagnosis of a retrobulbar malignant tumor was made. Microscopical examination of the mass after removal showed it to be tuberculous. The second was a luetic involvment in which a Wassermann reaction proved positive and the symptoms cleared up under antisyphilitic treatment. The third was a case of mucocele of the frontal and ethmoidal cells removed by operation. The fourth showed a purulent inflammation resulting from the presence of a foreign body. At the operation two splinters of wood were removed. The sixth case was one of phlegmonous inflammation due to injury. Marked symptoms of a general infection appeared and remained, in spite of incisions made to drain the area. The eye had to be removed, but the patient eventually recovered.

Proceedings of Societies.

THE PUBLIC HEALTH EDUCATION COMMITTEE OF THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting Held at the New York Academy of Medicine, February 7, 1912.

The President of the Society, Dr. William M. Polk, in the Chair.

The Frequency and Significance of Venereal Disease.—Dr. Prince A. Morrow, in beginning this paper, thought that in a general way it might be said that venereal diseases were the most universal and widespread of all diseases. As they were not subject to official registration, the extent to which they prevailed in our civil population did not admit of exact mathematical expression. In the Army and Navy service, the nature of the disease of every person reporting sick was recorded and the statistics of venereal morbidity were approximately correct. Neisser, the discoverer of the gonococcus, estimated that seventy-five per cent. of the adult population contracted this infection, many of them several times during their lives, and that fifteen per cent. contracted syphilis. Other authorities might be quoted as confirming the substantial accuracy of these figures.

A committee appointed by the Maryland State Medical Society in 1906, investigated the medical and social histories of all male patients over twenty-one years of age in Johns Hopkins Hospital, and

found that 49.9 per cent. admitted having gonorrhea, and 9.9 per cent. admitted having syphilis.

Fournier found in a series of careful personal investigations of the hospitals of Paris extending over a number of years, that from seventeen to twenty-three per cent. of all the patients were syphilitic. The proportion varied with different epochs, but gave an average of eighteen per cent.

Reference might be made to the investigation of the Committee of Seven appointed by the Medical Society of the County of New York in 1901. Circular letters were sent out to nearly 5,000 practising physicians in greater New York, containing among other questions the following: The number of venereal cases occurring in your practice during the past year?

The 687 physicians, or about one in seven to whom the circular was addressed, forwarded statistics. The total number of cases reported in private practice was 23,196,—15,996 gonorrhea and 7,200 cases of syphilis. Of the 37 dispensaries and the few general hospitals investigated there were collected records of 41,439 cases, making a total of 64,725. It was evident, however, that statistics based upon the number of cases occurring in the practice of one seventh of the physicians and collected from less than one half of the public institutions, fell far below the actual number of cases. The committee estimated that over 200,000 cases of venereal diseases were treated in greater New York during the year 1901.

A somewhat similar investigation made by a committee of the Maryland State Medical Society (in 1907), collected records of the private practice of about one eighth of the regular physicians practising in Baltimore and seventeen of the forty-one hospitals, showed a total of 9,450 cases of venereal disease in private and public practice, which was nearly double the entire number of other contagious diseases reported to the board of health in the same year.

These totals represented only a small fraction of the venereal morbidity in these cities as they embraced the report of only a small minority of physicians and incomplete statistics from public institutions.

Turning from these somewhat conjectural estimates to the more solid ground of exact statistical data, he found that the report of the surgeon general of the United States Army for 1910 gave the following figures: The admission rate of venereal diseases to the hospital was, for the year 1909, 196.99 per 1,000 for the entire army. In the army of Cuba it was 203.64; in Hawaii, 225.84; in Porto Rico, 250.44; in the Philippines, 301.85 (290.29 for the white troops and 418.46 for the colored troops). The report said that "one sixth of the total number of admissions to the hospitals was for venereal infection."

These figures, for the most part, represented the venereal morbidity incident to a single year of service, a small percentage of late syphilis being carried over from the previous year. The surgeon general declared that the venereal peril had come to outweigh in importance any other sanitary question which now confronted the army.

The report of the surgeon general of the United States Navy for 1910 showed: "The general admission rate for all venereal infections for 1909 was 199.17 per mille, while that for primary infections was 160.40. On certain vessels it was even higher, showing a yearly admission rate of 217 per 1,000 among young men who have but recently entered the service free from such disease. Military and naval surgeons expressed the opinion concurred in by many specialists, that venereal morbidity existed in as large or larger extent among our civil population, where the opportunities for sexual indulgence were practically unlimited, and the restraints of military discipline, the certainty of detection and registration exerted no prohibitory influence.

The large proportion of individuals infected by venereal disease, got well; some of them died; many of them suffered for years or their entire life from its consequences. The pathological importance of these diseases was not to be measured alone by their effects upon the health and life of the individual, but upon the family and the race. Many of these men, believing themselves cured, married and carried the infection into the family. The amount of venereal infection in married life was an unknown and unknowable quantity. Thousands of married women were infected without knowing, or even suspecting, the name or nature of the disease which transformed them from healthy women into suffering invalids. Since the discovery of the causal agents of these diseases, statistics bearing upon the frequency of marital contamination had the value of scientific accuracy. The report of the Committee of Seven showed that thirty per cent. of the women treated for venereal disease in private practice had been infected in marriage. Among the poorer classes treated in public practice, it was doubtless greater.

The report of the Maryland committee showed that forty per cent. of the women treated for gonorrhea in private practice in Baltimore were respectable married women. Fournier's large statistics of 10,000 syphilitic women from every walk of life showed that twenty per cent., or one in every five, had been infected in marriage. Specialists in diseases of women told us that fully sixty per cent. of all their work was the result of gonoccocus infection.

The Significance of Venereal Diseases.—In the popular conception, gonorrhea was a trivial, local affection, easily cured and without consequences, to the individual or to others; syphilis a more serious disease. The attitude of the laity might be thus expressed—"One laughed at gonorrhea but one feared syphilis." The advances in medical science had shown that gonorrhea was a serious infection. The germs of the disease might be taken up by the bloodvessels and lymph channels and might affect almost any organ of the body, with results dangerous and even fatal to life. One of the most common of these complications was an infection of the joints, attended with stiffness or entire loss of motion, often with deformity and permanent crippling of the patient. The internal complications often terminated in death. This infection was the most common cause of sterility or inability to procreate. The significance of syphilis as a danger to the in-

dividual was measured by its remote rather than its immediate effects. The syphilitic virus set up changes in certain organs or system of organs which might be the direct or indirect cause of death years later. Many affections of the brain, the spinal cord, the liver, the heart, the kidneys, and other organs essential to life, had their origin in syphilis. Of all the internal organs, the brain was the most frequently affected by syphilis, and paresis was the most common termination. Statistics showed that ninety per cent. of cases of general paralysis of the insane, ninety per cent. of locomotor ataxia, and a large proportion of hemiplegias and other organic affections of the nervous system, were caused by syphilis. These diseases were for the most part incurable and of a permanent disabling character, so that if the sufferer lived, he was incapacitated and a charge upon his friends or the community.

The social dangers which came from the introduction of these diseases into marriage far transcended their dangers to the health and life of the individual. According to gynecologists, the gonococcus was the cause of the death of 4.5 per cent. of the death from inflammatory diseases peculiar to women, and three fourths of all the special operations performed upon the internal organs. This infection was the most common cause of sterility in women. Statistics showed that fifty per cent. of the infected women were rendered permanently sterile. In other cases, the conceptional capacity was entirely extinguished with the birth of the first child, so that one child represented the total productiveness of the family. While gonorrhea was not an hereditary disease, it carried with it serious risks to the offspring. Probably eighty per cent. of the blindness of the newborn was caused by this germ. There were other serious infections in children which might take on epidemic proportions, resulting from contact with this germ.

Syphilis was the only disease which was transmitted in full virulence to the offspring, killing them outright, or blighting their normal development. The children who finally survived, one in four or five, were often the subjects of organic defects and degenerative changes, which, if they grew up in life, might be transmitted to the third generation.

The special significance of gonorrhea and syphilis as a racial danger was due to the fact that they specifically affected the system of generation. They damaged or destroyed the integrity of the function to which the life of the human race was intrusted, the former by its sterilizing effect upon the procreative faculty, the latter by poisoning the germ cells. Beside the potential loss of citizens to the State, they defeated the civil object of marriage, which was not the creation of offspring merely, but of children born in conditions of vitality, health, and physical vigor, with a heredity and makeup which fitted them for the struggle of life. Since healthy citizens were the most valuable asset of the State, the conservation of the physical integrity of the race was the most important concern of the nation.

Value of Bacteriology in Venereal Diseases.—In behalf of the Public Health Education Committee and its chairman, Dr. ROSALIE S. MORTON, Dr. VICTOR C. PEDERSEN expressed gratitude to the speakers for their valuable papers and appreciation to the audience for their attendance, interest, and attention. He reminded the audience that the meeting was organized in view of a number of direct requests from various members of different audiences in the course of lectures in 1911, that a meeting be held this year on the subject, Sex Hygiene for Men.

Doctor PEDERSEN remarked that it was also his function to add a few words in a simple way as introduction of the general discussion of the evening by the audience, and said that Doctor Morrow's paper made clear in a definite way the prevalence and transmission of venereal disease. He felt it would ill become him to attempt to add to the able review of this phase of the subject. He thought it should be noted, however, that the real knowledge of the incidence of venereal disease upon the community had been gained by the science of bacteriology, which was only a generation old. One might say that it was a racial calamity that this knowledge had not been ours for centuries rather than for years, because such duration of the knowledge might have worked toward removing one cause of the social evil, namely, ignorance and a quasi contempt growing out of the ignorance for the fact, nature, and possibilities of venereal infection, to damage both the sexual organs and the system at large seriously. The speaker here recalled in point the case of a family of Salvation Army workers, when a general practitioner years ago. The mother stated that she would not instruct the daughters, nor the father the sons, in the sexual mysteries of life, because she felt that her daughters should be instructed by their husbands, and the sons could gain their knowledge as all boys do. He had asked her whether she realized that this ignorance in the daughters might make them an easy prey of unscrupulous men, who would not only ruin, but even forsake them, and that this ignorance in the sons would surely make them the victims of the prostitutes, who sooner or later would infect them with venereal disease, perhaps for life. Upon taking this view of the subject, the woman admitted her mistake, and promised that she would see to it that her children were properly taught. It was unfortunate that the majority of our parents had exactly the same view as this woman had.

Doctor Pedersen thought that another cause of the social evil, and particularly of its spread, was, that when infection had occurred, the victim was stricken by a certain shame, which, while in one sense was perfectly proper, in another sense was misguided and led the patient astray. This was true, because instead of going at once to a physician, such a patient usually received whispered and erroneous advice from a friend, then from a druggist, and finally from a physician, who altogether too frequently was not the fully equipped, well trained specialist, but a general practitioner.

As to Doctor Weil's remarks, Doctor Pedersen noted the opinion that in instructing a son, the father should generously assume that even after all teaching, parental, parochial, and professional, it was still possible that circumstances of temptation might arise, leading to downfall and infection. The father should, therefore, teach the boy that in these

circumstances he could not seek the aid of a physician too good (the more reputable, the more trained, and the more fully equipped in these diseases the better), nor could he begin treatment too soon; (the sooner the better in every way) nor could he be too careful to continue the treatment until upon the most rigid and careful scientific examination the doctor pronounced him cured (the term "cured" meaning infection free and marriageable). Doctor Pedersen was of the opinion that the laity should comprehend another fact of bacteriology, namely, that the presence, absence, and nature or significance of an infection of the sexual organs could no longer be decided by the microscope alone, but required a culture or growth of the organisms in a laboratory. In other words, all the means of bacteriological diagnosis must be exhausted before a conclusion was reached. This was important, as it tended to relieve from immoral sexual taint not a few chronic discharges, which arose otherwise than from true gonorrhea or other venereal infection. Doctor Pedersen believed that ignorance on the part of victims as to the aforesaid advice was certainly a removable cause of venereal disease. The world at large should remember that the first attitude of any reputable physician toward all diseases, sexual or otherwise, was that of effort to relieve suffering and of sympathy with, and not of condemnation for the patient.

Doctor Pedersen emphasized the thought that another potent cause of venereal disease was the present condition of living, by which a man could not possibly support wife, children, and home in his early manhood, when Nature intended the sexual instincts to have their normal function and gratification. The effect of this condition on both women and men was obvious. If one asked the average venereal patient as to these things, it was certain that one would find a sincere regret that the healthy instincts of sex, namely, fatherhood and home, could not be gratified in a normal way at the proper time. Doctor Pedersen, as a genitourinary specialist, said that he had made it a point to be friend and brother of his patients in these particulars, and had, with very rare exceptions, found their attitude to be that just mentioned.

Another cause, in the speaker's opinion, for the social evil was found in the false relation which many, and perhaps, a growing number of women manifested toward the sexual ties of married life, regarding them on the whole as objectionable, if not really sinful, and as kinds of favor or privilege to be granted the husbands. Many such women during their own sexual cycle, namely, menstruation, would make a whole household miserable by their irritability, exactions, and nerves. They realized the condition to be one of sexual disturbance in themselves, but were either so selfish or so ignorant that they did not realize that their husbands also had sexual cycles, just as persistent, just as insistent, and just as hard to bear, unless normally gratified, this cycle being the rate at which, and the periods at which, a man produces semen. Was it not high time that the average human female, about to enter wedlock, be instructed on this point beyond cavil and doubt? Normal sexual intercourse in married life could not possibly be sinful, because it was the only source of God's greatest blessings to us, namely, children. The idea of the hallowed blessing of child, and the idea of a sinful act to secure that blessing, were forever incompatible. The latter idea was wrong and our women and our children should be taught frankly otherwise.

(To be concluded.)

Letters to the Editor.

NEOSALVARSAN.

New York, *March 23, 1912.*

To the Editor:

In a personal communication just received, Professor Ehrlich has confirmed the foreign despatches which some of the newspapers have published, to the effect that he has been experimenting for some time with an improved preparation of salvarsan. Professor Ehrlich states that the new preparation, which has been called *neosalvarsan*, has been under clinical observation for some months, principally by Schreiber, of Magdeburg.

Professor Ehrlich adds that the new preparation is easily soluble in water, and being of neutral reaction, does not require any caustic soda solution for neutralization. Larger doses than of salvarsan can be tolerated, and as a further advantage over salvarsan, the reaction seems to be very slight.

It is easily apparent that the new preparation will be more readily tolerated and likewise more easily administered. Experimental supplies will soon reach us, and it will be interesting to compare the results obtained with the new preparation with those already obtained with salvarsan.

The letter of Professor Ehrlich encloses a brief report from Professor Schreiber, a translation of which follows:

TEMPORARY DIRECTIONS FOR THE USE OF NEOSALVARSAN.

The new salvarsan preparation is easily soluble in water. It is essential, however, that only freshly distilled sterile water should be employed. The use of caustic soda is forbidden as it is followed by cloudiness of the solution, and it is likewise toxic. Inasmuch as the solution is perfectly neutral, it is unnecessary to add the sodium hydrate solution, as with the old salvarsan. The administration of the new preparation is practically the same as that of salvarsan. We dissolve 0.15 gramme in 20. c.c. of water, or 1.5 gramme in 200. c.c. of water; intermediate quantities in like proportion.

The maximum single doses that we have employed thus far have been as follows: For men, 1.5 gramme neosalvarsan (equal to 1.0 gramme salvarsan); for women, 1.2 gramme, and for children, from 0.15 to 0.35 gramme, according to the age of the child. We administer the remedy four times, at two day intervals. If, however, after two weeks, the Wassermann reaction is still positive, we repeat the treatment at an interval of four weeks, under the Wassermann control.

In all cases of precocious meningitis, in which the patients complain of headaches, the greatest precaution should be employed in the use of the remedy; the treatment should be begun with small doses gradually increased.

For the intramuscular injection, we have used 0.9 gramme neosalvarsan, this corresponding with 0.6 gramme salvarsan, dissolved in about 30. c.c. of water. We first inject a few c.c. of novocaine solution, and with the needle *in situ*, we wait a few moments and then inject the neo-

salvarsan solution. The needle must be introduced deeply into the muscles, for if the injection is made subcutaneously, infiltration will result.

We have thus far treated 269 patients. As a result, we conclude that the new preparation is better tolerated than the old salvarsan. In spite of the large doses employed, we have seen but two cases in which slight vomiting and diarrhea resulted; these phenomena passed off in a few hours. In cases with numerous spirochetes present, the first injection was followed, as in the case of salvarsan, by a slight rise in temperature, which soon disappeared on repeating the injection. In three patients, we saw the familiar serum exanthemata about ten days after the injection. By the way, it seems to me that this phenomenon has nothing to do with the preparation, but is dependent on some other cause. Although we have been using the new preparation since October last, we have not seen a single case of neurorecurrence after its use.

(*Signed*) SCHREIBER.

ABR. L. WOLBARST, M. D.

A PROTEST AGAINST EXCESSIVE MEATOTOMIES.

NEW YORK, *March 23, 1912.*

To the Editor:

Permit me through the columns of the NEW YORK MEDICAL JOURNAL to protest against a form of unjustifiable mutilation which we are coming across rather too frequently. I refer to the excessive cutting of the meatus, away down to the frenum, practised on patients who have or are supposed to have a stricture, or who are suffering with some form of rebellious posterior urethritis. The cutting of the meatus is done to facilitate or to make possible the passing of large sounds. This is certainly superfluous at the present time, when we have at our command the Kollmann-Oberländer dilators, which in the closed condition will pass quite small meati.

But the excessive cutting of the meatus is not only superfluous; in my opinion it is distinctly injurious. As an excessively large meatus has a deleterious effect on the force and regularity of the urinary stream, so it has on the sexual function. Carefully following the histories of a number of cases, I have become convinced, in my mind, that the meatotomy had a distinct causal relationship to the patient's *ejaculatio præcox.* The little phrase, *ne quid nimis,* should be borne in mind by the physician when deciding upon whether a meatotomy is indicated or not, as well as when performing the little operation. For my part, I am convinced that many meatotomies are performed which should not be performed at all, while in many cases where the operation is indicated, the knife is used too freely for the patient's subsequent comfort.

WILLIAM J. ROBINSON, M. D.

Book Reviews.

[*We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.*]

Case Histories in Neurology. A Selection of Histories Setting forth the Diagnosis, Treatment, and Post Mortem Findings in Nervous Disease. By E. W. TAYLOR, A. M., M. D., Instructor in Neurology, Harvard Medical School; Assistant Physician, Department of Neurology, Massachusetts General Hospital; Visiting Neurologist, Long Island Hospital, Boston. Boston: W. M. Leonard, 1911. Pp. 305.

The author states that it has been his purpose to present in practical form, on the basis of the case system, certain fundamental facts in regard to the symptomatology, diagnosis, pathological findings, and treatment of the more frequent disorders of the nervous system. With more or less detail he gives the histories of actual patients whose disease processes or predominating symptoms illustrate certain definite diseases.

After a somewhat cursory statement of diagnostic methods, the clinical histories are given, being divided into those that instance disorders of the peripheral nerves, of the spinal cord, of the brain, of vague or undetermined pathological basis, and of affections characterized by disorders of functions. There are one hundred and fourteen histories, which are of interest, but seem to lack detail in symptomatology and treatment. In case 59, dementia paralytica and alcoholism, it would seem worth while to give salvarsan regularly. In case 95, spasmodic torticollis, the entire history indicates as first treatment that the eyes should be examined by a competent oculist, and the visual disorders corrected. The question suggests itself in the fatal result in the operation for exophthalmic goitre, in case 96, whether the technique suggested by Crile and others was followed. Nothing is said of the treatment of such a patient by serum.

It is not clear that a book so planned will be of great value to either the neurologist or general practitioner.

Diseases of the Nose and Throat. Comprising Affections of the Trachea and Esophagus. A Textbook for Students and Practitioners. By ST. CLAIR THOMSON, M. D., F. R. C. P. (Lond.), F. R. C. S. (Eng.), Physician for Diseases of the Throat and Professor of Laryngology in King's College Hospital; Physician to the King Edward VII Sanatorium, etc. With Eighteen Plates and 294 Figures in the Text. New York: D. Appleton & Co., 1912. Pp. xvi-791.

The keynote of this work is to be found in the author's prefatory statement that it is based on personal experience and that special stress has been laid on the clinical and pathological bearing, and on the natural methods of defence and repair—to which many textbooks attach insufficient importance; unfortunately this is very often true. As a result, every page of this book contains something of value to the experienced laryngologist and will prove entirely invaluable to the learner. While we have recently had from the pens of several distinguished American authors, treatises on the same subjects, of which we are justly proud, this book is somewhat different and embodies some features in which they have been to a certain degree lacking. In many ways it seems advantageous to separate rhinology and laryngology from otology, and notwithstanding his notable position as an otologist, the author has refrained from curtailing his nose and throat sections to make space for the consideration of the ear and its diseases, to the decided benefit of the work as a whole.

In a book of such uniform excellence it is difficult to designate any particular parts which are superior to the general character of the whole. Worthy of special mention, however, may be indicated—in the introductory portion, The Defensive Arrangements of the Upper Air Tract and Special Conditions and Dangers of Operations. All through, stress is laid on the specific indications for operative interference in the special disease under consideration, with its possible risks and subsequent complications.

Directions for the general hygienic management of diseases of the nose and throat, which are often ignored or dismissed with scant words, receive more than usually full attention and the nonoperative topical treatment is also accorded greater prominence than in some recent books, where surgery seems to be almost the only possible resource in every condition. The sections on nasal neuroses, hay fever, nasal asthma, on the neuroses of the larynx and its involvement by malignant disease, as well as the relations of the upper air passages to general infections are particularly satisfactory.

The author's description of the Killian frontal sinus operation is perhaps the clearest in the English language, and we are inclined to wish that the section, entitled Some Op-

erations, had been indefinitely extended. The illustrations are, as a rule, good and the bibliography is fairly full. The work will be helpful to the laryngologist, and to the general practitioner and student it will give a very comprehensive idea of the present status of the departments of which it treats, from an eminently fair point of view. The mechanical part of the work is satisfactory.

The Conquest of Nerves. By J. W. Courtney, M. D. New York: The Macmillan Company, 1911. Pp. 209. (Price, $1.25.)

The author's purpose is to teach the reader who has nerves the things that are vital to effect recovery; that there is no royal road to health; that the return to nervous vigor is "mainly a matter of the grace of God and their own intelligently directed endeavors." We think that he has not stated the subject quite fairly when he writes that "*psychotherapeutics* and *autosuggestion*, reduced to terms of common understanding, mean *self discipline;*" the latter may be, in part, the purpose of either.

There are chapters on how Christian science cures, how the Emmanuel movement influences those who have functional conditions, how new thought aids, how various phases of charlatanry affect the sick. The nature and causes of functional nervous disorder are sketched, there is a résumé of the bodily symptoms of those disorders, and a separate chapter on the mental and emotional aspects. The chapter on the physical treatment of the disorders gives a general summary of the methods in vogue, and the final chapter is on psychotherapy. It seems that these two final chapters are perhaps suggestive for the physician, but undesirable for an introspective patient.

The author's earnestness justifies the wish that his book may prove as useful as he hopes.

Nephritis. An Experimental and Critical Study of Its Nature, Cause, and the Principles of Its Relief. By Dr. Martin H. Fischer, Eichberg Professor of Physiology in the University of Cincinnati. The 1911 Cartwright Prize Essay of the Association of the Alumni of the College of Physicians and Surgeons, Medical Department of Columbia University, New York. First Edition, First Thousand. New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1911. Pp. ix-203. (Price, $2.50.)

The Cartwright prize was awarded this volume in 1911; it includes experimental studies in clinical physiology that are a continuation of those made by the author and published in a volume that has the title *Edema.* While recognizing that the word nephritis represents an aggregate of a number of conditions, he uses it to designate a nonpurulent inflammation of the kidney. His thesis is that all the changes that characterize nephritis are due to a common cause—the abnormal production or accumulation of acid in the cells of the kidney. In consequence of "the action of this acid on the colloidal structures that make up the kidney are due the albuminuria, the specific morphological changes noted in the kidneys, the associated production of casts, the quantitative variations in the amount of urine secreted, the quantitative variations in the amounts of dissolved substance secreted, etc." The experiments that are recorded support the contention, though the author frankly states that it does not follow that the acid factor is the only one concerned in producing nephritis. His experiments indicate also that the prophylaxis and treatment of that disease lies in "an avoidance, as far as possible, of every condition that favors the abnormal production or accumulation of acid in the kidney."

The book is clearly written, the experimental work described just enough, and the volume deserves the careful consideration of all practitioners.

Currents of High Potential of High and Other Frequencies. By William Benham Snow, M. D., Late Instructor in Electrotherapeutics in the New York Postgraduate Medical School and Hospital, etc. Second Edition. New York: Scientific Authors' Publishing Co., 1911. Pp. xiv-275. (Price, $3.00.)

The author has included in the second edition of this work, those developments in methods, apparatus, and the therapeutics of high frequency currents that have appeared since the publication of the first edition. He believes that it is of the utmost importance to establish upon an accurate basis of standards as to the physiological action, the indications for the employment of the various modalities; and he makes every effort to indicate the scientific relation of each modality to therapeutics. In his revision he has incorporated the findings and standards of the committee devoted to the standardization of physical therapeutic measures of the American Electrotherapeutic Association, and forty cuts have been added to the text.

The volume maintains its excellent character and will prove most useful to all students and practitioners of electrotherapeutics.

Studies upon Leprosy. XIV. The Artificial Cultivation of the Bacillus of Leprosy. XV. Attempts at Specific Therapy in Leprosy. By Donald H. Currie, Passed Assistant Surgeon and Director of the Leprosy Investigation Station, Moses T. Clegg, Assistant Director of the Leprosy Investigation Station, and Harry T. Hollmann, Acting Assistant Surgeon of the Leprosy Investigation Station. Public Health Bulletin, No. 47. Washington: Government Printing Office, 1912. Pp. 62.

The article on the Artificial Cultivation of the Bacillus of Leprosy is very largely a summary of the various methods that have been employed. There is considered the treatment of leprosy with tuberculin, the use of iodine preparations, Carrasquilla's serum and other sera, antivenene, the leprolin of Rost, nastin, the x ray, miscellaneous vaccines, and injections of suspended lepra bacilli. Then follows an account of the products of the isolated cultures of *Bacillus lepræ* that were prepared and used in the treatment of leprosy by the authors. A vaccine, live cultures, lepratoxine similar in its preparation to tuberculin fatty substances obtained from cultures, "sensitized" killed cultures and serum from a horse that had been more or less immunized to four strains of *Bacillus lepræ.* These substances were first tried on ordinary laboratory animals without deleterious effects, except that the vaccine produced an area of coagulation necrosis at the site of injection. They were then employed in cases of leprosy without much benefit, if any, to the patients receiving them. The vaccine, it would seem, should be used in very small doses, owing to its slow absorption and its tendency to cause abscesses. The horse serum was also without benefit. However, as this animal's serum strongly agglutinated *Bacillus lepræ,* there seems to be a possibility of increasing the potency of this serum to a point where it may be of value in the treatment of the disease. A long list of references follows. In the second article, Attempts at Specific Therapy in Leprosy, the authors give first a review of the literature from the time of Hansen's discovery in 1868 of bacterial rods in a leproma up to articles by Duval, Gurd, Williams, and Beauchamp in 1911. A very brief mention is made of the technique, the reader being referred to other articles by the authors in which the methods are given in detail. Up to the time of the foregoing publication acid fast organisms have been grown in symbiosis with cholera and ameba at least sixteen times from fifteen cases of leprosy, and have been isolated in pure culture seven times. An extensive description is given of the cultural peculiarities of the organisms recovered. For purposes of comparison descriptions are also given of the grass bacillus of Moeller, *Bacillus margarin,* and *Bacillus smegma.* The growth of *Bacillus margarin* especially resembles in its purely cultural peculiarities the cultures the authors have of *Bacillus lepræ.* It was found that the serum of a horse that had been immunized to four "strains" of *Bacillus lepræ* strongly clumped all of the writers' organisms, but failed entirely to clump the grass bacillus of Moeller, *Bacillus margarin,* and *Bacillus smegma,* thus tending to prove that the organisms isolated from lepers are different from each of the known acid fast bacilli tested. A long list of references is appended to the article.

NEW PUBLICATIONS.

Lydston, G. Frank.—Sex Hygiene for the Male and What to Say to the Boy. Illustrated with Twenty-four Engravings. Chicago: The Riverton Press, 1912. Pp. 304. (Price, $2.25.)

Bahr, P. H.—Filariasis and Elephantiasis in Fiji. Being

a Report to the London School of Tropical Medicine. With Many Colored and Monochrome Plates, Numerous Charts, and a Map. London: Witherby & Co., 1912. Pp. viii-192.

Hill, William.—On Gastroscopy. With a Description of a New, Easy, and Efficient Method of Œsophagogastroscopy, Combining Direct and Indirect Vision, and a Plea for Its Employment by Gastric Experts. With Forty-seven Illustrations. London: John Bale, Sons, & Danielsson, Ltd., 1912. Pp. vii-45. (Price, 2s. 6d.)

Browning, Carl H., and McKenzie.—Recent Methods in the Diagnosis and Treatment of Syphilis. The Wassermann Reaction and Ehrlich's Salvarsan. In Collaboration with John Cruickshank, Charles G. A. Chislett, Walter Gilmour, and Hugh Morton. With an Introduction by Robert Muir. Philadelphia and New York: Lea & Febiger, 1912. Pp. xxvi-303. (Price, $2.50.)

Cheyne, Sir W. Watson, and Burghard, F. F.—A Manual of Surgical Treatment. New Edition. Entirely Revised and Largely Rewritten with the Assistance of T. P. Legg and Arthur Edmunds. In Five Volumes. Volume I. The Treatment of General Surgical Diseases, Including Inflammation, Suppuration, Ulceration, Gangrene, Wounds and Their Complications, Infective Diseases, Tumors, and Deformities. With an Appendix upon the Administration of Anesthetics, by Doctor Silk, and the Examination of the Blood, by Dr. W. D'Este Emery. Philadelphia and New York: Lea & Febiger, 1912. Pp. xxii-552. (Price, $6 a volume.)

Bradford, Thomas Lindsley.—Autobiography of a Baby. New Revised and Enlarged Edition. Philadelphia: David McKay, 1912. Pp. 107. (Price, 50 cents.)

Tweddell, Francis.—A Mother's Guide. A Manual for the Guidance of Mothers and Nurses. New York: James T. Dougherty, 1912. Pp. ix-182. (Price, $1.)

Byrne, Joseph.—On the Physiology of the Semicircular Canals and Their Relation to Seasickness. New York: James T. Dougherty; London: H. K. Lewis, 1912. Pp. ix-569.

Klieneberger, Carl, und Carl, Walter.—Die Blut-Morphologie der Laboratorium-Tiere. Mit 14 Farbdrucktafeln. Leipzig: Johann Ambrosius Barth, 1912. Pp. vi-110.

Fortieth Annual Report of the Roosevelt Hospital, New York. From January 1, 1911, to December 31, 1911, Exclusive of Detailed Medical and Surgical Statistics. Pp. 59.

Miscellany.

Metropolitan Sewerage Commission.—The Metropolitan Sewerage Commission, a board of engineers created by the city and State of New York for the purpose of making plans for the sanitary disposal of New York's sewage, has submitted to the mayor the second in a series of reports in which the necessity for colossal main drainage works is clearly foreshadowed. It is planned to create these drainage works after the fashion of those now in use in Paris, London, and Berlin. The commission recommends that the city be divided into four drainage areas, in each of which there shall be a number of central points at which the sewage is collected and there purified to such an extent that the remainder can be discharged into the harbor without danger to health or the possibility of becoming a nuisance. In the present report the commission has undertaken to prove the necessity for constructing the great public works which will be needed in order to deal with the sewage in a sanitary manner, and lays the foundation for subsequent reports in which the situation, size, cost, and method of constructing and operating the great drains, pumps, screens, and outfalls will be fully described.

In this second report each phase of the problem is gone into at some length, the final opinion of the commission being given as to the best manner of solving the difficulties to be met with. The collecting points should be as near the ocean or Long Island Sound as possible, and as close to the unobstructed flow in deep, tidal channels. Points of outlet should never be situated in shallow, stagnant, or remote parts of the harbor, when the disposal of untreated sewage is to be accomplished. In cases where it is found impossible to have such outlets near tidal water, it is recommended that the sewage be treated more highly for the removal of impurities.

Concerning the Jamaica Bay division of drainage the commission says that there is little danger of its being affected by the drainage of the rest of the city. The total population of this division is placed at about 366,000, with probabilities that it will reach more than 1,500,000 in 1950 or 1960.

The Richmond division includes the whole of Staten Island, of a total area of about fifty-seven square miles, with a population of about 90,000.

The lower Hudson, lower East River and Bay division includes all the boroughs of Manhattan except that portion at the northeastern end which naturally drains into the Harlem River all of the Borough of Brooklyn except that part which naturally drains into Jamaica Bay and the eastern end of Gravesend Bay and that part of the Borough of Queens which naturally drains into the East River south of Lawrence Point near Hell Gate. To the southeast lies the Jamaica Bay division, to the northeast the upper East River and Harlem division and to the southwest the Richmond division.

This division now has a population of about 3,500,000, and by 1940 is expected to have a population of more than 5,500,000. It presents numerous engineering difficulties in the proper disposal of sewage, although the Hudson and the East rivers have swift tidal water.

The upper East River and Harlem division includes nearly the whole of the Borough of the Bronx, that part of Manhattan Island which naturally drains to the Harlem River, and that part of Queens which naturally drains to the East River east of Lawrence Point. Its population in 1910 was about 1,100,000.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending March 22, 1912:

CHOLERA—FOREIGN: *India*, Jan. 21-Feb. [illegible], [illegible] cases, [illegible] deaths; (Madras Presidency), Jan. 1-31, 13,411 cases, 8,509 deaths; *Siam*, Dec. 31-Jan. 27, 196 deaths; *Turkey in Asia*, Jan. 22-Feb. 24, 15 cases, 30 deaths.

PLAGUE—FOREIGN: *China*, Jan. 26-Feb. 3, 9 cases, 8 deaths; *Hawaii*, March 18, 1 case, 1 death; *India*, Jan. 21-Feb. 10, 86 cases, 31 deaths; *Siam*, Dec. 21-Jan. 27, 1 case, 1 death; *Singapore*, Jan. 21-27, 3 cases, 3 deaths.

SMALLPOX—UNITED STATES: Florida, Feb. 25-March 2, 68 cases; *Illinois*, Jan. 1-31, 108 cases; *Louisiana* (New Orleans), March 3-9, 16 cases; *Michigan*, Feb. 1-29, 80 cases; *North Dakota*, Feb. 1-29, 59 cases; *Tennessee*, March 3-9, 3 cases; *Vermont*, Feb. 1-29, 28 cases.

SMALLPOX—FOREIGN: *Australia*, Jan. 2, 1 case; *Canada*, Feb. 18-March 9, 16 cases; *China*, Jan. 27-Feb. 3, 41 cases, 27 deaths; *Colombo*, Jan. 27-Feb. 3, 1 case; *Egypt*, Jan. 30-Feb. 4, 1 case; *Gibraltar*, Feb. 27-March 3, 1 case; *India*, Jan. 21-Feb. 10, 90 cases, 30 deaths; *Italy*, Feb. 18-25, 9 cases; *Mexico*, Feb. 24-March 9, 32 cases, 7 deaths; *Russia* (Odessa), Jan. 21-Feb. 24, 11 cases; *Siam*, Dec. 31-Jan. 27, 700 deaths; *South Africa* (Johannesburg), Feb. 4-10, 7 cases; *Spain* (Valencia), Feb. 18-24, 34 cases; *Straits Settlements*, Jan. 21-27, 3 cases; *Turkey* (Beirut), Feb. 18-24, 150 cases, 10 deaths; (Constantinople), Feb. 19-25, 15 deaths.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending March 23, 1912:

Davis, William R., Captain, Medical Corps. Left West Point on thirty days' leave of absence. **Johnstone,**

E. K., First Lieutenant, Medical Reserve Corps. Reported arrival at San Francisco, Cal., from Schofield Barracks, H. T., on thirty days' leave of absence. **Manly,** Clarence J., Major, Medical Corps. Sick leave of absence extended thirty days. **Powell,** William E., Captain, Medical Corps. Designated for duty with troops to and at the Yosemite National Park, Wyoming, during the season.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending March 23, 1912:

Allen, A. H., Passed Assistant Surgeon. Detached from the *Washington* and ordered to the *Hannibal.* **Butts,** Heber, Passed Assistant Surgeon. Detached from the Naval Medical School, and ordered to the Naval Hospital, Canacao, P. I. **Chambers,** William, Passed Assistant Surgeon. Detached from the *Glacier* and ordered home to await orders. **Cuthbertson,** Roy, Assistant Surgeon. Orders of March 8th revoked; detached from the *West Virginia* and ordered to the *South Dakota.* **Fiske,** C. N., Surgeon. Detached from the *Georgia* and ordered to the *Nebraska.* **George,** C. M., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the *Glacier.* **Halton,** E. P., Assistant Surgeon. Detached from the Naval Station, Guam, Marianas, and ordered to the Naval Hospital, Las Animas, for treatment. **Murphy,** J. F., Surgeon. Commissioned a surgeon in the United States Navy from July 1, 1911. **Stuart,** D. D. V., Assistant Surgeon. Detached from the *Hannibal* and ordered to the Naval Hospital, Washington, D. C., for treatment. **Valz,** E. V., Passed Assistant Surgeon. Detached from the *South Dakota* and ordered to the *West Virginia;* detached from the *West Virginia* and ordered to the *St. Louis.* **Wright,** B. L., Surgeon. Detached from the *Nebraska* and ordered to the *Georgia.*

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending March 20, 1912:

Alvino, Guirina, Acting Assistant Surgeon. Granted ten days' leave of absence, from April 8th. **Anderson,** J. F., Passed Assistant Surgeon. Granted three days' leave of absence from March 11th, under paragraph 189, Service Regulations. **Cobb,** J. O., Surgeon. Detailed to represent the Service at the meeting of the Medical Society of the Missouri Valley, held in Colfax, Iowa, March 21st and 22d. **Fauntleroy,** C. M., Assistant Surgeon. Granted two days' leave of absence, from March 23d. **Foster,** M. H., Passed Assistant Surgeon. Granted one day's leave of absence on account of sickness, March 11th. **Francis,** Edward, Passed Assistant Surgeon. Detailed to inspect the Slee Laboratories at Swiftwater, Pa., with a view to granting licenses for the sale of their products. **Grimm,** R. M., Assistant Surgeon. Detailed to make epidemiological studies of pellagra in Georgia and South Carolina. **Krulish,** E., Passed Assistant Surgeon. Relieved from temporary duty in Washington, D. C., and directed to proceed to Juneau, Alaska, for duty under this Service, with additional duties to be performed under the direction of the Bureau of Education, Department of the Interior. **Roberts,** Norman, Passed Assistant Surgeon. Granted three days' leave from March 14th, under paragraph 191, Service Regulations. **Smith,** L. G., Pharmacist. Relieved from duty at Savannah Quarantine Station and directed to proceed to Savannah, Ga., and report to the medical officer in command at the Marine Hospital for duty. **Vogel,** C. W., Passed Assistant Surgeon. Granted three days' leave of absence, from March 14th.

Boards Convened.

Board of medical officers convened to meet at the Bureau, Tuesday, March 26, 1912, at 10 o'clock, a. m., for the examination of Assistant Surgeons Harry J. Warner and Charles M. Fauntleroy to determine their fitness for promotion to the grade of passed assistant surgeon. Detail for the board: Assistant Surgeon General W. J. Pettus, chairman; Assistant Surgeon General J. W. Trask; Passed Assistant Surgeon A. M. Stimson, recorder.

Board of medical officers convened to meet at the Bureau, Monday, April 8, 1912, at 10 o'clock, a. m., for the examination of candidates for admission to the Service. Detail for the board: Surgeon C. P. Wertenbaker, chairman; Surgeon W. G. Stimpson; Passed Assistant Surgeon Joseph Goldberger, recorder.

Births, Marriages, and Deaths.

Married.

Bitler—Andrews.—In Nazareth, Pa., on Thursday, March 7th, Dr. J. Clarence Bitler, of Hammonton, N. J., and Miss Alice Cornelia Andrews. **Gibson—Nisbet.**—In Denver, Colo., on Tuesday, March 12th, Dr. J. D. Gibson and Mrs. Katherine V. Nisbet.

Died

Bowden.—In Paterson, N. J., on Sunday, March 17th, Dr. David Thomas Bowden. **Breyfogle.**—In San Francisco, on Thursday, March 14th, Dr. E. S. Breyfogle, aged fifty-six years. **Cary.**—In Denver, Colo., on Sunday, March 10th, Dr. R. W. Cary, aged fifty-nine years. **Catlin.**—In Tecumseh, Mich., on Friday, March 15th, Dr. Samuel Catlin, aged eighty-five years. **Colton.**—In Brooklyn, on Saturday, March 16th, Dr. Frederick H. Colton, aged seventy-three years. **Croasdale.**—In Syracuse, N. Y., on Saturday, March 16th, Dr. Hannah T. Croasdale, formerly of Philadelphia, aged seventy-seven years. **Dee.**—In Brooklyn, N. Y., on Monday, March 18th, Dr. William Vincent Dee, aged forty-six years. **Dickson.**—In Pittsburgh, Pa., on Monday, March 18th, Dr. George Blazier Dickson, aged twenty-three years. **Eastman.**—In Uniontown, Pa., on Thursday, March 14th, Dr. Thomas Nehemiah Eastman, aged fifty-five years. **Frantz.**—In Louisville, Ky., on Wednesday, March 13th, Dr. Theodore Frantz, aged forty-eight years. **Goldsborough.**—In Washington, D. C., on Thursday, March 14th, Dr. Edmund K. Goldsborough, aged sixty-nine years. **Hadden.**—En route to New York from Jacksonville, Fla., on Saturday, March 16th, Dr. Alexander Hadden, of New York, aged seventy-nine years. **Hollyday.**—In Baltimore, on Friday, March 15th, Dr. John Guy Hollyday, aged sixty-seven years. **Ives.**—In New York, on Friday, March 22d, Dr. Frank L. Ives, aged sixty-two years. **Jones.**—In Pittsburgh, Pa., on Sunday, March 17th, Dr. Mary Lois Jones, of Sharpsburg. **Kelly.**—In Ironwood, Mich., on Friday, March 8th, Dr. Edward H. Kelly, aged seventy-two years. **Kelly.**—In South Omaha, Neb., on Monday, March 11th, Dr. Thomas Kelly, aged sixty years. **Munger.**—In Rodney, Ontario, Canada, on Wednesday, March 13th, Dr. J. S. Munger, aged eighty-one years. **Oviatt.**—In Okalona, Ark., on Tuesday, March 12th, Dr. Ellen M. Oviatt, of Denver, Colo. **Palmer.**—In Grimby, Ontario, Canada, on Friday, March 15th, Dr. Loran Lester Palmer, of Toronto, aged sixty-five years. **Purcell.**—In St. Joseph, Ill., on Sunday, March 10th, Dr. J. T. Purcell, aged sixty-seven years. **Renouard.**—In Brooklyn, N. Y., on Friday, March 15th, Dr. Auguste Renouard, aged seventy-three years. **Rome.**—In Minneapolis, on Tuesday, March 15th, Dr. Robert R. Rome, aged forty-nine years. **Schuster.**—In Dayton, Ohio, on Wednesday, March 13th, Dr. George R. Schuster, aged thirty-seven years. **Tryon.**—In Brooklyn, N. Y., on Wednesday, March 20th, Dr. James Rufus Tryon, medical director, United States Navy, retired, aged seventy-four years. **Weber.**—In Willoughby, Ohio, on Thursday, March 21st, Dr. Gustave C. E. Weber, aged eighty-one years. **Webster.**—In Lorain, Ohio, on Thursday, March 14th, Dr. A. M. Webster. **Whitridge.**—In Baltimore, on Tuesday, March 19th, Dr. Andrew H. Whitridge, aged forty-one years. **Wiley.**—In Eldorado, Okla., on Monday, March 11th, Dr. J. S. Wiley, aged sixty-three years.

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Original Communications.

SEX MUTILATIONS IN SOCIAL THERAPEUTICS,*

With Some of the Difficulties in the Application of Eugenics to the Human Race.

BY G. FRANK LYDSTON, M. D.,

Chicago,

Professor of Genitourinary Surgery, Medical Department, University of Illinois.

Time was when medicine and surgery were accorded scant recognition as factors in practical sociology. Through the labors of modern students of the vice and crime problem, the profession is at last coming into its own. Crime and vice have been shown to be inseparably intermingled with and dependent upon diseases of social units. *Crime, vice, inebriety, insanity, and their congeners have been found to be most intelligently studied by regarding the body social as an entity; the moral defects and criminal acts of the unfit really constituting diseases of the social body.* From this view of social ills has logically developed the sentiment that the study of sociology revolves around social pathology—which in turn revolves around individual pathology—the logical corollary being that *the medical doctor is the best social doctor.*

From this material view of the etiology and pathology of social ills to the adoption of rational medical and surgical measures for their prevention and cure was but a brief and natural step, and *we of modern medical days find ourselves on the threshold of an era of practical social reformation in which moral, religious, and sentimental features of social reform must logically play a rôle secondary to the material.*

Beneath all social ills lie individual and social degeneracy. Beneath degeneracy of morals lies degeneracy of physical fibre. Crime, prostitution, vice in all forms, inebriety, insanity, epilepsy, idiocy, vagabondage, pauperism, sex perversion and inversions, venereal diseases, tuberculosis—and other various forms of diseases founded upon lack of resistance plus infection—are all inextricably associated with degeneracy. It follows that any measure which lessens the number of degenerates in a given community directly attacks social disease at its fountain head. *The most effective attack upon degeneracy and its evil social brood, therefore, must be aimed at the reproductive powers of defective social integers. It is here that we may dam the tainted social streams at their very sources.*

No intelligent mind can fail to be impressed with the vast strides that are being made in the direction of social reform by medical and surgical measures. The history of sex mutilations in social therapy is alone sufficient to demonstrate the trend of modern thought in the matter of social self preservation. When reform and punishment are eliminated from the nomenclature of social therapeutics and the terms, "social disease prophylaxis" and "social self preservation" substituted, the vice and crime problem will have a fixed and logical basis for study.

As is well known, the State of Indiana has been in the forefront of progress and was the first legally to adopt sex mutilations as a remedy for crime. Other States are following the lead of Indiana. Vasectomy in criminals has come to be known as the "Indiana method." Indiana physicians, notably Doctor Sharp and Doctor Bogart, have written some very creditable papers on the subject, but from some of the expressions contained in Doctor Bogart's papers, one would infer that Indiana both conceived the idea and invented the operation. Doctor Bogart says (*Texas Medical Journal*, 1910): "The operation is not described in the standard works on surgery; indeed, it is practically an onward step, devised by Doctor Sharp."[1] He then proceeds to describe the "standard" operation of vasectomy—which, as will be seen, is a very fallacious method as applied to criminals.

Asexualization of criminals was first proposed in this country by Dr. Gideon Lincecum, before the State Legislature of Texas, about thirty-five years ago, as a substitute for capital punishment.

In 1893 appeared my correspondence with Hunter McGuire on the problem of sexual crimes among the Southern negroes. In this correspondence—which was published in reprint form and widely circulated—I advocated castration as a remedy.

In 1905 appeared my *Diseases of Society*, in which, so far as I am aware, appeared the first comprehensive presentation of sterilization and asexualization in both sexes as remedies for social disease in general. In this work I presented the same views as will appear in this paper. It will be noted, therefore, that not only crime, but all of the diseases of society were asserted to be more or less remediable by castration or resection of the vasa deferentia and the Fallopian tubes.

In a paper entitled A New Method of Anastomosis of the Vasa Deferentia, read before the Illinois State Medical Society, May 10, 1906, I again went over the same ground. (*Journal of the American Medical Association*, XVII, 3.)

*Read before the Chicago Medical Society, December 13, 1911.

[1] Be it remarked that Doctor Sharp himself has made no such assertion.

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According to Doctor Bogart, Dr. H. C. Sharp, who has been termed the father of the sterilization movement, read his first paper dealing especially with sterilization of criminals before the American Prison Congress at Seattle in 1907. This paper was published in the *Medical Council* for August, 1908.

Doctor Sharp's first paper on vasectomy in general, in which the sterilization of criminals is incidentally mentioned, appeared in the New York Medical Journal, March 8, 1902, under the caption: Severing the Vasa Deferentia in Its Relations to the Neuropsychopathic Constitution. The broad application of Doctor Sharp's paper will at once suggest itself

Dr. William T. Belfield's magnificent paper, Race Suicide for Social Parasites, appeared in 1908, in the *Journal of the American Medical Association.* L.

Dr. G. H. Bogart's first paper on Restricting the Propagation of the Unfit, was published in the *Medical Council* in August, 1908.

Dr. F. E. Daniel, of Austin, Texas, has written some very able papers and editorials in the *Texas Medical Journal* during the past ten years, on the subject of Asexualization for Crime.

In 1901 I published in an Eastern journal a Clinical lecture on Vasectomy and Its Limitations, in which I expressed the same views that appeared in my *Diseases of Society.* I have a copy of the printed article upon which appears the year, but, unfortunately, neither the issue nor the name of the journal.

In *American Medicine,* July, 1910, appeared an able paper by Dr. F. W. Robertson on Sterilization of the Criminal Unfit, in which he incidentally discussed the sterilization of defectives of all kinds and suggested the advisability of sterilization of certain persons affected by transmissible diseases.

Indiana was the first State in the Union to put the sterilization idea into actual practice, only so far as it relates to criminals. To Doctor Sharp belongs the credit of this. To him also belongs the credit of the suggestion of the application of vasectomy to the neuropsychopathy underlying degeneracy in general.

So far as I am aware, the first presentation of the claims of vasectomy in criminals was made by Dr. A. J. Ochsner, in his paper on the Surgical Treatment of Habitual Criminals, in the *Journal of the American Medical Association,* April 22, 1899. Doctor Ochsner called attention to the fact that resection of the Fallopian tubes in female criminals had been suggested by others.

STERILIZATION IN ITS RELATION TO MARRIAGE REGULATION.

Granting that degeneracy underlies all social diseases—the exception proving the rule—and admitting that the conditions underlying degeneracy are largely hereditary, it logically follows that our efforts to prevent crime should begin, 1, with supervision and regulation of the marriage relation, and, 2, the prevention of degenerate legitimate or illegitimate procreation.

It has been truly said that every child has the right to be well born. A social system in which this should be guaranteed to every child would indeed be Utopian. While not beyond the range of possibility, it is certainly not within the bounds of reasonable probability that this condition of affairs will ever prevail. The social millennium is a castle of dreams. That great betterment of conditions is practicable, every sociologist is well aware, the chief obstacle in the way of advancement being the unintelligent and illogical sentimentality and pharisaism of the general public, which is content to go on dealing with results and ignoring causes, and is well satisfied with the "less holy than I" explanation of crime. *It probably never will be practicable to apply our knowledge of eugenics to the breeding of human beings in any great degree. The primitive right of sexual selection is more dominant in man than in any other animal, because modified by sentiment and expediency—a psychic element from which the lower animals probably are free.*

Legislative restriction of sexual selection will never be popular, although conditions are likely to be vastly improved. The human race has no biological masters to radically apply to it those principles of eugenics to which the lower animals are so readily made subservient. Of which more anon.

Society begins its self contamination at the marriage license window. Here is the fountain head of the stream of degeneracy that sweeps through all social systems. The matrimonial relation is the bed rock on which society is founded. Its assumption is the most important step that a human being can take, and upon the conditions that surround it depend the most important interests of our social system. Taking this into consideration, and laying aside the selfish apparent interests of the individual, it is astonishing that no rational efforts at the regulation, control, or supervision of the marriage relation have been made by society in general. The license window is the place where the honest citizen and the criminal, the sane and the insane, the diseased and the healthy, the pauper and the millionaire, the learned and the ignorant, the intellectual and the weak minded, may meet upon common ground—providing always that the important consideration of the license fee is forthcoming. *The criminal, the insane, the epileptic, the syphilitic, and the drunkard are here authorized by law to begin the procreation of their kind, the number of their progeny being limited entirely by the volition and physical capacity of the individuals immediately concerned.*

The marriage license is the agent that sets in operation the individual and social machinery for the manufacture of degenerates. That these degenerates are a menace and an expensive burden to society is everywhere admitted.

Has society a right to protect itself against its own vicious offscourings? I believe that it has. There will be no effort at such protection, however, until our various social systems have become sufficiently enlightened to understand that the prevention of degeneracy is much more economic than the cure of the evil conditions which arise from it. The public conscience is close to the public pocket, and the public is not likely to awaken to a realization of its duties until its instinct of commercial self defense has become thoroughly aroused. Reforms

not stamped by the dollar mark are not popular.

The sanitary marriage possibly is an idealist's dream, and it may never be practicable altogether to eliminate from society the assumption of the matrimonial relation by individuals to whom it should be forbidden, but a certain degree of wise control and regulation upon rational scientific principles is practicable and likely to achieve wonderful results. That society will eventually, for its own protection, adopt some method of medical regulation and restriction of matrimony I believe to be inevitable.

Society assumes the right to defend itself against the finished product of its matrimonial factory of degenerates and there is no logical reason why it should not also assume the right to protect itself from the conditions which set in operation the machinery of evil. I firmly believe that the time will come when it will be no longer possible for our army of recognizable degenerates to procure licenses to marry—much less to procreate out of wedlock. *I believe that it should be, and one day will be, a statutory crime for a person to marry in the active stages of infective diseases of a venereal character and thus risk almost inevitable infection of innocent persons.* There can be no greater crime against the person than inoculation with contagion, the effects of which perhaps may outlast several generations and carry affliction to unborn innocence. The rights of the unborn will one day be considered. Until they are so considered, and practical efforts made to secure them, we cannot hope for much improvement in the prevention of degeneracy.

I am well aware that sentiment is strongly against the regulation of matrimony, as an interference with individual rights. *This sentiment, however, is absurd, in view of the legal formalities with which, even now, it is hedged about, chiefly for the purpose of levying tribute upon the individual for the benefit of the public purse, or rather for the purpose of increasing political perquisites.* The law stipulates as to the age of candidates for matrimony. In certain States consanguineous marriages, even to the fourth degree of consanguinity, are forbidden. In all States consanguinity up to the third degree is a bar to matrimony. In many of our States, both Northern and Southern, miscegenation is prohibited. It will be seen, therefore, that sentimental objections to the regulation of matrimony are even now sometimes honored in the breach rather than in the observance. Inasmuch as sentiment has hitherto been no bar to the demand for a license, the exaction of a license fee, and the subsequent performance of the marriage ceremony by legally qualified parties, it should not be a bar to the demand for proper physical qualifications for matrimony.

Reeve, in a masterly discussion of the marriage question in its relations to criminality, says:

> If the vilest mortal that lives sees proper to marry, the law issues the license for the asking, takes the fee, makes the record, and leaves the offspring and society to shift for themselves as best they can. Even paupers, while in the poor house, and criminals, while in jail, are in every way encouraged and given licenses to marry, and are protected by the law. No thought is taken for the unfortunate offspring, or for the body politic and social, and the irreparable evils that must fall upon all. The church adds its sanction, and its ministers aid in making these contracts by performing a ceremony with prayers and benedictions. If it is wise to prohibit polygamy, marriage between relations, and between persons whose insanity or idiocy is self evident, it is equally wise to prohibit it in all cases where evil may follow. If the law has the power to prohibit and punish violation in the one case, it has equal right in all others.
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> There is an endless procession of children from all these sources coming into the mass of population to live lives of crime, immorality, want, suffering, misfortune, and degeneracy, transmitting the taint in constantly widening streams, generation after generation, with the ultimate certainty of the deterioration of the race and final irreparable degeneracy.

The law disregards the individual rights of our citizens in behalf of society's rights by demanding examinations and licenses for pilots, engineers, physicians, lawyers, dentists, pharmacists, and others, and imposes a special license and regulations upon various occupations. Reeve quite logically asks the question why, in view of this attempt to protect the public despite individual sentiment and rights, "a similar protection should not be afforded to society by restriction and regulation of individual rights in the question of matrimony." *In every other social interest, the individual right is submerged in the public right.*

To reduce the question to its ultimate by material and substantial argument, I will advance the proposition that society should govern matrimony upon strictly business principles, patterned after those of life insurance companies, in the management of which sentiment is an unknown quantity. A life insurance company governed by sentiment would not be highly regarded from a business standpoint, nor would it be likely to last very long. *Why should not society handle the matrimonial relation from the standpoint of a huge cooperative insurance association, dam the stream of expensive degenerates at its very source, and conserve the rights of the unborn?*

Previous to the issuance of a marriage license, statutory law should demand that both persons immediately concerned obtain a certificate as to their physical condition *from a nonpolitical and therefore nonpartisan board of medical examiners,* which should be an appendage of the health board of the district in which the application for a license is made. The board or council of medical men to whom the application for a health certificate is made should consist of not less than three members. The examination should embrace not only the physical, but also the moral qualifications of candidates for matrimony. This latter is, of course, directly aimed at the criminal. Persons with active infectious diseases of a venereal nature should not be permitted to marry, and in the case of syphilis the history of the case should be taken into consideration and a license refused though the disease is no longer active, if the constitution of the individual apparently is undermined by it. *Marriage without a satisfactory medical certificate should be subject to a penalty which would be, in effect, prohibitive. Severe penalties should be prescribed for infecters of the innocent.*

I presume that discrimination against inebriates would be objected to on sentimental grounds more strenuously than would other features of matrimonial regulation. Inebriety, however, is one of the most important of all causes and results of degen-

eracy. Probably the inebriate, above all other individuals, should be prohibited from marriage. The individual who should thus escape marriage with an alcoholic or narcotic habitué would have occasion to be thankful ever after.

Sentimental objections to the regulation and restriction of matrimony are especially illogical when we consider that the present system not only does not conserve individual rights, but is really a menace to them. The frequency with which innocent women are infected by venereal disease, or afflicted with lifelong sorrow through having married mentally unbalanced or criminally depraved individuals or inebriates, conclusively proves this point. The protection of posterity by the regulation of matrimony really conserves, therefore, the best interests of the individuals immediately concerned. That the best interests of society are thereby conserved necessarily follows.

If this view of the question is not accepted, as it is not likely to be by individuals who can see a rosy ideal in an incurable or actively infectious gonorrheic or syphilitic, a drunkard, an epileptic, or a lunatic, society still has a means of granting such fools their individual right to marry any degenerate they see fit, while at the same time protecting itself from the degenerate progeny of such ill assorted marriages. *The court of appeals to which adverse certificates of matrimonial qualifications should be referred is the surgeon's knife.* Individuals who, in the face of an unfavorable medical opinion, still desire to marry, should have the privilege of doing so, providing they submit themselves to sterilization by the method shortly to be described. *Sterilization is the only sop that should be thrown to the Cerberus of sentiment.*

ASEXUALIZATION AND STERILIZATION OF THE CRIMINAL.

In the matter of asexualization as a remedy for rape, I have not changed my opinion since the publication of my correspondence with Dr. Hunter McGuire in 1893. Castration is still in my opinion the logical treatment for the rapist. *The emasculated rapist is an object lesson for prospective sexual criminals. The hanged, shot, or burned rapist is soon forgotten. Experience has shown, moreover, that capital punishment, legal or illegal, is not repressant of the peculiar class of crimes for which lynching is most often practised.* It is hardly necessary to add that color discrimination is not likely to help matters. *There should not be one law for the black and another for the white.*

Dr. Gideon Lincecum, the pioneer in the advocacy of castration as a punishment for crime, incurred great unpopularity through his then novel idea. He was set down as a crank, while a howl of derision and condemnation arose all over the land. This protest was generally accepted as a convincing argument against the then startling suggestion of castration as a remedy for crime. The wave of disapprobation that inundated Doctor Lincecum, and all of the objections which have been advanced whenever his radical treatment of crime has been alluded to, have depended entirely upon sentiment for their support. Independently of the question of the wisdom of castrating habitual criminals and rapists, sentimental objections to the substitution of the method for capital punishment are highly entertaining. A distinguished criminal lawyer, in a discussion of a paper of mine, before the Medicolegal Society of Chicago, vehemently opposed, on purely sentimental grounds, the castration of criminals—*as was natural enough on the part of one who was daily using sentiment as a sledge with which to drive an impression of the justice of a doubtful cause into the perplexed minds of a dozen of those people known to the criminal, sometimes not ineptly, as his peers.* He opposed the method chiefly because of its alleged barbarity. *From the humane standpoint, however, a comparison of the operation of castration under anesthesia with the average execution, and more especially with bungling executions, should be sufficient to convince the most superficial observer of the fallacy of sentimental objections to sex mutilations for rape.*

The objection has been urged to castration that, inasmuch as the eunuch of the East is traditionally vicious and savage, criminals subjected to the operation would acquire similar qualities, if they did not already possess them. This is an illogical assumption. Before making any deductions from the characteristics of the eunuch, he should be compared with the race from which he sprang. The Oriental eunuch comes from a race of African savages. The Amazons of Dahomey, who are submitted to oophorectomy, are not only savages, but after having been made practically neuter, are trained by savages to barbarous deeds. Further, they are spayed young, before sex influence has ever dominated their psychology and molded their emotional organizations. They are then trained in the gentle art of cutting throats.

The castration of the adult criminal would not result in the development of savage instincts, but if the experience of the ages counts for anything, the operation would be likely to tone down to a marked degree such savagery as atavism has developed in him. That the foregoing is correct is shown by observations of animals, and by thousands of cases of emasculation of human subjects. The emasculated choir boys of Rome did not develop bloodthirsty instincts. There is hardly a practising physician who does not know a number of women who have been spayed, wisely or unwisely—to our shame be it said—for the relief of ovarian and other diseases, real or imaginary, yet it would be somewhat difficult to mobilize an army of Amazons in this country.

Absurd sentimental objections and the fallacious idea of punishment by castration aside, the same results in the prevention of degeneracy can be obtained by a method of treatment less objectionable and less severe than castration—and quite as logical in all forms of crime save rape. Sterilization accomplishes precisely the same results, is practically safe under modern methods, is not obviously mutilating, and interferes in no way with sexual physiology, save in so far as the procreative capacity is concerned. In the male, resection of the vasa deferentia is an operation to which no objections can possibly be urged on the grounds of danger, disfigurement, or complexity of technique. In the female, resection of the Fallopian tubes, while more dan-

gerous than the operation of vasectomy, is practically safe in competent hands and under modern aseptic precautions. The operation of vasectomy may be performed through a scrotal incision one fourth of an inch in length. It can be very quickly performed under local anesthesia; its danger is practically nil, and there is absolutely no disfigurement.

Sterilization in both the male and female, has a wide range of application in the prevention of social disease. *As already indicated, individuals whose physical or moral status is such as to insure the unfitness of their prospective progeny should have the alternative of submitting to sterilization as the only condition upon which matrimony is legally permissible.* Persons with a history of insanity, epileptic dipsomaniacs, incurable syphilitics, certain persons who suffer from deformity or chronic disease, criminals, and persons with bad criminal records should not be permitted to marry upon any other conditions. Cases of child bearing among the inmates of asylums, workhouses, and almshouses are by no means rare. Even the rare reformed habitual criminals should be invariably subjected to the operation, to prevent transmission of their instinctive criminal tendencies to their progeny. In certain cases, e. g. male syphilitics, simple resection of the ducts may be followed later by anastomosis, should the patient eventually be cured of his disease.

F. W. Wines, one of our ablest writers upon the crime question, takes a highly pessimistic view of our ability to control criminal heredity. He says:

> Hereditary causes of crime are as completely beyond our control as the cosmical, but heredity is a continuing influence, with an outlook in the direction of the future as well as that of the past. It has therefore been supported by some earnest and well meaning people that crime can be diminished by the perpetual isolation of habitual hardened offenders, or even by resort to an obvious surgical operation.
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> This notion is founded upon the belief in a criminal anthropological type, which is not proved. If such a type, in fact, exists, the difficulties in the way of a judicious determination of the question whether any convict who may be named does or does not constitute a member of an hereditary criminal group, would be almost, if not quite, insuperable.

Doctor Wines's position is hardly logical. He admits heredity as a cause for crime, and immediately denies that heredity can be controlled by putting habitual criminals beyond the possibility of procreation. It is obvious that, in so far as criminals are a factor in transmitted criminality, heredity would be controlled by permanent isolation or asexualization. It is not necessary, however, to demonstrate a criminal anthropological type; whether it exists or not, the fact remains that a certain more or less definite proportion is composed of criminals by instinct and by profession. These individuals are in the main degenerates, and the degeneracy that is responsible for their own criminality indubitably may be transmitted to their descendants, to say nothing of their evil example for and teaching of their children. Any measure that prevents this class of individuals from having descendants is necessarily preventive of crime.

To demand that all criminals should be cast in a definite mould, the finished product of which he who runs may read, before seeking for radical means of prevention, is begging the question. *It is not necessary to determine whether "any given convict is a member of an hereditarily criminal group," in order to show that preventing his procreating will be preventive of crime.* Whether the criminal himself is descended from criminal parentage or not, he is a degenerate who may transmit his degeneracy to his descendants. *Had he himself never been born he would scarcely be a matter for discussion—which proves my point.*

Doctor Wines is apparently jealous of the individual rights of the criminal. Criminality, however, will never be sensibly diminished until the incurable criminal is regarded as an individual who has absolutely forfeited all social rights—save the right to treatment as humane as is consistent with perpetual isolation—and until every criminal is denied the right to procreate, within the discretion of a properly constituted medical board. *Any consideration that may be shown the confirmed criminal by society should be regarded as entirely gratuitous, and founded purely upon humane impulses which forbid unnecessary cruelty. So far as his social status is concerned, he is simply excrementitious matter that should be either eliminated or placed beyond the power of contaminating the body social.* Doctor Wines himself says: "A healthy society, like a healthy body, eliminates from itself the morbid and morbific dejecta, whose retention would imperil vitality." Considering this premise, how can he concede individual rights to the incurable criminal who, in strict justice and in social defense, has not even the right to live?

The rights of the posterity of the convict are best conserved by preventing his having posterity. Permitting a criminal to breed because of a tender consideration for his posterity is absurd, as a general proposition. That exceptions should be made in the case of the occasional criminal I will admit, but even here the probability of a degenerate posterity should be taken into serious consideration and careful discrimination made. Certain occasional criminals should be placed in the same category with habitual and typic criminals, so far as the prevention of procreation is concerned. *Maudlin sentimentality in behalf of a degenerate possible posterity—which would probably rule against its own birth had it any choice in the matter—should weigh but little in the balance of social welfare.* This is even more pertinent as applied to mental incompetents and sufferers from nervous diseases and deformities of an hereditary character.

A tender consideration for the criminal's right to procreate is decidedly illogical in view of the fact that the more radical measures for the suppression of crime now in vogue do not show any particular sensitiveness on the part of society as to the criminal's rights. The *primordial right of man is the right to live. The law does not hesitate to hang the murderer,* despite the fact that upon the average the murderer is of all criminals the least dangerous to society. Liberty is a right of man which cannot be gainsaid, *yet the law does not hesitate to imprison for life on occasion.* Life imprisonment not only takes away liberty, but practically infringes upon the right to live, for without liberty there is no life worthy of the name. *In imprisonment for life or capital punishment it would be somewhat difficult to see any conservation of the*

rights of the criminal's posterity or of his sex rights, from the sentimentalist's standpoint.

Sterilization of criminals for the protection of the public against a degenerate posterity in no way compares in severity with capital punishment or imprisonment for life, for sterilization does not interfere with either liberty, life, or sexual privileges *per se*. The right to procreate should not exist in the case of habitual criminals, or in a large proportion of occasionals, or, indeed, in typical degenerates of any kind whatsoever, and unless perpetual imprisonment be rigidly enforced against them, they should be put beyond all possibility of procreation. *Under present conditions a sentence of imprisonment for life does not insure the protection of society against the criminal so sentenced, because of the danger of escape, on the one hand, and of pardon on the other.*

It is obvious that the application of sterilization to the crime class would require some discrimination, and should be made under strict scientific supervision.

So far as the typical or habitual criminal is concerned, the method should be universally applied. In other cases, careful study and selection should be made, *society in all cases receiving the benefit of the doubt.* There is this to be said in favor of sterilization, viz., if performed under strict scientific supervision purely as a method of preventing crime, and not for the purpose of punishment—it being directed against the criminal and not against the crime that he has committed—comparatively few mistakes would be likely to be made, and those mistakes by no means so serious as many that are made by courts of law in the conviction and punishment of the innocent.

In many instances one of the conditions of the liberation of a physically or mentally degenerate criminal who is supposed to be cured of criminality should be sterilization. Whether cured of criminal habits or not, he breeds bad progeny, and, *once he is in the hands of the law, every effort should be made, not only to cure the individual tendency, but to prevent the procreation of other individuals with similar tendencies.*

There are certain special features of the subject of sterilization that deserve consideration:

First, as to the attitude of the criminal himself toward the innovation in his treatment.

I recall with some amusement an ingenuous statement made by a distinguished guest from Indiana at the Physicians' Club Symposium some months since, to the effect that the criminals themselves realize the socially beneficent features of the operation and clamor for vasectomy. As an altruist the criminal would appear in a new rôle. He has about as much sentimental interest in society as he has in his own posterity. He emulates the mule in both. Lacking in all the domestic virtues and instincts, and being assured that the operation will make his dominant pleasures safe from certain embarrassments, he is willing to be reduced to the level of the mule in reproductive capacity. He doubtless takes pains to spread the news of his generative innocuousness as soon as he is liberated—with due appreciation of the value of judicious advertising.

Second, as to the reliability of the standard operation of vasectomy as practised upon criminals: In the ordinary or "standard" operation of vasectomy the vas is left in such condition that it is readily susceptible to a subsequent anastomosis. The operation which, so far as I am aware, I devised and described in the *Journal of the American Medical Association* (xlvii, 3), can hardly fail to restore the continuity of one or both vasa deferentia. *Resection of the vas in criminals, therefore, should embrace the entire accessible portion of the tube, from the epididymis to a point well up within the inguinal canal.*

The latest innovation as a nonmutilating sterilizing procedure is the x ray. This is too recent and its limitations and reliability are as yet too indefinite to warrant very serious consideration as a practical remedy. Future developments may prove its value.

SOME OF THE DIFFICULTIES IN THE WAY OF EUGENICS AS APPLIED TO THE HUMAN RACE.

The idea that certain principles of scientific breeding should be applied to the propagation of the human race has suggested itself to most students of sociology. The extent to which they may be applied is differently viewed by different students of the subject. I have been accused of being a radical, but judging from the published opinions of some other workers in sociological fields, I believe I can lay claim to great conservatism.

The widest difference between the scientific breeding of the lower animals and breeding human beings is a matter of psychology. Domestic animals have no choice in the matter of being bred—man does their thinking for them—much to the detriment of the helpless animal in some instances, for many of the finest and most uniform normal types are found under primitive, that is, wild conditions. If the animal with man-cultivated qualities is returned to its primitive environment, it is not likely to offset its vicissitudes. It is unfit under the same conditions in which its wild ancestors are perfectly fit.

The qualities which man considers "superior" in domestic animals are superior only as regards the needs of man, and from the standpoint of the animals own best interests are abnormal. The 200 egg hen is abnormal, and under natural conditions her enormous egg yield would be a biological waste and an impediment to species perfection and propagation. The superabundant weight of fat cattle and hogs would be disastrous to their species if man for his own selfish ends did not help them to fight life's battle, thus perpetuating the abnormal type. When turned loose to shift for themselves they must either revert to the ancestral type or die.

Domestic animals have no social, sentimental, or emotional interests or ambitions to consider in the matter of breeding. The opposite prevails with man.

It is true that the psychology of the lower animals should not be altogether ignored in scientific breeding for certain purposes, but its range is very limited. We can dispense with trained dogs and abnormally intelligent horses, but we must have 200 egg hens, ton and a half cattle, and butterfat hogs.

If there is a "divine" right of socially safe human beings it is that of discriminating sexual selection.

The discrimination is usually a matter of emotion and sentiment rather than good sense, but, all the same, it is our right, and woe betide the man or State that shall endeavor to abrogate it. Legislation by direct and radical interference in the matter of sex selection, save in the case of the unfit, will be impossible so long as the human heart throb dominates the human brain cell. Education of the public will do something; proper physical, mental, and moral training, particularly of children, will do more. It will be time enough to talk of the arbitrary application to man of the principles of eugenics when degenerates—criminal, epileptic, insane and drunken—are prevented from marrying and all children are reared under the supervision of the State and made healthy, well nourished, clean, and receive a decent mental and moral training.

What shall be the standard of the normal—shall it be physical or intellectual? Man has paid a high price for his exalted degree of intellectual development. It never has been well balanced with his physical. A sound mind in a sound body is good theory, I grant you, but a phenomenal body is rare. The genius is not always long lived; he is often a degenerate, and from the physical—and sometimes from the moral—standpoint is as much a cull as many criminals. Shall we put him out of the way, or segregate him? He might strike work, and that would not pay. We must discount, not his worth, but his defects, save where the latter are so pronounced that he pays, and we are asked to pay, too high a price for his genius, as in the case of Oscar Wilde.

Supposing we take mental accomplishments for our standard and breed genius to genius, what will happen? We are likely to produce, if anything, imbeciles, or at least worse than mediocrities. I say "if anything," advisedly, for the geniuses of the world have not been prolific. Even when bred to healthy mediocrity, their progeny have usually been limited and by no means a credit to the one sided parental genius.

Shall we take the phenomenal physical man as our standard? What shall it be, the dwarf or the giant? The dwarf may have a phenomenal mind and the giant the brain of a child. Chatterton—the brilliant Chatterton—was a weakling, called back to the bosom of nature before his time; Byron had a club foot—and a moral standard of his own; Lafcadio Hearn was a pathetic myope and a hunchback, and Poe was a drunkard. Sandow has builded no enduring monument and John L. Sullivan's fame as a "pug" rather overshadows his histrionic reputation. The habits of our great athletes have not always been impeccable.

Shall the standard be a moral one? If so, then will both brains and muscle perish from off the earth. None of our geniuses has ever been in danger of canonization as a saint, and if the truth were known, the halos of some of our saints probably were undeserved.

It is obvious that some of the physically unfit are of great value to the world, and if bred with the proper "corrective" blood may possibly reproduce their betters in physique and their kind in value. Many a short lived genius has accomplished wonders. So many geniuses have been physically or morally degenerate that it is rather easy to estimate the price the world must pay for its geniuses and the price the genius himself must pay for his genius. Genius is largely a loss of physical and psychic balance. Breed genius to genius and, as I have intimated, where the union is not sterile the progeny are likely to be few, short lived, and degenerate. Not only do physical perfection and overtopping genius rarely go together, but often times the genius is a biological sport. Breed him so as to perfect the physical man and we insure the loss of genius in his progeny. All those things which raise man in the scale of intelligence, beyond a certain point, tend in general to lower him from the standpoint of physical animality.

Preponderance of brain is dearly paid for by humanity—which explains why social systems begin dying at the top. It is in our great centres of refinement of all those attributes and accomplishments of which civilized man is wont to boast that crime and immorality most flourish. A social system which approximated the dead level of intellectual mediocrity should, other things being equal, be ideally moral.

Galton's famous tables bearing on the height of English people are often quoted as illustrating the value of eugenics to the human race; I submit that, within wide limits, the height of the individual is no criterion of the normal. Great stature is not always a favorable human variation. The tables of life insurance companies show that they are justified in being rather pessimistic regarding the longevity of large men. Size is governed largely by racial tendencies and environment. It is said that the Japanese will increase in stature when they become a race of meat eaters.[2] Can any race of meat eaters excel them as fighters? Fighting is the supreme test of physical man. This race of little brown men has progressed faster in fifty years than any large race that can be mentioned has in several centuries. And can any fault be found with their intelligence? I have little confidence in Galton's tabulated idea of the "taller" being "the better offspring" and the "shorter" the "worse."

Some of the most advantageous points in animal breeding, so far as perpetuating a uniform and superior type is concerned, are inbreeding and line breeding. This is especially true of fowls. What is the record of consanguinity in human breeding? Often bad, yet not so bad as has generally been supposed. The difference probably lies in the fact that careful selection can be made with animals, and they are bred under far more natural and wholesome conditions than are human beings on the average, notwithstanding the fact that the native state of animals is widely departed from under domestication. The advantage of primitive conditions is shown by the fact that animals breed regardless of consanguinity in their native wilds, where the law of survival of the fittest is supreme. The culls do not survive the struggle for existence. Human beings, on the other hand, do the best they can to protect and rear the culls. Incubators for prematurely born babies, and medical and surgical treatment for

[2]The relation of diet to eugenics is most important. I have made experimental observations on the breeding of animals which have convinced me that the future of human eugenics is intimately associated with dietetics.

the preservation of the unfit are often irrational enough from the standpoint of eugenics. The sentimental salvation of the unfit is disastrous to the race.

To my mind it is quite clear that uniform and arbitrary breeding for genius, on the one hand, or for physical perfection, on the other, would be disastrous to the human race. Brains must do the thinking for the race and muscle the drudgery.

Does this imply, then, that nothing can be done to improve the race? Far from it. As I have already stated, much can be done by education, and something by legislation and State parental methods.

As to the practicality or the advisability of marriage laws on human being control, I have already expressed the opinion that a great deal can be done. If we do not begin eugenics at the altar, where and how shall we begin? Doctor Davenport, of the University of Illinois, advocates the prevention of interbreeding or cross breeding of human culls. Would it not be better to prevent their procreation so far as possible, making the prevention of their interbreeding or cross breeding the "follow up" system.

To recapitulate: Consumptives, epileptics, insane, incurable inebriates, and criminals at least should not be allowed to marry unless they consent to sterilization. This would prevent many social ills and often prevent the crime of permitting a degenerate child to be born.

The State would stand in a parental relation to the children of the poor and to orphans. It should see that all children are physically as well as mentally and morally trained. Australia has proved the practicability and value of this system.

I would make every school a military school and gymnasium in modified form. Manual training of children should replace some of our modern educational fads and fancies. The brain is developed and trained through muscle building and manual training as well as through special senses.

All criminals and insane, epileptics, prostitutes, and confirmed inebriates should be regarded as culls until they have established their right to be considered "cured" and worthy of replacement as social integers. If incurable, they are social excreta, and should be placed beyond the possibility of contaminating the body social.

Society should protect itself against loss through ill advised matrimony. By "loss" I mean the expense of our hospitals, asylums for the insane, prisons, work houses, and ponderous legal machinery. He who does not believe that society should be protected against its degenerate integers had better ask his family physician what he thinks about it. Ask him how much surgery, blindness, and other forms of human misery revolve around loathsome diseases transmitted by uncured benedicts.

Professor Davenport recently said: "I cannot approve of the oft proposed interference with the marriage relation of normal people." No one of logical mind has ever proposed any such interference. But what is to be the standard of the "normal"?

There is a question in my mind as to whether extreme poverty is a "normal" social condition. I sometimes wonder if it is just to allow certain persons to breed children who must become prostitutes, criminals, or paupers and of necessity social evils. We have a financial test of desirability for immigrants, why not for candidates for matrimony—for the parentage of the citizens of the commonwealth? Should not the prospective children also be protected? Not to be born is by no means always a misfortune. Being born may be a calamity.

If the poverty stricken must be allowed to marry, the State should assume a parental relation to their children. This would be the cheapest way out of the resulting difficulties of society. Paupers, tramps, hoboes, criminals, drunkards, idiots, insane, and prostitutes come higher than our children's education. Statistics show that the per capita social tax for the degenerates is larger than the tax for our school system.

Doctor Davenport is quoted as saying: "Let Mr. Jones be taken into court and his ancestry record be investigated. If we find his parents were dominantly bad it means that he is fifty per cent. bad. If his grandparents were also bad, he is twenty-five per cent. more bad, and so on. When he gets ninety per cent. bad, it is certain he must be colonized. I feel sure that this is entirely practical, and hope it will soon be made a fact. There is a strict mathematical law that runs through it all."

This will never do. Supposing the offense for which Mr. Jones is taken into court is a nominal one; and, further, that his own moral record gives the lie to his ancestry? Must he perforce be condemned by mathematics? Shall the man of evil heredity not be permitted to live it down? How do we know that he has inherited evil tendencies until he has made a record which proves it? Does a bad ancestry necessarily imply an inheritance of an arbitrary percentage of things evil? I do not believe that Doctor Davenport was correctly quoted, but if he was, it is unnecessary to further state my opinion on his view.

Certain sociologists have recently advocated the segregation of human culls. In substance this is precisely what the modern schools of criminologists and penologists have for some years been advocating. I will go further than most and state that in my opinion some culls should be even more radically dealt with. When an individual has proved dangerous and destructive to society he has lost his right to remain a member of it and he should be removed from it. The parole system is a step in this direction. Full opportunity should at first be given him to reestablish his right to freedom and membership in society. Should he prove to be incorrigible he should be permanently removed, preferably by life imprisonment at productive labor or, if this be unpracticable, by killing him. Especially should this be done in the case of criminal murderers. Here I do not mean the murderer by impulse of passion, for he is anthropologically not necessarily a criminal and may often be saved to society. I refer to the typical criminal who kills in the pursuit of his vocation, e. g., the hold up man, or burglar who kills his victim. The term criminal murderer also should include the man or woman who, from various motives, such as revenge, jealousy, or money

or property lust, commits murder. When a criminal is killed by society it should not be done in a spirit of revenge or for punishment, but simply as a measure of social self defense. The social cancer should be removed by the social surgeon—the executioner—quietly, humanely, and unexpectedly. A hermetically sealed apartment with a secret pipe for the admission of deadly gas would be my suggestion. Let the removal come in the still watches of the night so that death may be but a continuance of sleep.

When the lesser lights among the criminals and other social excrescences have been shown by repeated trials to be beyond the hope of cure, let them be immured within prison walls for life. And, moreover, let them be compelled to such labor as shall make them self supporting. The present system of taxing normal decent people for the support of criminal degenerates is not only morally wrong, but an economic farce. If criminals were compelled, not only to serve a term of imprisonment for their misdeeds, but also to reimburse society for their depredations and the cost of their arrest and conviction, crime would be enormously reduced. The incendiary who was compelled to work out the loss to the owner of the building or the insurance company, and the cost of the legal machinery which convicted him, in addition to the usual penalty for arson, would not be likely soon to build another bonfire. This might be a specific for pyromania.

The spectacle of the man who has stolen a million, trying to work out his fine at two dollars a day, would restore confidence in justice. The world is not yet ready for the radical treatment of hopeless inebriety, insanity, epilepsy, and imbecility by removal by the "social surgeon," but, all the same, the world is paying a high price for its maudlin sentiment. When a murderer ascends the scaffold and receives his doom the world looks on approvingly. A driveling imbecile, too obtuse to attend to nature's calls, sits all day long on a commode in a hospital ward, covered black with loathsome flies which the poor creature is too sluggish to notice and too helpless to brush away, and the world holds up its hypocritical hands and snivels in maudlin horror at him who fain would pass the chloroform. And yet, the friends and relatives of that poor imbecile have wished him dead a hundred times a day from the moment of his birth.

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DIET IN NERVOUS DISORDERS.

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GENERAL CONSIDERATIONS.

The astonishing neglect of the scientific method in the therapeutics of nervous disease is nowhere more striking than where diet is concerned. Grasset's work, bristling with references, devotes hardly a page, and that in only the most general way, to the subject of alimentation. Oppenheim's scattered remarks about diet are traditional merely, indicating that he has given no real thought to the significance of the subject. Of works in English the unsatisfactory nature must be known to all. It is true that a few scattered articles, more especially in the French literature, have drawn attention to the importance of a diet mainly of milk and vegetable products in persons supposedly predisposed to nervousness, by a constitution which the French call arthritic and former English writers lithemic. But since the work of Weir Mitchell, I know of no important presentation discussing the rôle of diet in the management of the sufferers from affections of the nervous system. Moreover, the conclusions of *Fat and Blood* were largely empirical, and cannot be entirely endorsed in the light of our better recent knowledge. The irrationality of forced feeding, even in tuberculosis, is established and the practice has lost favor. The idea of nerve starvation has been found to be only partially correct; for the defective activities of the nerve elements are now generally attributed, not to deficient aliment, but to excess of waste products or other deleterious substances. That is to say, intoxication has become a dominant interpretation.

I am not prepared to say how far the not infrequent success of the Weir Mitchell method can be accounted for on this principle; for the method is one with many factors and was applied to a variety of cases differing in pathogenesis. But many of the failures of the method may perhaps be accounted for by the presence of a toxicosis which none of the numerous procedures reached, or which was perhaps even exaggerated by the abundant diet ingested. We are well aware that in depleted conditions, even when these are toxicogenic, large amounts of nourishment can be assimilated. Convalescence from wasting diseases is a familiar illustration.

Studies in metabolism have shown us how badly balanced is the diet of the average prosperous city dweller of our day. Excess of proteids and deficiency of carbohydrates, and sometimes of salines, is the rule. When the defenses fail, conversion of the proteins into the proper aminoacids is incomplete and the substances produced may act as nerve poisons. In these cases the caloric needs of the body may find better fulfilment in an abundant diet of carbohydrates within the limits of hepatic tolerance. An addition to the facts may also be beneficial within limits. Of the latter those selected should be of low melting point, otherwise in neurotic patients, intestinal sand—a misnomer, for in reality the grains are soap—may form and a mucous colitis appears. This connotes a waste of the intestinal secretions used in saponification. The best fats are olive oil and butter fat. But the carbohydrates should be the mainstay as a rule.

Unfortunately too many of the modern consumer's carbohydrates are supplied in a form which eliminates from them substances of great advantage. It is a pity that experimental proof of this opinion has been lacking until recently, so that due weight was not given it by most physicians. Even the extensive clinical and laboratory researches conducted in England recently to establish the relative merits of bread made from commercial flour and that from whole wheat, permitted of no definite conclusion; for attention was too largely confined to the caloric

value of the result in bread. But that there is a substance of great importance for nutrition in that part of the cereal which is usually rejected in commercial preparation, is now experimentally proved by the production of nerve degeneration in animals fed solely upon polished rice.

Almost in the nature of an experiment too is the abolition of beriberi in the compounds where coolies receive unpolished rice instead of the polished product under the consumption of which beriberi prevailed. The former supposition that the disease arose from a fungus in the rice seems to have been disposed of by the experiments. Moreover, the substance which prevents the beriberi, if we may accept the nerve degeneration in animals as of the same nature, is separable from the rice polish by solution in alcohol and water, although its nature is not yet ascertained.

Further evidence that whole cereals contain a nutritive substance of importance for the internal secretions is furnished by Chalmers Watson's researches into the growth of the thyroid gland under different diets. He showed that on an exclusively flesh diet, thyroid gland of young rats underwent hypoplasia, whereas when oatmeal was the exclusive diet, the gland developed freely. The latter animals greatly exceeded in growth and capacity those fed only on flesh.

Although I do not know of experimental verification, it is legitimate to infer from the foregoing facts (as we know that an animal fed on carbohydrates alone emaciates and dies quickly) that a substance of great value to the nervous system in particular is removed in the milling of grains, and that this cannot be replaced adequately by the addition of flesh. Whether this substance exerts its action as a direct nutrient, or through the medium of the hemopoietic or other glands of internal secretion we do not know; but to the therapeutist, this is of less interest than the conclusion itself. For in the regulation of the activity of the nervous system the secretion of the thyroid gland is an essential. Many cases formerly designated neurasthenia and hysteria are now known to be merely due to changes in thyroid secretion.

Were one to speculate, it might be supposed that the prevalence in our day of hyperthyroidism expressed the response of this gland to a vascular environment which insufficiently supplies it with pabulum for the work the body requires of it; and that it responds by a secretion which makes up in abundance for what it lacks in quality, and thus inaugurates a vicious circle which maintains itself.

One cannot here enter into the qualifying factors of this hypothesis, those for example furnished by fear and anxiety in stimulating the thyroid secretion.

Other important substances in the portion commercially removed from grain are calcium and the phosphates. Although these are at present also in flesh, yet to obtain them in adequate amounts from this alone would entail a greatly excessive ingestion of proteid. The thoughtless appeal to the carnivora as an example of eubolism forgets that these animals eat bones as well as the flesh. Now the bran is the bone of the wheat, hence many modern diets lack enough of phosphates and of calcium.

Now experiments have shown that calcium is one of the stabilizers of nerve activity, while potassium and sodium are its excitants. Phosphates are known to be a necessary pabulum of nerve. Is it not evident then that what clinicians call weak irritability must ensue when stabilizer and pabulum are deficient?

Deprivation of any necessary aliment leads to craving. The conscious expression of this may not be directed towards that which is lacking. It often expresses itself morbidly, such as in desire for alcohol, or in the peculiar longings of the gravid woman. It may manifest itself psychologically, as in the feeling of incompleteness of the psychasthenic.

PSYCHIC SURROUNDINGS MUST BE FAVORABLE.

This leads us to a most important matter in dieting against nervous disorders. As it is not ingestion but assimilation at which we must aim, all the factors which make for this must be employed. Most important among these is enjoyment of the food. It must be cooked and served appetizingly. But even this is not enough: the psychological surroundings must be favorable. Dejection or anxiety is most detrimental to proper digestion. To corroborate this clinical opinion, we now have the experimental data of Pawloff. But we must avoid the other extreme of an excessive gaiety or cheerfulness during the meals of neurotic or excitable persons; for the mental activity thus stimulated is not the most favorable state for good anabolism.

PREPAREDNESS FOR FOOD; EXERCISE; INTERVALS BETWEEN MEALS.

The highest degree of preparedness for proper assimilation occurs only when the digestive glands are free from the incubus of a preceding meal. A loaded liver and an exhausted pancreas are not favorable. The rapid circulation and oxidation produced by active exercise are the best preparation for the proper assimilation of food. It should be evident that the frequent ingestion of food is detrimental to those persons susceptible to alimentary poisoning and its nerve inadequacy. By perseveringly stimulating proper oxidation a patient is soon able to tolerate in the stomach without fermentation a large enough meal amply to nourish him for a period of four to five hours. The error of feeding oftener may be brought home by thinking of the modern practice which forbids even infants to be fed oftener than once in three hours. Prolonging the intervals is the best preventive of food fermentation.

FIRM FOODS REQUIRED; CAUSES OF BOLTING.

Of course, some of the food at least should be of firm consistence, so as to demand vigorous mastication in order to stimulate salivation. This prevents the bolting of food, a habit to which nervously impulsive persons are liable. Sometimes this habit has been bred in childhood because of the child's haste to finish his meal in order to play. The acquisition of this habit is much facilitated by a soft or pultaceous type of food such as is so commonly employed nowadays. To bolt a hard crust is impossible and a piece of tough meat most unpleasant.

The habit of bolting food is part of a vicious circle, for it leads to malassimilation, which causes nervousness, which leads to impatience, which favors the bolting of food. The remedy is simple enough: it is to eat dry and hard foods, or, failing that, to master the weak impulsiveness which permits one to bolt.

SPECIAL INDICATIONS; AVOID FORMULÆ.

In prescribing special diets, rigidity should be avoided. A narrowly restricted diet may be felt monotonous and breed disgust, which may produce a psychogenetic dyspepsia in a susceptible neurotic. The patient should be explained the principles on which he must diet himself. If he is uninformed or unintelligent a list of substances may be given him in addition. But even then, the rationale of what he is to follow should be explained. The ready printed lists of certain textbooks, specialists, and pharmacists are an abomination no better than the ready made prescription. Just as he who is trained in pharmacology will prescribe to fit the patient, instead of making the patient fit an arbitrary prescription, so he who is trained in dietetics will diet each patient, and not make the patient accept an empirical list obtained from the fancied authority of some publication.

This does not mean the negation of all rules. I conclude, therefore, by considering some neurological conditions in the treatment of which dieting is essential to success, and by setting down the nature of the diet suitable to each.

The differences between the diets in these conditions are very small. This, however, only accords with the fact that the human organism as a biological unit functions best when the various types of food which constitute its pabulum are proportionate to one another in a ratio which is pretty definite for the healthy human being.

Now, as pathological states only represent an organism's reaction to noxious influences the optimum diet for good health when in health is only rarely to be departed from. Even in diabetics, where this departure is perhaps the widest of all, the prognosis becomes favorable inversely as the necessity of departure from the carbohydrate standard of the normal human being. In adiposity, too, the fallacy of disproportionate abstention from carbohydrates and fats is now seen.

DIET FOR EPILEPTICS.

With this understanding then, consider in the first place the diet in epilepsy. I shall not consider such symptomatic epilepsies as arise from coarse lesions of the brain, or those which occur in cases of defective development; although even in these, favorable diet can mitigate the patient's lot. While we believe that epilepsy is fundamentally toxigenic, yet we do not know whether it is manifested because of increased cerebral susceptibility, or whether it occurs because of weakened defenses against the absorption or neutralization of food or other toxines. Practically, however, it is clear that most patients are benefited and many cured if, before it is too late, a diet is imposed which minimizes the work of the metabolism of proteins and more especially during the subsidence of the vital activities during sleep. This diet should, at the same time, facilitate rapid exchange by abundance of the saline constituents of the diet.

Empirically, it has been known how favorable to such patients are an abundance of fruit and vegetables and a restriction of meat. But failures in the application of diet of epileptics occur unless other proteins than meat are not restricted also; and unless the fruits and vegetables are chosen for their saline quality. Thus, an epileptic fed upon potatoes, eggs, milk, and tasteless fruits would be perhaps even worse off than one on the average mixed diet. The diet I recommend is somewhat as follows:

On rising one half a glassful of hot water containing ten grains sodium bicarbonate.

Breakfast. Large plate nonacid fruit with cream; large plate cereal and milk; toast; no coffee, tea, or chocolate.

Dinner. No meat soups or gravy; four ounces well cooked meat or two eggs, large plate green of succulent vegetables, potatoes, not greasy. Sweets, no gelatin.

Supper. Similar to breakfast, but macaroni or other pâte, or rice pudding, may be taken for cereal, and one egg may be taken also. Graham bread thrice weekly. Distilled water to be taken freely between meals.

At night. One half glassful of hot water containing thirty grains of potassium citrate.

The chlorides of the average diet should be restricted. They are apparently harmful to those prone to epilepsy, for although the hopes aroused by the first recommendation of their deprivation have not been realized, yet many arrests of fits have occurred under a salt free diet. When it is remembered that a chlorine balance is well maintained by a daily ration of one and a half gramme, that the amount in the usual diet is ten grammes, and that where renal inadequacy exists, edema quickly supervenes when the excretory capacity of the kidney is exceeded, it should be evident that reduction of common salt is a rational procedure in a disease where cerebral edema has been found so frequently as twenty-two per cent. of cases operated in. Some authorities attribute the comparative advantage of milk to its poverty in sodium chloride.

DIET AGAINST ARTERIOSCLEROSIS AND PRESSOR EXCESS.

A potent cause of nervous inadequacy is arterial hypertension. The rôle of diet in producing this seems to be important. Both purins and excessive nitrogen seem to lead to the formation of pressor substances. Whether they do so by increasing the activity of the adrenal glands is unknown; but it is an explanation to be thought of in connection with this state, which is so frequently found in late middle life. It is often misnamed neurasthenia.

When the renal in addition to the hepatic function is diminished, nervous symptoms as the result of an unwise diet are even more apt to declare themselves; so that the regulation of the diet then is of even greater importance. The milk commonly given as the basis of an adult diet is unwise. In the first place, the nitrogen content of cow's milk

is disproportionate, and it is poor in iron and some other mineral elements. In the second place, it does not demand mastication and the relish which comes with this.

DIET IN CASES OF DRUG ADDICTION.

The craving for morphine or alcohol has often a basis in metabolic disturbances due to a diet or manner of eating which, though usual enough and without apparent injury to the average person, is yet highly injurious to the person in question. I believe that relapses after successful sanitarium treatment are frequently due to neglect of this factor.

THE PERIOD DEPRESSIONS AND EXCITEMENTS CYCLOTHYMIC AND MANIC DEPRESSIVE PSYCHOSIS.

The lack of more extensive data regarding the dietetic factor in these cases is regrettable. For the rôle of diet the exciting cause and the means of cure in the subjoined case are most impressive:

Case. Recurrent mania from gluttony. S., the wife of a clergyman, was seen at the York Retreat during my residence there in 1907. For several years, she had recurrent attacks of excitement, with rise of temperature, rapid pulse, disorderly acts, filthy ways, obscene language. These would occur at the menstrual period, but only every other month, and sometimes less frequently. Preceding and during the attack, the leucocytes in the blood were greatly increased. On one occasion, 37,000 to the cubic millimetre were found. During the subsidence of the attack, in about ten days, the count would be normal. Between the attacks, the patient might be regarded as normal, although her disposition was somewhat selfish and unreliable. No cause for her attacks had been discovered. The patient had been, two years before, placed upon a strictly vegetarian diet without any benefit; for the principles embodied in this article had not been duly considered in the prescription of the diet.

In the search for a cause, I one day minutely questioned a nurse concerning the habits of this patient, who, on account of the freedom given her between attacks, was not under continuous observation by any one. I was told that she spent her afternoons in passing from one pavilion to another, taking tea in rotation with the nurses. On each occasion, she would eat abundantly of what was on the table, and this would go on most of the afternoon. Moreover, she would spend all her money on sweetmeats and often more substantial things, which she would eat during the morning, seldom offering any to another person.

From these data, I theorized that her maniacal attacks were the expression of the outburst of accumulated toxicosis due to her gluttonous habits. They were precipitated by the toxic wave of the menstrual period; but they did not occur every month because during the maniacal attacks the patient was practically starved, and insufficient time elapsed before the next menstruation to allow of sufficient accumulation to produce toxicosis.

Whether these were secondary effects of bacterial action, the defence against which was broken down by the excess of food, or whether they were purely biochemical in mechanism, we did not determine; for we were primarily concerned with practical therapeutics. The result fulfilled the expectations of the theory; for the patient's indulgence was prevented, the attacks ceased, she returned home; and my latest advice a year ago, was that she remained well.

In a case of recurrent confusion with delirium referred by Doctor Heiberger, where saburral tongue was marked, improvement did not occur until the diet was reduced to one exclusively of abundant fruit and only three glasses of milk per day.

In another case of recurrent mental confusion referred by Dr. William Mason, improvement was *pari passu* with the reduction of nitrogen in the diet. Each time an increase was attempted, the confusion and delirium returned.

PSYCHASTHENIA.

The sense of incompleteness or inadequacy which is the basis of psychasthenic manifestations has, I believe, often other origin than the psyche. Even the *angoisse,* that prominent emotional characteristic, may not be psychogenic. A general uneasiness may be purely physical in origin.

Stecherbak's case, where psychasthenia was provoked several times by caffeine, is an example. Likewise is that of a child of two years, which I reported to the Society of Psychology of Paris and later published in *Pediatrics* here. I have noted several times recrudescence of symptoms in psychasthenia after errors in diet. Either starvation or excessive protein aggravates the symptoms. Of course they do not create psychasthenia, but they lower what Janet calls the psychological tension which thus permits the mental vagaries so characteristic of this disease.

The dietetic poisons of course are badly tolerated by such patients, who should abstain from tea, coffee, cocoa, and alcohol, which not only disturb nutrition, but interfere with neuronal activity.

"NERVOUS CHILDREN."

The difficult psychic management of the unstable child may be completely vitiated by want of care in very simple dietetic needs. Starvation, too frequent meals, too heavy a ration, excess of protein, or extractives all subtract energy from the cerebrum, where it is needed for discipline. Toxines and peripheral irritations are not conducive to mental activity or emotional tranquillity.

HYSTERIA.

Although the disorders we term hysterical are purely psychological in origin, yet the hypersuggestibility on which they depend varies greatly with physical states. Diet has a marked influence on these. In the psychomotor discipline against hysterizability, disturbances due to faulty diet are a great handicap. A case may well be ruined by failure of due attention, without which the best psychotherapy may be unavailing. Illustration is afforded in the cases I cite.

A case of hysterical spasm, where psychomotor discipline was unavailing until a faulty diet was rectified, has been recently reported by me in *Surgery Gynecology, and Obstetrics* for March, and *Washington Medical Annals* for January, 1912.

A case where hysterical absences were much aggravated by lapses from a strict diet was that I reported in *International Clinics,* Vol. III, 1908. The moody behavior of this patient could be controlled by psychotherapy only when this was not interfered with by the handicap of neurones below the highest efficiency procured by what was the antithesis of that animadverted upon in *Love's Labour's Lost,* when Shakespeare makes Fernando say, "Fat paunches make lean pates, and dainty bits make fat the ribs and bankrupt quite the wits."

Psychotherapeutic reeducation demands the wit of patient as well as of physician. A psychotherapy which permits sick minds to become more so by leaning upon the suggestions of another is a poor thing.

When the energies are deployed toward metabolic disposition, large quantities of nutriment are unavailable for concentrated mentality. As an exalter of suggestibility, feasting is as vicious as fasting. Of both means, the old religious organizations were well aware empirically in managing the devotees.

HEMICRANIA AND OTHER CONSTITUTIONAL HEADACHES.

Most of these cases appear to be toxic. It is certain that the vast majority are greatly ameliorated by diet which enforces the principles here described. Even when a psychogenic factor is manifest, the bettering of an unfavorable diet may remove at least the headache from the sufferings of such patients.

An instance is that of a young woman whom I saw with Dr. J. S. Dye at Chattanooga, in October, 1911. Headaches which apparently nothing could prevent, were brought on by recurrent painful psychological situations beyond medical control. In spite of the continuance of these, the headaches were prevented after about two months of the special diet I recommended.

Perseverance, however, is often needed. Charles Mercier goes the length of saying that by faithfully following instructions for six months every case of metabolic headache is curable.

When the blood pressure is considerably raised the effect is particularly favorable. Such a case I saw with Dr. S. S. Gale, at Roanoke, November, 1911. A very stout middle aged woman had suffered intensely for almost two years with constant and violent headaches. On account of her stoutness, carbohydrates had been restricted for some time. I advised, on the contrary, a restriction of the proteins. The consequence was vast improvement as regards headaches without increased adiposity.

Headache complicating other affections is susceptible of the same treatment. Thus, a middle aged woman referred by Doctor Davis, of Washington, for writer's cramp and who was cured by psychomotor discipline as described in the *Journal für Neurologie und Psychiatrie,* suffered also from periodical hemicrania, which interfered with her treatment. This was very rapidly removed by the proper diet I have described.

I have not succeeded, however, in curing every case, as Mercier believes possible, but perhaps my diagnosis has been in error when the treatment has failed, and an organic cause I could not detect has been present.

NERVOUS DYSPEPSIA.

The majority of such cases, where organic changes have not been overlooked, are in reality mental or emotional in origin. They are phobias of hysterical or psychasthenic type usually. Hence dietetic insistencies only aggravate them. A wise psychotherapy teaches the patients to put their stomachs out of their heads. Stomach specialists are tempted to ignore this feature of such cases, which require a careful analysis of their minds rather than of their stomach contents.

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THE REGULATION OF FEES.*

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The one great thing which detracts from the practice of medicine as an art is the necessity of making the practice of medicine a business. Such a state of affairs has been forced upon us mainly through circumstances beyond our control. In the years that are passed the physician was respected for his goodness, his knowledge, and his virtue. But to-day, particularly in the large cities, he is respected for the grandeur of his establishment, the variety of mechanical means he has at hand for the treatment of disease, and various other qualities, particularly in dress and personal appearance.

I believe that business ability in these days is of as much importance to the physician as it is to the layman. And the man who charges a fair fee, sends out his bills regularly, and sees that these bills are paid commands far more respect from his patients than the man who carelessly lets his patients know that his accounts are kept on bits of waste paper, which sooner or later find their way into a bill which can readily be disputed.

There are a few points which the physician should keep in mind in regard to the regulation of his fees and the collecting of these fees.

1. Fees should be regulated according to the character of the work done and the time consumed in doing it.

2. There should always be a maximum fee for the rich patient which can be scaled down to nothing for the poor patient.

3. The high cost of living should make us aware that it is time that the size of this maximum fee should be made higher, so that our income is commensurate with increased expenditures.

4. The family physician or general practitioner should receive more consideration than he does at present from his patients in regard to payment for the work he performs.

The fees of the general practitioner have long been regulated by custom, and like everything else that is thus regulated, it does not take into account the changes in business which occur from year to year. Although for minor work the regular charge for visits (two dollars at the office and three dollars for a house visit) is adequate, I believe that there are many cases where it is justifiable to charge according to the service rendered, the seriousness of the illness, and the appliances necessary to carry out the treatment. If a physician makes a less charge than the one outlined above, be the patient rich or poor, he should make the patient definitely understand the reasons for doing so and the obligation should rest with the patient.

The greatest mistake that physicians make at present is to charge the same for a serious ailment as they do for a minor one, in the former of which it is necessary to expend a vast amount of energy, lose a great deal of sleep from worry, and place themselves in a nervous state which incapacitates them from doing their other work. There is no

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more reason why a physician should not have a definite total fee for taking care of a serious pneumonia or typhoid case than there is for his not having a definite total fee for a case of appendicitis. Many a person is operated upon for appendicitis, gets out of bed at the end of a week, and is perfectly content to pay the surgeon five hundred or a thousand dollars. Yet there are few cases of pneumonia, where the illness is far more serious, in which the bill amounts to even a few hundred dollars, and yet the amount of energy expended in getting this patient well probably far exceeds the care spent on the ordinary appendix case. It is necessary to start a campaign of reeducation in this regard, and the sooner it is done the better.

Every patient should receive the proper amount of treatment necessary in any given case, but the fee should vary somewhat according to the treatment given. The quantity of the service as well as the quality should be taken into consideration. Surgical dressings, electrical treatment, etc., should all be charged extra if it is possible.

One of the greatest hardships and injustices the general practitioner is subjected to at present, particularly in a city like New York, is the acceptance of a recognized fee, no matter at how great a distance the patient may live or what hardship there is in getting there. In rural districts, all patients outside of a certain territory, are charged by mileage, and there is no reason why such a plan should not be carried out in New York. Many people, for example, who once lived downtown and who have had a certain family doctor all their lives, have moved to the outskirts of the Bronx, far away from any direct car line. They expect their doctor to come up there to treat them for the same fee as he charged formerly, totally disregarding the fact that he has to travel hours and perhaps misses just as important a case nearer home. Most of these people pay only two dollars a visit instead of three, and I believe would rather pay the doctor three dollars at their home than take the trouble to come down to his office, although they might save a dollar by doing so.

Telephone messages or conversations, where the patient is trying to get in a visit without coming to the office to await his turn and incidentally to pay, should be charged as an office call. Those patients who object to such a charge are the ones who make a two dollar visit last over six months or a year and laugh up their sleeves at their craftiness. This rule should refer particularly to infant feeding cases, where the extra expenditure of getting the baby ready for the doctor is hardly worth while, as long as baby's food can be prescribed over the telephone.

A physician should receive extra compensation for night calls, particularly when these calls are from patients who make it a habit never to call the doctor until he is comfortably in bed after a tiresome day's work. We all know of patients who will suffer from some imaginary or real complaint all day and bear their trouble with some fortitude (to see if they cannot get along without the doctor) until after midnight when, on account of their inability to rest comfortably or inability to sleep, they will send for the poor doctor to administer to a want which should either have been attended to earlier or could have waited until morning. If a patient knows that an extra charge will be made for such a visit, in many instances he will curb his sufferings until morning. I have seen many a case of insomnia relieved over the telephone by the suggestion that a visit would cost five or ten dollars instead of three.

A physician should receive extra recompense for a full examination. I think it wiser to make the examination first, for the question of the fee should never stand in the way of finding out all one can about a person's ailment. But one should at least ask for extra recompense. The specialist always does and usually gets it, and there is no reason why the general practitioner cannot.

It is a question whether a physician should charge extra for examinations of urine, sputum, blood, etc. The patient ought to be charged extra for it; but it is often a question of policy and good judgment not to, and many a man has built up a successful practice by doing a little bit more for the patient than some one else without making an extra charge.

A physician should never refuse to take cash for a visit and, in fact, with new patients whose financial status one has no means of knowing, it is the only policy to pursue. There are a certain number of dead beats who go from one doctor to another, recite some plausible story, and get a long run of visits recorded on the day book, who have no intention of ever making a payment. The only way to protect oneself is by insisting on a cash payment. The patient who never pays, the patient that owes the doctor, the patient who is always trying to scale down the bill on principle is never the patient to recommend others until his indebtedness is settled. The regulation of fees in these cases is not a difficult matter, the collecting of such fees is. Any patient belonging to these three classes should be charged the full limit and the physician should take his chances in getting what he can. The physician may be likened to the Hindu who infests our summer resorts, guiding himself by the principle that in order to get a fair price for his goods he must ask twice as much for them as he expects to get. By long experience in his own country and in this, he knows that a fair deal can be consummated only by unfair methods. If all our patients were honest, the doctors could live better by an honest regulation of fees.

Physicians are often asked to make a "lump" charge for a certain course of treatment. This is particularly so in cases of venereal disease. If it is necessary for the patients to have treatments daily, I think the only way to be on the safe side is to make a definite price for the whole treatment, demand so much down, and so much a month. I recall one case where a fee of one hundred dollars was asked for a case of gonorrhea. The patient paid one hundred and twenty-five visits. Of course this seems like a small amount for so much work, but if one reckons that the patient probably would not have come every day if he had to pay so much each visit and might possibly have gone elsewhere for treatment, the physician really came out pretty well. In my own special work I often try to make a "lump" charge for chronic cases, such as atrophic

rhinitis and catarrhal deafness, agreeing to treat the patient so many times a week for so many months for so much money. If I find it is necessary for them to come oftener, I let them come without charging for extra visits. A physician should stick to any bargain he makes concerning fees and interpret the terms as liberally as possible.

A patient who sincerely shows a tendency toward friendship, and who sincerely tries to recommend you to all his friends, who makes it his personal business to advertise you wherever he goes, can be capitalized many times over. He is virtually worth his weight in gold. It is a wise policy, once you know that he is sincere in this purpose of securing patients, to show him every consideration possible. Some of these patients become really true friends, and as such, without injuring his sensibilities, one can often return these favors without letting him feel that he is being paid. Many a man's success will depend on good judgment and proper discrimination in this direction.

Physicians should charge a fair fee for consulting with other physicians about their patients and for being present at an operation. The public expect so much from their doctors that almost universally they take it for granted that he attend to these duties out of regard for his personal interest in the case. Once a fee for such services is mentioned, all the confidence that has been established for years appears to be lost. Yet the physician is often entitled to as great a remuneration as the specialist. For his suggestions at a consultation, as to what has been done and what has already been found out, the knowledge he has of the patient's constitution, etc., are the things that only the physician can supply to his consultant; or at the time of operation the suggestion of the physician to the man who is operating may turn the tide in the patient's favor.

The charge for operative work by the family physician has been far below that charged by the specialist in any particular branch of work. In most cases the fee is ridiculously low. Such is the fact also in obstetrical cases. In most instances this is unjust. If a physician is capable of doing a certain piece of work (and we shall take it for granted that he would not operate unless he thought himself capable), there is no reason why he should not gauge his prices like a specialist.

There are many patients who are out "to do" the doctor. And there are also many patients who think that the doctor is out "to do" them. The result of such ideas is the undermining of faith in one another and the attempt on the part of the physician to make up for his poor patients and those who do not pay by charging higher prices to those who can afford it. Within reason, this is not a bad policy to pursue. The undervaluation of services by the physician himself is often noised about in a certain neighborhood, or among a certain clientèle, until the physician realizes that he is losing on an income twenty to twenty-five per cent. If anyone were to benefit by such undervaluation, we could let the subject rest here. But the patient does not benefit by it, and the physician hurts himself.

I have left out of consideration in this paper the question of specialist's fees, for that is a subject by itself. In summing up, let me say again that I believe the general practitioner is not at present recompensed according to his service and that a radical change should take place. This can be brought about only by a campaign of reeducation, in which patients should be taught that the high cost of living has made it necessary for the doctor to think about his practice in a more businesslike way.

11 West Eighty-first Street.

REPORT OF THREE CASES OF PUBIOTOMY.*

By A. J. Rongy, M. D.,
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These cases serve to illustrate that this operation has a definite field in modern obstetrics. Its usefulness to stop fetal mortality is now more recognized. It is always undertaken in the interest of the child.

Pubiotomy should be performed in border line cases only. The patient should always have a strong test of labor, the cervix should be dilated or dilatable, the head should be somewhat moulded, and if forceps fails to bring the head through, and if the child is still viable, pubiotomy should be performed.

This operation will not gain a great deal of favor among the general practitioners for some time to come. The older graduates hardly heard it mentioned during their professional curriculum and even recent graduates are not familiar with it.

Prior to 1905 this operation had been performed hardly at all in America and up to that time only forty-two cases were reported in all the literature. Since then operators in both European and American clinics have adopted it more widely with the result of saving many children with but little additional risk to the mother.

The technique of Doderlein was followed in part in these cases. A small incision is made over the upper border of the os pubis just internal to the pubic spine. The incision is just large enough to admit one finger. The carrier is introduced through this opening behind the posterior surface of the bone, emerging at its lower border between the labia majora and minora. The index finger of the left hand is introduced into the vagina to guide the end of the carrier, at the same time making it hug the bone. The Gigli saw is then carried up, and the bone sawed through from within out. After the division of the bone the child is extracted by forceps. If the patient is a primipara, I perform an episiotomy on the opposite side so as to facilitate the delivery and also to prevent a communicating tear of the vagina and the pubiotomy wound. No attempt is made to unite the cut ends of the bone. The separation of the ends obtained in my cases was three quarters of an inch in the first cases to over two inches in the last case.

To fix the lowest degree of contraction of the pelvis that will allow the performance of this op-

*Reported before New York Physicians' Association, November 23, 1911.

eration is well nigh impossible, as so much depends upon the size and consistence of the fetal head.

Case I. Mrs. B. S., Russian, aged twenty-five years, primipara, last menstruated January 15, 1911, came to engage me in the sixth month of pregnancy. On examination the diagnosis of justominor pelvis was established. The pelvic measurements were, interspinous, 24; intercrestal, 26; external conjugate, 21; diagonal conjugate, 10. She was put on Prowchnic's diet and instructed to call every two weeks for observation. She was advised to have labor induced in the thirty-seventh week, but refused.

Labor pains began about 5 a. m., October 12th. She was admitted to the Jewish Maternity Hospital about 8.30 a. m., having strong pains every fifteen to twenty minutes. On examination at 10 a. m., the cervix was two fingers dilated, membranes ruptured. At 5 p. m., the cervix was two thirds dilated and the head in first position attempting to engage. The pains at this time were very strong and almost continuous, the uterus almost in a tonic state of contraction. Morphine was given hypodermically and patient rested for about two hours. At 9 p. m., the cervix was fully dilated, the head still high in the pelvis. At midnight another dose of morphine was given hoping that a short interval of rest would bring out more forcible uterine contractions, but with no effect whatsoever.

At 3.30 a. m., after the cervix was fully dilated for six hours, the pains every two to five minutes, and the fetal heart suddenly becoming weaker, immediate delivery by pubiotomy was decided upon and a living child weighing six and a half pounds was extracted.

There were no complications during the operation and delivery. Bleeding from the wound was very slight. The vagina was packed as a matter of routine. The separation between the cut ends of the bone was about two centimetres. The wound was dressed and a strip of adhesive plaster across the pelvis applied to prevent any undue motion and separation of the cut ends of the bone.

Convalescence was normal. The patient was out of bed on the fifteenth day and mother and child left the hospital on the eighteenth day, having no difficulty in walking up and down the stairway. The fetal measurements were as follows: Length 50, suboccipitobregmatic 32, occipitomental 13, occipitofrontal 11.

The reason delivery by forceps was not tried first in this case, is mainly on account of the sudden change in the fetal heart. I feared that the additional injury to the child would possibly cause it to be still born.

Case II. Mrs. F. K., patient of Dr. W. Narins. Primipara, commenced to have labor pains Thursday, October 12th; the pains were irregular and weak. Friday the pains became stronger. At 4 a. m., Saturday, the cervix was fully dilated; at 9 a. m., after five hours of active labor pains and no progress, artificial delivery by forceps was decided upon. After moderate pulling by the attending physicians no progress was made. At this juncture I was summoned to see the patient. On examination the cervix was found fully dilated, the head in the left occipital anterior position wedged in at the inlet, fetal heart good, mother beginning to show signs of exhaustion. I attempted to deliver her with forceps, but after a trial of about ten minutes, it became evident that it could not be effected. The fetal heart sounds still being good, I suggested that the only possible method of delivering a living child was by pubiotomy. The family physicians having concurred, the patient was transferred to the Jewish Maternity Hospital. Pubiotomy was performed and a living child weighing eight pounds four ounces was delivered.

The measurements were as follows: Mother, interspinous 21.5, intercrestal 26, external oblique 20.5, external conjugate 19.5, diagonal conjugate 10; child, biparietal 9.5, suboccipitobregmatic 9.5, suboccipitobregmatic circumference 34, occipitofrontal 35, length 52.

The patient underwent a mild febrile convalescence, but was out of bed on the seventeenth day and mother and baby left the hospital at the end of three weeks.

Case III. Mrs. C. S., patient of Dr. I. I. Bernstein, twenty-eight years old. Para II. First labor three and one half years before, normal child weighing five and one half pounds (mother's statement). Membranes ruptured November 3d at 6 p. m.; one hour later labor pains set in which lasted during the night. The face was presenting. At 8 a. m., after the cervix was fully dilated, delivery by forceps was attempted, but the forceps slipped. A few more applications were made, but with the same result. At this time I was asked to see the patient.

On examination I found the cervix fully dilated, but commencing to be edematous, the face presenting in the transverse diameter of the pelvis, the head large and above the brim, but child still viable. The patient showed signs of exhaustion, pulse 120 to 130, temperature 101° F. She was transferred to the Jewish Maternity Hospital for pubic section. A living child weighing eight pounds twelve ounces was delivered. It was evident that the head and neck of the child were severly injured by the many applications of the forceps.

The mother ran a septic course, the temperature ranging between 102° and 106° F. for fourteen days. She finally began to improve and was discharged from the hospital at the end of twenty-six days. A large hematoma of the head and neck developed in the child, which died of asphyxia on the fifth day. The patient had a flat pelvis, but not markedly so. The fetal head was rather bony and well developed.

The child's measurements were: Length 51, occipitofrontal 36, suboccipitobregmatic circumference 34, bisacromial 41, biparietal 10, suboccipitobregmatic 9.5, occipitomental 13.5, occipitofrontal 12.5, bisacromial 13.5.

In this patient it is the overdevelopment of the child that caused the dystocia, as evidenced by the normal course of the previous labor when the child was small.

The pubiotomy wound in these cases caused us no trouble. The union as far as we know was fibrous, but evidently did not influence the gait in any of these patients. I think that permanent enlargement of the pelvis does not take place and it must be eliminated as one of the advantages for the operation.

Rosenfeld (*Centralblatt für Gynäkologie*, No. 3, 1906) has made a careful study of the manner in which the pelvis enlarges after performing pubiotomy and has arrived at the following conclusions:

1. Every pelvis as the result of the natural elasticity of the bones and mobility of the joints has the power of enlarging to some extent, about 6 mm. in the conjugate vera.

2. The difference in the enlargement after pubiotomy and symphysiotomy on identical pelves cannot be great, because the point of incision is but slightly separated, about 1.5 cm. at the most.

3. The mechanism of enlargement after pubiotomy in a flat contracted pelvis is different from that in a generally contracted flat pelvis. In the flat pelvis both oblique diameters are increased in the same manner as the true conjugate. In the other two forms the opposite oblique diameter increases more than that of the severed side, as a result of which the side that is severed becomes longer than the other.

4. This is why the operation should be performed on the side through which the biparietal diameter passes. The amount gained by having a segment of the parietal bone passing through this notch is but small, about 2 mm.

5. In justominor pelves, the enlargement is gained chiefly at the expense of the sacroiliac joint of the side on which the operation is performed.

6. If one of the sacroiliac joints is very much involved, there is great danger of not only displacing the anterior sacroiliac ligament but also of tearing it.

Bell, in experiments on the cadaver and on the pelvis with ligaments attached, attempted to ascertain the increases of the various diameters as a re-

sult of this operation. The bone was cut on the left side of the symphysis. His experiments showed that more room was gained on the side opposite to where the division was made, as the left oblique was increased to a degree greater than the right oblique diameter. The increase of the true conjugate varies with the separation of the ends of the pubic bones.

Many obstetricians still hesitate to perform this operation as sufficient details regarding the immediate and remote effects of the operation have not been carefully studied until recently; I think the recent publication of Schlafli covering a review of 664 cases and his conclusions derived therefrom must be taken into consideration. In his lengthy review of 510 cases he gives the following results:

1. Hemorrhage from the wound was more severe in seventy-eight instances, 15.3 per cent.

2. Communicating tears with the vagina occurred in 15.5 per cent.; thirty-two per cent. occurred in primipara and 11.9 per cent. in multipara. Simple tears of the soft parts took place in 17.8 per cent. of the series.

3. Of the women with communicating vaginal tears 12.66 per cent. died.

4. Injury of the bladder occurred in 12.25 per cent., febrile puerperalism in 31.76 per cent. of the patients.

5. Thrombophlebitis was seen in 8.23 per cent. of the series.

In 120 women who were examined later as to the permanent results, the following notes are recorded:

Hernia occurred in the operation wound in nine instances, 7.5 per cent.

Descensus of the vagina was discovered twenty-nine times, 24.17 per cent.

Difficulty in locomotion was found in a large number of the women, but the author gives no figures.

Temporary inconvenience of urine was observed, but only in five cases was it of long standing.

The mortality of the mothers was 4.95 per cent., of the children, 9.6 per cent.

I believe that pubiotomy has a definite field in neglected cases of labor or cases that have been misjudged. In these cases pubic section will meet the indications when Cæsarean section is ruled out. When the mother and baby are in good condition, the chances for infection not likely, although in the obstetrical sense the case is not a clean one; in such cases a competent surgeon should perform pubiotomy in the interest of the child.

154 Henry Street.

ALCOHOL AND SPIRIT OF CAMPHOR AS SURGICAL DRESSINGS,

By Beverley Robinson, M. D.,
New York.

When I was a medical student in Paris, many years ago, alcohol and water, or spirit of camphor and water, were habitually used for all wounds as a surgical dressing. They were the favorite and almost the only dressings used by the great surgeon Nelaton, who in those days, was *facile princeps*. Naturally, there was much to deplore as to the results of operations and, alas, very frequently, pyemia, hospital gangrene, etc., were daily met with, and on that account many operations were not performed—unless necessity, so to speak, ruled—i. e., the greater chances of death, if no operation was performed.

Since my student days I have seen many new dressings tried, but I am free to confess, so far as my own predilection is concerned, in latter years especially, I have not seen any equal to alcohol, or spirit of camphor and water,—as a rule one part to three,—but the former sometimes pure, with or without an impermeable covering of rubber tissue or oil silk.

Doctor Senn directed attention again to the valuable local use of *alcohol* after the late Spanish War—but his practice has not been followed, so far as I know. As to myself, I always use for wounds, bruises, sprains, etc., alcohol, or spirit of camphor and water, in preference to any other applications, and I never have had reason to regret it.

On open wounds one or the other is preferable in every particular to bichloride of mercury or any other antiseptic solution. Indeed, I believe it can be shown, not only in practice, but experimentally, they have quite as great antiseptic power, are far more healing, and have no drawbacks.

Within a few weeks, I have seen an instance of ulceration of large dimensions on the nape of the neck, following a very severe case of carbuncle, in which pure alcohol (ninety-five per cent.) first, and subsequently, spirit of camphor and water worked wonders. Without their use, I am sure skin grafting would have been required and perhaps not been successful.

I urge *strongly* that the surgeons, who have daily and many opportunities to do so, use alcohol or spirit of camphor and water dressings and verify very soon my statements, and *not* fail to heed observations and practice, simply because they are from a physician. I would add that at times wounds will not heal kindly, unless suitable tonics and food are given. As an addendum, also, I would suggest to surgeons who still irrigate, the use of alcoholic solutions to wash out the abdominal cavity after cleansing, in cases of diffuse septic peritonitis from appendicitis.

42 West Thirty-seventh Street.

TORSION OF UTERINE ANNEXA IN THE HERNIAS OF NURSLINGS.

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Visiting Surgeon, Har Moriah Hospital; Associate Surgeon, Mount Sinai Hospital.

Accident, and perhaps the law of duplicity of cases, enabled me to observe and operate in the following two cases, within a period of five months.

Case I. Muriel L., five months old, was admitted to the first surgical division of Mount Sinai Hospital, March 25, 1911, with the following history: The patient was seen on the previous day by Doctor Heiman for regulation of the diet. On examination, Doctor Heiman found

six toes on each foot; otherwise everything was normal. About nine hours before admission, the child vomited, and cried considerably; and the mother noticed a swelling in the left groin. The child was again taken to Doctor Heiman, who promptly sent her to the hospital, with the diagnosis of strangulated hernia.

On admission, the child looked and acted as if she were well; the vomiting had ceased and she retained nourishment; the bowels moved spontaneously and by enema; the ejecta contained no blood; the pulse, temperature, and respirations were normal. There was, however, a distinct swelling in the left groin, which presented the following characteristics: It was the size of a plum, tender, tense, slightly fluctuating, and extended from the region of the external inguinal ring to the upper part of the labium majus.

I saw the child within half an hour, and agreed to the diagnosis of strangulated hernia. For reasons to be discussed later, I also made the more exact diagnosis, that the hernia contained either tube and ovary, or a portion of the uterus. With this diagnosis the child was immediately operated upon.

Usual hernia incision, two and one half inch in length; after exposure, the sac was seen to emerge from the external inguinal ring; instead, however, of taking the usual course into the labium, the sac was deflected upward and outward, so as to lie upon the aponeurosis of the external oblique; in other words, we had before us a perfect example of an inguinosuperficial hernia. The sac was densely adherent to the aponeurosis, requiring considerable sharp dissection, before it could be freed. From these data I concluded that the sac was one of long standing, and probably of congenital origin.

The contents, of a very deeply purplish color, shimmered through the sac. Upon opening the sac, there prolapsed a black object, the size of a walnut. It was found to be the left tube and ovary, twisted in one complete revolution. The organ was untwisted, and gangrene being evident, it was extirpated (see figure). There was no constriction either at the internal, or at the external ring, or at any part of the canal. It was also seen that the broad ligament was spread out to form the posterior part of the sac. The neck of the sac was closed by suture; and the radical operation was finished by sewing the upper flap of the aponeurosis of the external oblique to Poupart's ligament, and the lower flap on top of that.

First dressing March 31st; primary union. After an uneventful convalesence the patient was discharged, well, April 14th; and up to the present writing, nine months after operation, has remained well.

Case II. Yetta H., seven weeks old, was seen by me, August 25, 1911. According to the mother's statement, the child was always fretful and irritable; but with the exception of occasional constipation had always been well, up to twenty-four hours before being seen by me. The day before, the mother noticed a swelling in the right inguinal region, and the child began to cry when disturbed.

On examination there was found a mass, about the size of an almond, occupying the right inguinal region. Within this mass there was to be palpated a separate smaller body, just outside of the external inguinal ring, which was very tender to touch. It was irreducible, and gave a dull percussion note.

Strangulated ovarian hernia was diagnosticated, and after admission to Mount Sinai hospital, the child was immediately operated upon. Usual exposure. When the neck of the sac was incised, the small body previously mentioned slipped back into the canal; it cannot, therefore, be stated with absolute certainty, whether or not there had been a twist of the ovary. This organ, as well as the tube, were of a deep purplish color, but were apparently perfectly viable, and in consequence were not ablated. Radical closure. The wound was dressed August 29th; primary union; discharged well, September 2d.

On subsequent search of the literature I found this form of hernia to be of unusual rarity. An incomplete résumé upon the malady in question, was made by Damianos (1) in 1905, who collected twenty-four cases. Additional cases have since been reported, so that the total number, including my own, comprises forty. A study of these cases reveals a clinical picture of remarkable uniformity; sufficient indeed, to enable us to make a diagnosis of this form of hernia with a more than reasonable certainty.

The cases just reported in detail are additionally interesting from the circumstance that they are two of the four cases, in which an approximately correct diagnosis was made before operation.

I shall limit myself in this communication only to the discussion of strangulation of uterine annexa in hernias of nurslings. Cases in adults, and non-strangulated forms will not be considered.

All cases of ovarian hernia in children, with acute symptoms, may be divided into three groups:

1. Those in which a torsion of the pedicle has been distinctly noted in the history. Into this group belong the cases of Damianos (1), Lockwood (2), Mumby (3), Morgan (4), May and Belbin (5), Fischer (6), Martin (7), Quadflieg, two cases (8), Owen (9), Hodge (10), Langemak (11), Nicoll (12), Maas (13), Grünert (14), Gaugele (15), Heegard, three cases (16), Schnitzler (17), Rigby (18), Cahen (19), Bland Sutton (20), Habs (21), Downes (22), and my first case.

2. Those in which no torsion was present. Into this group I should place only the cases of Tubby (23), Morrow (24), Bilhaut (25), and Boeckel (26).

3. Those in which a torsion of the pedicle has not been noted. Into this group I should place the cases of Schmitz (27), Macé and Monganу (28), Polak (29), Churchill (30), Manega (31), Pollard (32), Legrain and Aschoff (33), Panas (34), Hermans (35) and my second case. This third group is of academic interest, for, as will be seen, the symptomatology and clinical picture are the same, whether the strangulation is caused by the hernial ring, or by torsion of the pedicle. I believe that many, if not all of the cases in the third group were also cases of torsion of the pedicle, but that either the torsion was not noted, or the torsion became untwisted in the course of the manipulations of the more or less hasty operation upon infants of so tender an age.

The entire subject demands discussion from three different viewpoints.

1. The presence of an ovarian hernia in infants under one year.

2. The question of the torsion of the ovary.

3. The diagnosis.

1. Hernia of the ovary is sufficiently common to have long since ceased to be a medical curiosity. Andrews (*Journal of the American Medical Association*, November 25, 1905, and November 24, 1906) and others report a large series of cases. A striking phenomenon is the frequency of ovarian hernia in infants under one year of age, and in childbearing adults. In older children, during puberty, and in virgins, ovarian hernia practically does not occur, except as neglected cases from earliest infancy. I believe this can be accounted for by the fact that in infants the ovary is normally an extrapelvic organ, and in childbearing women becomes so during pregnancy.

The presence of the ovary in the hernial sac might perhaps be explained by a descent, analogous to that occurring in the male. As a matter of fact, however, the two processes cannot be compared, because the structure in the female, analogous to

the gubernaculum of Hunter, i. e., the round ligament, exerts only a negligible force upon the ovary. Furthermore, embryologists explain the descent of the ovary in a totally different manner from that in the male. The ovary descends only as far as the brim of the pelvis during intrauterine life, and remains there for a year or more; its subsequent descent is due, first, to its own weight, and, second, to the deepening of the pelvis. This explains why in early infancy the ovary is an extrapelvic organ, and is thus rendered more liable to enter a hernial sac.

Furthermore, I believe the strongest predisposing cause for a hernia of the ovary is the fact that the sac is congenital. That a case is congenital in the female is difficult to prove for obvious reasons; I believe, however, that congenital hernias in women are as frequent as in the male; because of the peculiar nature of the sac, that I have noted in many cases, the attributes of which are such as can be accounted for in no other way, save that it is congenital.

I base this statement upon the fact, that in a



Twisted tube and ovary extirpated in Case I.

rather extensive experience, I have found two varieties of sacs in oblique inguinal hernia. In the one the sac merely follows the course of the round ligament, and is separable with great ease from it. In the other, and, I should say, the much more frequent form, the sac is of exceeding delicacy, and is so intimately adherent to the round ligament as to be practically inseparable from it; in other words, the round ligament is covered by its normal peritoneum only. I look upon the former as an acquired hernia, and upon the latter as a congenital hernia.

2. The question of the torsion of the ovary in the hernial sac, is as mooted as that of torsion of other organs. A prerequisite for all torsions appears to be a disproportion in size between the twisting body and its pedicle. This prerequisite is present to a perfect degree in the ovary. This organ, however small, is large in comparison to the Fallopian tube, which practically forms the largest part of the pedicle.

Schnitzler (*loco citato*) has proposed a very ingenious theory to explain the torsion of the ovary in the hernias of young infants, as the ovary cannot pass easily through the disproportionately narrow inguinal canal; when, however, it does become engaged, its further propulsion can be attained only by a sort of a screwlike motion, which results in torsion.

Payr's theory is equally ingenious. He explains torsions as due to a stasis of blood in the pedicle from whatever cause, compression, kinks, etc. When this occurs, the thin walled veins do not empty themselves of the blood as fast as the thicker and less compressible arteries pump the blood into the mass. As a consequence, the veins at first become lengthened, and finally, when the lengthening is no longer compensatory, the veins twist around the firmer parts of the pedicle; in this manner the torsion is begun and continued.

3. The diagnosis of twisted ovaries in hernias of infants was by logical deduction, in the cases which I report, easily made. First of all, the diagnosis that the mass was a hernia, and, furthermore, that it was strangulated, was apparently obvious. The diagnosis of the organ, or organs, which the sac contained, could be attained by a process of exclusion. The excellent condition of the child, and the freedom from bowel disturbance, apparently excluded involvement of the gut at once. There remained to be considered only the omentum, the uterus, and the annexa. Omentum was excluded from the extreme rarity of omental hernia in infants, because of its undue shortness at this age. The chances of the sac containing uterus, or a horn of a bicornuate uterus were considered improbable, owing to the extreme rarity of this condition, and the comparative immobility of this organ. There remained nothing, therefore, except the tube and ovary. I did not diagnosticate the torsion of the ovary, because I did not appreciate, until the literature had been delved into, that torsion of the ovary practically always occurs in strangulations of this organ in the hernias of infants.

Review of the literature. All told forty cases have been reported, including my own. The diagnosis was made by Quadflieg only; he had the advantage, however, that a short while previously he had operated in a similar case. The condition was suspected by Maas and by Gaugele.

Age. It does not require more than passing mention, to say that the clinical picture herein spoken of, is a characteristic ailment of the first year of life. In looking over the published cases, we find only three patients older than one year, namely Damianos's, which was fourteen months old, Mumby's, which was over three years, and Martin's, which was five years of age; but for the sake of completeness, I have included these cases also in my list. The youngest patient in my list is that reported by Heegard, a child four weeks old.

Side affected. Nineteen occurred on the left side, and twenty on the right; one not stated.

Symptomatology. The clinical picture, as I have outlined it in the report of my cases, is practically identical with that in the reported cases. With minor and unimportant differences, the history of one is practically the history of all. On account of the very peculiar findings, however, I would abstract the following:

Heegard's first case is of unusual interest. The patient was four weeks old. Six days prior to admission to the hospital, a swelling was noted in the left inguinal region. A diagnosis of abscess was made. At the operation, however, a twisted tube and ovary were found and extirpated. A few deep sutures were placed, and after primary union, the child was discharged. About five weeks later the child was readmitted to the hospital with a history, that two days before, the mother again noticed a swelling,

which increased on straining, in the left inguinal region. On examination a small tumor was felt, of which Heegard says that if he did not know that the left ovary had been removed at the former operation, he would have diagnosticated as an ovarian hernia. Exploratory incision, however, revealed the right ovary, which had prolapsed through the left inguinal canal. Recovery.

In Tubby's case both right and left annexæ were in the hernia.

Treatment. Much time need not be wasted regarding the treatment of these cases. Gentle taxis may be tried, if the case is of very recent origin; and if this is not successful, prompt operation is indicated. By a prompt operation we may be able to save the prolapsed ovary, by untwisting the torsion. Delay will in nearly all instances mean an extirpation of the organ, as the constricted pedicle very soon interferes with its viability. But even with this sacrifice the prognosis may be said to be very good. Thirty-seven cases ended in perfectly smooth recovery; in one case the result is not stated; and two cases ended fatally, both with intercurrent diseases.

925 MADISON AVENUE.

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FURTHER OBSERVATIONS ON THE SURGICAL TREATMENT OF HALLUX VALGUS AND BUNIONS,

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Captain, Medical Corps, U. S. Army.

The frequency of occurrence of these conditions and the excessive degree of pain and disability which they occasion, render the consideration of any plan of procedure which offers hope of relief of importance to the medical profession. The suffering is at times so intense as to prevent the unfortunate victims of these deformities from pursuing their vocations. Many sufferers from these troubles are permitted to go through life unrelieved, their appeals for treatment being met with a long list of local applications and mechanical appliances from which, from the nature of the deformity, no permanent benefit could be expected. The operation hereafter discussed will, it is believed, restore the foot to its normal usefulness, in the great majority of cases.

In operating for the relief of hallux valgus and similar conditions, I have assisted others, or tried personally, nearly all of the older operations with unsatisfactory results. For example, the V shaped resection commonly employed generally substitutes

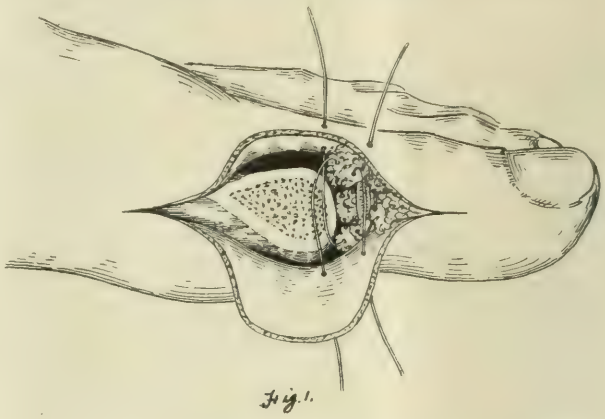


FIG. 1. Primary incision exposing the first metatarsophalangeal joint, showing also sutures.

one deformity for another. Resection of the head of the first metatarsal, though successful in the flat footed individual, injures a normal arch.

Of the recent operations, that of Weir, who merely removes the enlargement and transplants the tendon, leads frequently to ankylosis and brings little or no relief. Von Bergmann resects the base of the phalanx and the head of the first metatarsal. His operation injures the tripod by removing the bony enlargement in a vertical line, with no interposition of tissue. This leads to the formation of a flail joint and weakens the tripod at the point where



FIG. 2. Removal of exostosis metatarsal bone, first step.

the head of the first metatarsal rests on the sesamoid.

The essentials to a successful operation are:

1. Preservation of the normal arch.

2. Shortening of the great toe, thus obviating the lateral pressure at the extremity, by the ordinary sharp pointed shoe of commerce.

3. An absolutely mobile joint.

Mayo approximates the ideal condition when he transplants the bursa to the space formed by the resection of the articular head of the first metatarsal.

the joint surface of the first phalanx being left intact. In this operation the tripod is partially preserved and the toe is shortened. If followed by perfect healing, without sloughing of the bursa, the result will be satisfactory in that class of patients who do not stand or walk a great deal, such as bookkeepers, stenographers, etc.

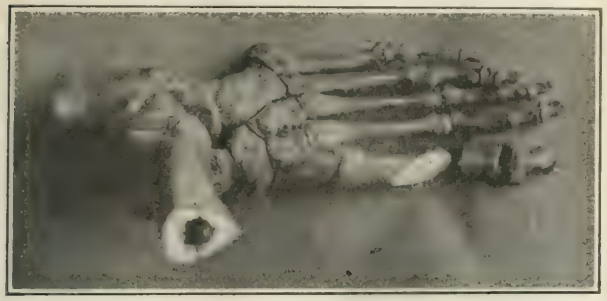


FIG. 3. Removal of exostosis of metatarsal bone, second step.

However, in the case of a soldier, who may be called upon to march from twenty to twenty-five miles a day, no part of the plantar articular surface of the first metatarsal can be sacrificed, as such procedure may impair his power of locomotion to such a degree that discharge from the service may be imperative (as in two cases which came under my observation).

Ten years ago, and prior to the publication of the operations just mentioned (Weir's, Mayo's, and von Bergmann's), the writer first used the method illustrated herein. At that time, there were no methods described in literature, that were based upon deductions made as to the common cause of unsatisfactory results following the older operations. My operation is (with some slight modification as to incision), the same as that described by me in the NEW YORK MEDICAL JOURNAL for October 15, 1904.

As shown in Fig. 1, the primary incision exposes the first metatarsophalangeal joint. The capsular ligament is next incised and the structures at the base of the phalanx, including ligaments and periosteum, are pushed away from the articular surface; the phalanx is then disarticulated. With a Gigli saw, enough of the phalangeal head is removed to enable the distal portion to be placed in an overcorrected position medially, without impinging on the head of the first metatarsal.



FIG. 4. Removal of exostosis of metatarsal bone, third step.



FIG. 5. Results of operation.

The exostosis on the metatarsal bone is now removed, but in order to preserve the sesamoid area, so essential to the integrity of the tripod of the foot, the cut is made obliquely upward and outward along the length of the metatarsal. This cut extends from the inner edge of the sesamoid below, to a line above, which is well past the middle of the dorsum of the bone, as shown in Figs. 2, 3, and 4. The remains of the periosteum, capsular ligament, and other adjacent soft parts, are brought over the extremity of the resected phalanx by a figure of eight silkworm gut suture. A second and similar suture, placed posteriorly to the first, obliterates any remaining space and interposes some extra tissue. (See Fig. 1.)

A gauze drain is introduced through a stab wound in the lower lateral surface; this goes to the joint space and is removed in forty-eight hours. A few figure of eight silkworm gut sutures bring the subcutaneous structures into apposition, and the wound is closed in the usual way. No catgut is used in any part of this operation.

An overcorrected position is maintained by means of a well padded lateral splint or bandages, and after



FIG. 6. Results of operation.

five days passive motion is instituted. The patient is not allowed to do much active walking until the end of the third week.

My experience with this operation covers a period of ten years, in which twenty-six cases have been operated in. In one case there was some slight ankylosis following an infected bursitis encountered at operation. In another, a marked ankylosis resulted, which was due to failure to remove enough of the base of the phalanx in a case of extreme hallux valgus; the latter condition was relieved entirely by a second operation. Two cases seen by me eight years after operation, had perfect functional results, and in all other cases, except as noted, the results were excellent.

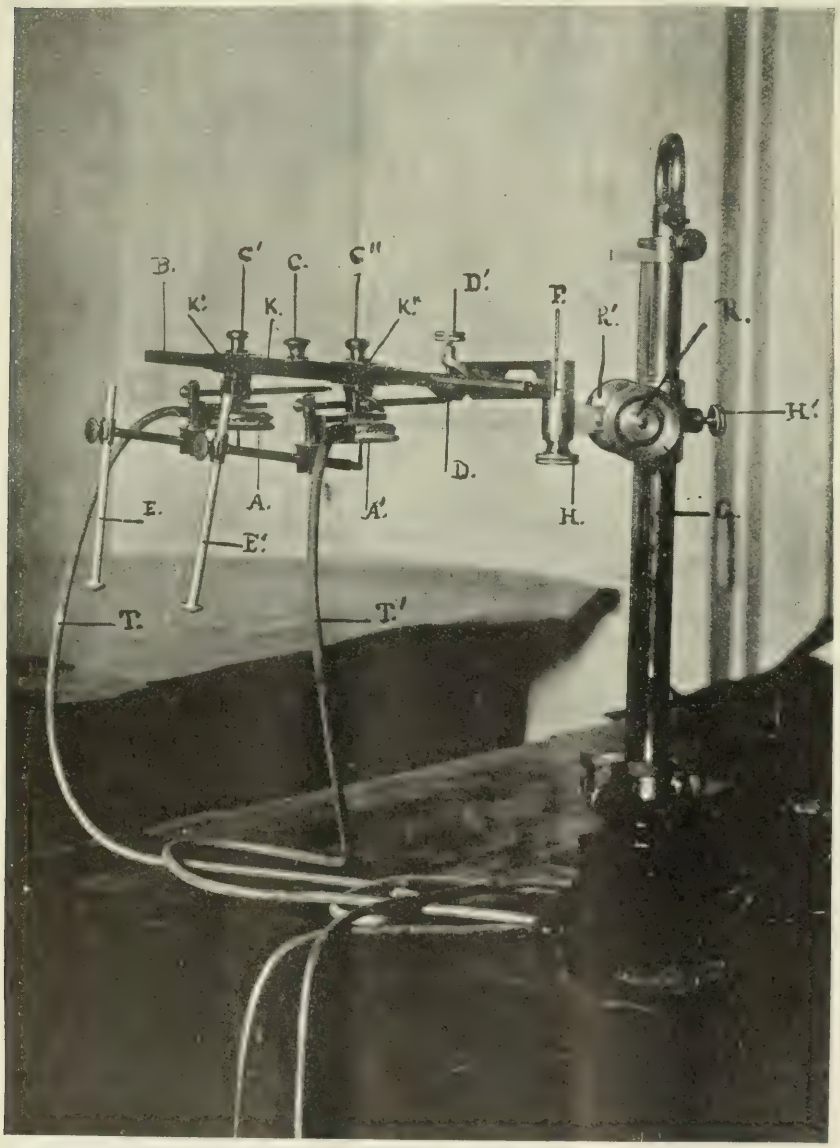


FIG. 1.—Stethograph employed in this investigation. *A-A'*, Marey's drums mounted underneath a horizontal rectangular bar *B*, by means of three sheaths gliding on bar, conjointly and independently. *K* is a common sheath for both drums, and *K'* and *K''* are the sheaths, belonging to each drum. *C*, knob of the common sheath by which both drums are moved conjointly. *C' C''*, knobs of the sheath pertaining to each drum to displace them independently. *D-D'*, release screw of the bar supporting the drums, to rotate the bar on its longitudinal axis, so as to be able to place the receiving rods, *E-E'*, perpendicularly to the frontal plane of the chest, whatever might be its inclination. *F*, release screw for the outward displacement of the stethograph to facilitate the placing of the patient on the table. *R-R'* rack and pinion for the upward and downward displacements of the stethograph. *H-H'*, screws to hold the apparatus, once in the proper position. *T-T'*, rubber tubing connecting the drums of the stethograph with the two Marey's drums carrying the inscribing pens.

A CONTRIBUTION TO THE STUDY OF THE PHYSIOLOGY AND PATHOLOGY OF THE SKELETON ON THE ORAL EXTREMITY OF THE THORAX (STETHOGRAPHIC METHOD).

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From the point of view of an early diagnosis of pulmonary phthisis, it is of great importance to obtain the most complete information regarding the behavior of the motility of the superior segment of the chest.

In this particular, we found the stethographic study of certain motor phenomena of the superior segment of the chest, under the influence of the contractions of the sternocleidomastoid muscles, very interesting *per se*, and also in combination with the expansive reaction of the whole chest, brought on by compression of the abdomen through lead discs placed on its anterior surface, and, as well, by the extreme flexion of the lower extremities on the pelvis, the subject under observation being in the dorsal decubitus. On the removal of the exciting cause the thorax resumes rapidly its original position.

That these motor reactions are not of mechanical origin is evinced by the total inefficiency of both procedures, or only of one of them, also by the irregular development of the thoracic motor phenomena in certain pathological conditions, with integrity of the thoracic structures; locomotor ataxia, bulbar paralysis, and also in latent and incipient phthisis. In the absence of any other anomaly of the movements of the chest (in the last category of cases), the thoracic reactions arise, for instance, through abdominal compression, while not at all by flexion of the lower extremities and vice versa. Moreover, the exciting cause may act only on the base of the thorax or on its cervical extremity. These local effects are at times unilateral, one of the sides of the chest remaining passive. Sometimes the reactions are crossed, base and apex of opposite sides.

In locomotor ataxia (five advanced cases), the constant

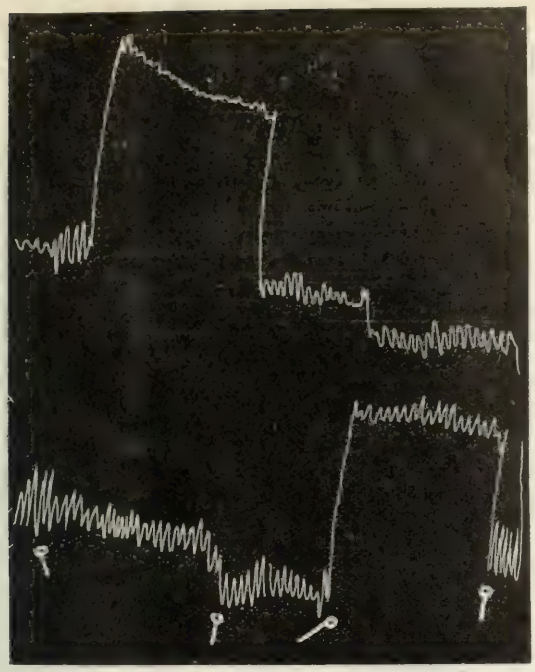


FIG. 2.—Luis P.; twenty-eight years; healthy; negative to the tuberculin test; normal infraclavicular tracings by rotation of the head; side not acted upon remains *in situ*.

occurrence was the absence of the thoracic reaction through abdominal compression, with a positive general reaction during flexion of the lower extremities.

In these cases there coexisted complete abolition of the deep intraabdominal sensibility. One of the patients was unaware of the enormous pressure exercised by a disc of lead weighing two and a half kilogrammes. The contrast existing in this connection, between the syphilitic (locomotor ataxia) and the tuberculous intoxication, brings with it the evidence that the centripetal channels (peripheral and central), are not the same for the one and the

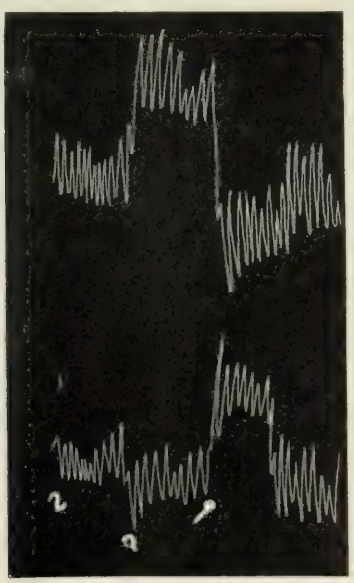


FIG. 3.—Isabel I.; thirty-two years; healthy; negative to tuberculin test. Normal tracings of the infraclavicular regions during rotations of the head. Side not acted upon assumes an expiratory position.

other excitation. On the other hand, the irregular distribution of the reflex thoracic reaction in phthisis indicates that the conducting afferent paths are different also, for the different segments of the thorax, lungs included.

With regard to pulmonary tuberculosis, the explanation of the phenomena is to be seen in the fact that the specific intoxication affects most frequently the fasciculated structures of the spinal cord (in two thirds of the cases according to Sand), having a marked predilection for the posterior columns.

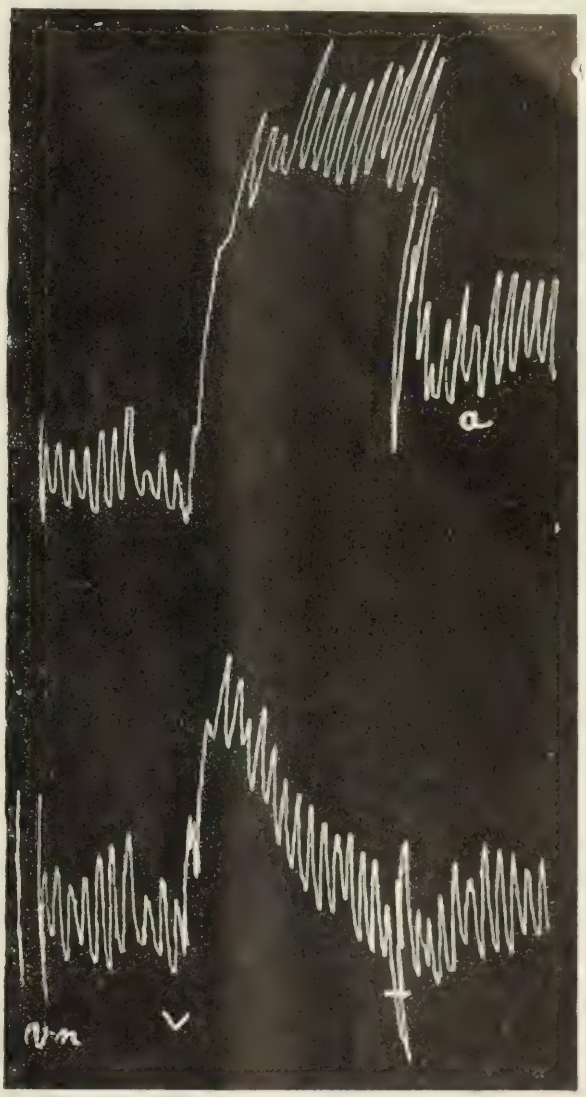


FIG. 4.—Antonio B.; twenty-four years; latent tuberculosis; adhesions in the left apex. Lower tracing ascends with three consecutive strokes, during flexion of the lower extremities (at *V*) not remaining in the upper abscissa, descending gradually. After extension of the lower extremities (at —) very marked "positive reaction" in the first moment. (Head's nomenclature.)

(Kahlden, Nonne, Petren, Ransohoff, Becker, Tauber, and Bernard Sand, etc.[1])

Unprovided as we are with anatomopathological data we cannot pretend to advance any but provisional conclusions, based on the knowledge of the normal anatomy and physiology of the thoracic cage

[1]For further information about the abdominal thoracic reactions, consult the monograph of the author, published by Lopez & Caula, Havana.

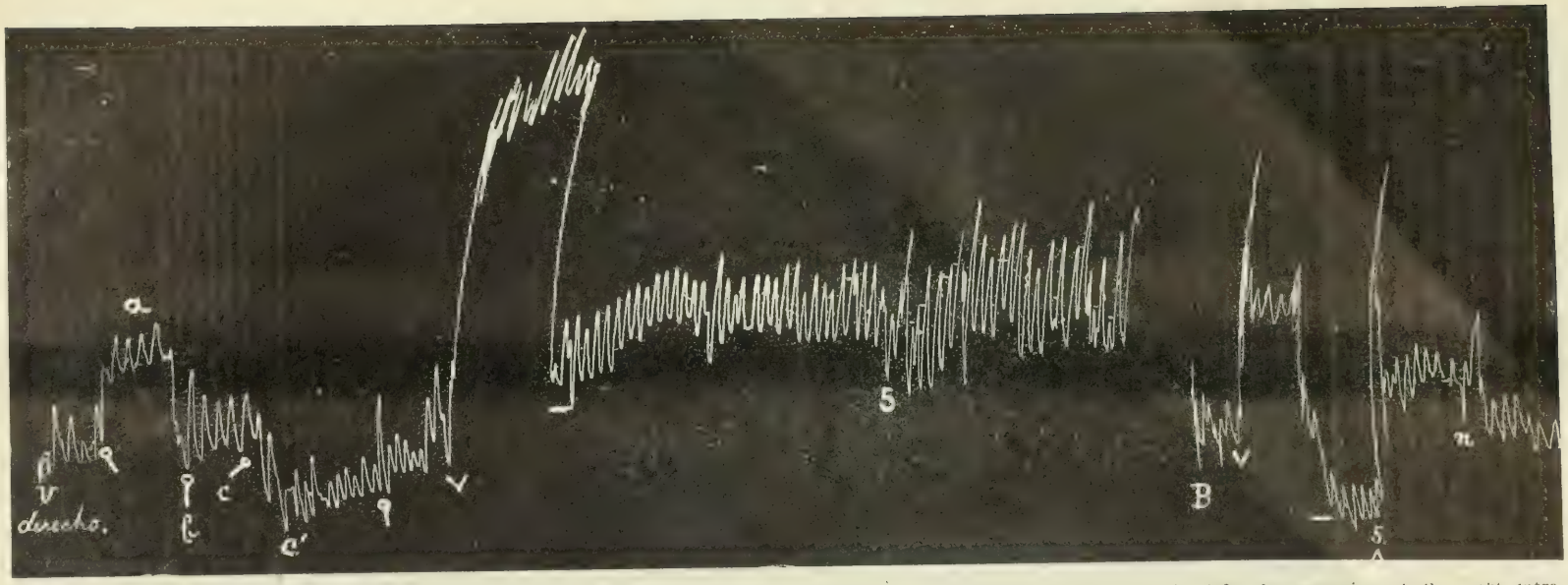


FIG. 5.—Francisco M.; twenty-four years; latent tuberculosis; very sensitive to tuberculin test. During cephalic rotation to the left, the expansion of the right intra-clavicular region takes place with three distinct movements, without any modification of the respiratory amplitudes (at *a*). After restitution of the head to the symmetrical position (at *b*), positive reaction (Head). During flexion of the lower extremities (*V*), very marked expansion of the chest. By compression of the abdomen (at *5*), reaction in expiration, in the first moment, with increased amplitude of the respirations and tonic oscillations, without any permanent expansion of the thorax. The base reacts less than the vertex during flexion of the lower extremities (*V*). By compression of the abdomen (at *5*), the effect on the thorax is extremely weak, preceded by a deep inspiration.

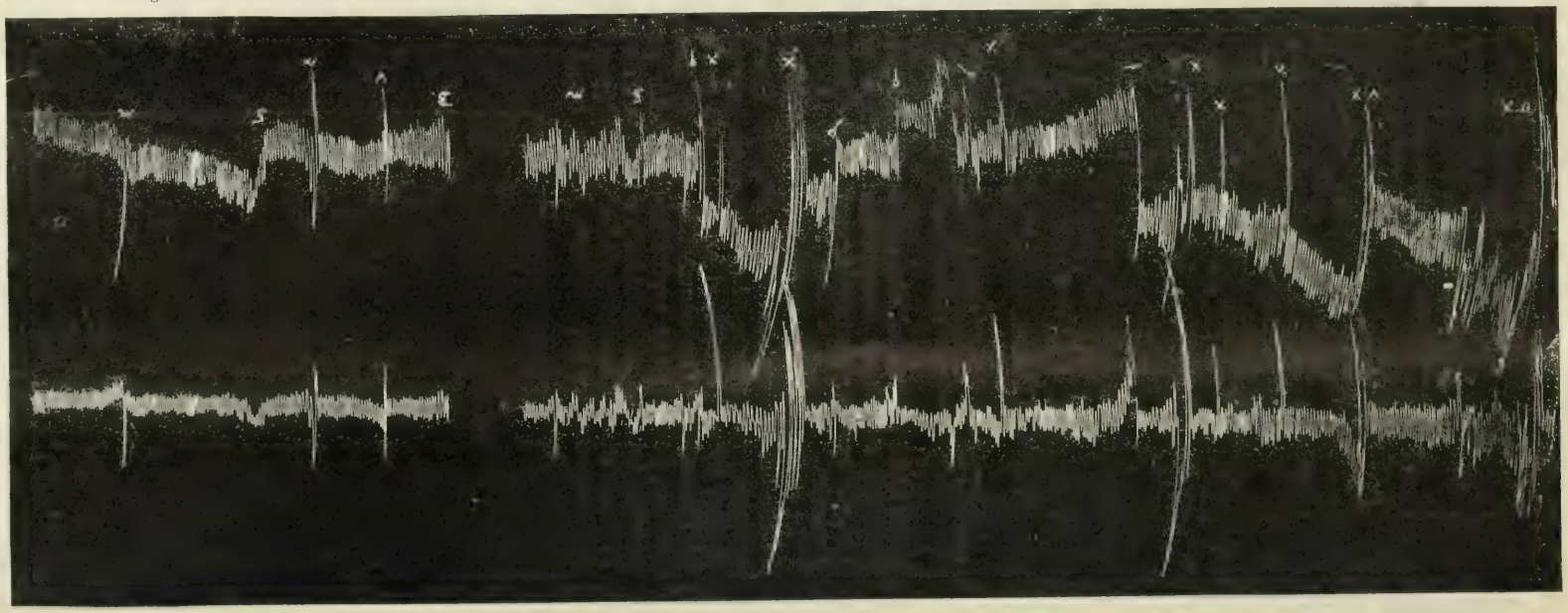


FIG. 6.—Luis M.; thirty-nine years; advanced cases of phthisis. The whole right side immovable, less so the left. Diaphragm less active on right side.

and of the usual seat of the pathological processes of bacillary origin, affecting the subjacent soft structures. The technique employed has consisted in taking, simultaneously, bilateral stethographic tracings, before, during, and after active rotation of the head, toward the right and left side, and, as well, during and after its return to the original symmetrical position, the occiput resting on the resistant plane whereon the subject under observation lies supine.

The rods of the stethograph[2] being placed on similar points of the infraclavicular region, the head being in the symmetrical position, the recording pens of Marey's drums furnish, first: Tracings of the respiratory movements in normal conditions. Now, on the head being rotated, let us say to the left side first, and then to the right, the inscribing pen corresponding to the side of the active sternocleidomastoid muscle ascends immediately, under a single quick impulse, tracing an uninterrupted line, to reproduce again the respiratory movements in an abscissa, situated above the primitive one. On the return of the head to the symmetrical position, the pen descends in the same form to the abscissa which it had abandoned during the cephalic rotation. In this second phase of their course it is not very rare that one of the pens, or both of them, in some subjects, should remain a certain length of time (very prolonged in tuberculous subjects, in an elevated position, with or without a partial descent, due to the circumstance that the retraction of the distended lung does not always take place immediately or uniformly, once the cause of the distention is removed. Hering-Breuer reactions of the motility of the lungs, discussed at length in the monograph).

Simultaneously with the unilateral expansion of the upper extremity of the chest, just described, it happens that the other pen, homolateral with the passive sternocleidomastoid, abandons, generally, the normal abscissa, to place itself in a lower one (Figs. 2 and 3), and when such is not the case it remains *in situ*.[3]

The thus evolving, dissimilar, alternating movements, inspiratory in one apex and expiratory in the opposite, seemed *prima facie* to be due to the elevation and retrocession of the respective clavicle and first rib, under the combined influence of the contraction of one of the sternocleidomastoid muscles and the simultaneous relaxation of the other, but, on a closer examination of the phenomena, it became evident that the underlying mechanism was not so simple. At all events, the resolution of the said muscles could not be the cause, to any great extent, of the depression of the corresponding side, inasmuch as the constant tendency of the ribs, particularly the two upper ones, is to place themselves in the inspiratory position (Henke-Landerer). In fact, exploring the upper segment of the thorax with the Röntgen rays, it could be seen that during the lateral displacements of the head the upper segment of the sternum was moved alternately from side to side of the median line, to the extent of a few millimetres, in a contrary direction to the cephalic rotation, that is to say, on turning the face to the right the manubrium was displaced to the left, and vice versa.

This bilateral displacement of the sternum can be accounted for, as far as we can see, only by the oblique direction in which the tractions of the sternocleidomastoid muscles are exercised; from a laterosuperior point, at the base of the skull (mastoid process), downward, forward, and inward (clavicular and sternal insertions), and, as a consequence of the resulting lateral displacement of the sternal extremity, the convexity of the upper ribs is of necessity differently modified on the two sides, exaggerated on the side of the active muscle and depressed on the side of the passive one.

In the first instance, the sternal extremities of the rib are pushed outward, *away from the median line of the chest,* by the lateral inclination of the manubrium, and the displacement of the sternal costal extremity can take place only if the anterior segment of the rib is flexible enough to permit an increase of its curvature.

In the second case, the side of the passive muscle, the sternal extremity of the rib is drawn in, *toward the median line of the chest,* with a resulting flattening of its curvature.

The extent of the sternal, lateral displacement is due, other things being equal, to the existing degree of flexibility of the ribs in question.

The amplitude of the lateral sternal displacements varies within comparatively large limits, even in the physiological condition, being frequently unequal from side to side. They are of course more pronounced in young persons. So far, we have not studied this phenomenon in the very aged or in infancy.

In phthisical subjects we have always found, up to the present moment, the sternal displacements very much reduced and asymmetrical, apparently in some relation to the extent and distribution of the local trouble, but we abstain here from entering into details, nor would it be justifiable to frame definitive conclusions, since our observations are not yet sufficiently numerous in pathological cases or in healthy individuals.

The foregoing explanation of the *modus operandi* of the contraction of the sternocleidomastoid on the bony structures of the superior chest region has been, in every instance, of great value on attempting the analysis of the stethographic tracings in question.

Dealing as we are with the effects of a muscular action on the osseous organs in question (the muscular function being normal), whenever the tracings evolve imperfectly, the claudication or immobility of the upper extremity of the chest must be, under these circumstances, of pleural, pleuropulmonary, or costal origin, and whenever a scrupulous

[2]The stethograph used is of our own construction, and is represented in Fig. 1.

Explanation of the signs employed to facilitate the interpretation of the tracings: *V* or *v*, infraclavicular fossa; *V*, flexion of the lower extremities; —, extension of the lower extremities; *V*, forced voluntary respiration. ↖ the figure of a screweye with head, *pointing to the left*, cephalic rotation to the left side; / the figure of a screweye with head, *pointing to the right*, rotation to the right side; | the figure of a screweye with head, *pointing upward*, symmetrical position of the head; *x*, cough; *5 k. v.*, or a cypher only, indicates the number of kilogrammes placed on the anterior surface of the abdomen. *N* means normal conditions. When placed, for instance, after *5 k. v*, or *5*, it indicates the moment in which the weight was removed. The weight must be applied slowly, without any sudden shock, to avoid reflex contractions of the abdominal muscles, and without coming in contact with the costal border or with the brim of the pelvis.

[3]In the prints the upper tracing corresponds to the right side of the chest—and the lower to the left.

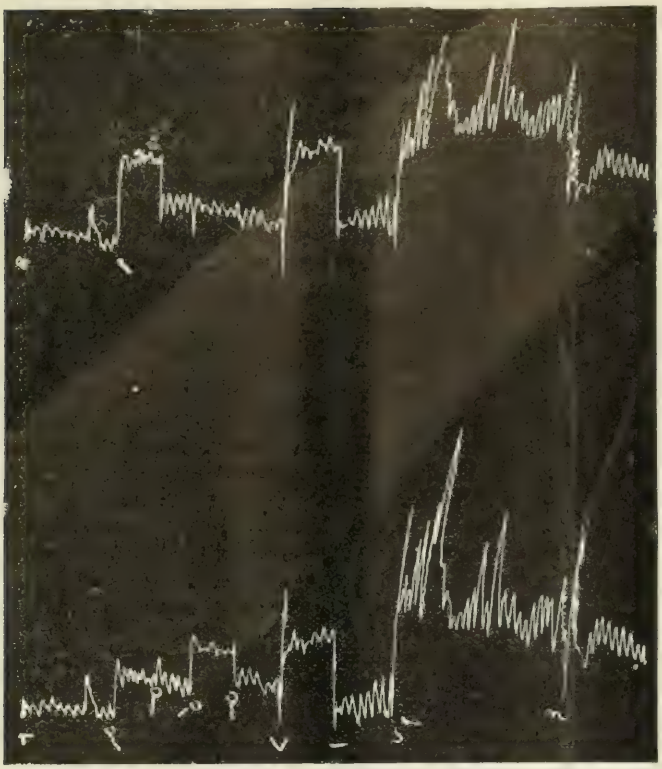


Fig. 7.—Jane V.; twenty years; latent; both apices relatively stationary during cephalic rotation and flexion of the lower extremities. Conjoint movements from right to left, *5 K V*, followed by a strong irregular reaction.

exploration leads to the exclusion of any damage seated in the lungs and in the bony structures, to ascribe the existing anomaly to a pleural disorder of some sort is the most logical explanation (Figs. 4, 5, 6, 7).

The upward displacement, reached by the tracings, varies obviously in individuals, but it being the case that bacillary affections of the apex are generally unilateral, in the initial stage, the unaffected side, that is, the one in which the movements present normal characteristics, gives the pattern for estimating the extent of the existing anomalies.

When both tracings are equally limited in their ascending course, the reduced amplitude must be considered as physiological, until we are otherwise informed.

The tracings thus obtained show sometimes depressions, synchronous with the inspirations, and we attributed the phenomenon to firm, unyielding, pleuroparietal adhesions, coinciding, as is always the case, with a certain degree of cortical condensation of the subjacent pulmonary texture. In some cases the inspiratory depressions occurred irregularly, separated by groups of normal respirations.

This explanation is at any rate in harmony with Revillet's interpretation of the same respiratory type, observed directly in the supraclavicular fossæ, thoroughly studied by the said author with the aid of autopsies and experiments on the cadaver.

It is not difficult to conceive that through the technique described it will be possible to detect silent pleuritic adhesions, nor does it seem possible to underrate the value of the data thus obtainable from a diagnostic point of view, since in the early stages of the disease in question, pleural processes are of frequent occurrence, passing, however, unnoticed as a rule when pulmonary disorders do not coexist capable of generating the characteristic fine or large crepitations. The friction sound, the surest sign of all, is quite uncommon in that region of the chest, as is well known, and when present it is always imperfectly perceived, of dubious nature, owing to the circumstance that at the apices the interpleural sliding displacement is normally at its minimum, coming to a standstill, no matter how little the normal conditions are modified. In harmony with Louis's statistics, pointing out the great frequency of double pleuritis as an accompaniment of pulmonary tuberculosis, we have found the stethographic formulæ under discussion, whenever it was present bilaterally, to be a reliable revealer of the tuberculous infection.

By this procedure is also brought to light the weak discordant respiration, described by the late Professor Grancher, of Paris, undetectable by the ordinary methods of exploration in the attenuated forms.

When there exists a condition of pronounced hypotonus of the intercostal muscles, inspiratory depressions are also revealed by the tracings, but then the disturbance is usually extensive, while, on the contrary, every time that a pleuritic process could be detected, it was observed that by displacing downward, nearby, the receiving rods, the inspiratory depressions either diminished greatly in extent, or disappeared altogether.

On the other hand, whenever a marked reduction of the muscular *tonus* was present, other local conditions being normal, it could be also noticed that by placing the stethographic rods alternately, on the intercostal spaces and on the bordering ribs, the inspiratory *tirage* was more pronounced in the first

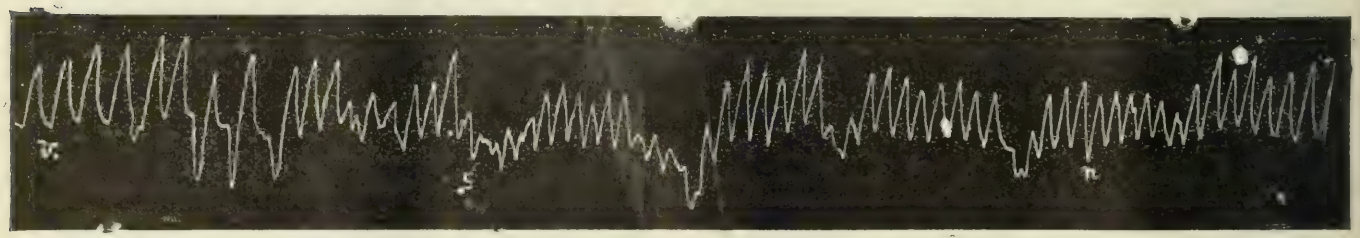


Fig. 8.—Periodic respiration in a case of latent phthisis produced by abdominal compression.

instance, a behavior not detected, so far, when the muscular trouble was absent. Furthermore, the muscular atony imparts to the general altitude of the tracings a uniformity which they lack when the muscular tonus is normal. The tracings, furnished by the physiological respirations, have, as is well known, an undulated configuration, similar to that described by Traube and Hering in the tracings proceeding from the bloodvessels, due to the fact that the extreme positions reached by the chest during respiration, are not uniform. The extreme points of the lines, corresponding to the inspiratory and to the expiratory excursions of the thoracic walls, are located, in their respective ordinates, in altitudes changing periodically, because, independently of the manifest movements originated by the rhythmical muscular contractions, there coexists another muscular action of a much slower rhythm, dependent on the incessant fluctuations of the central nervous activity which originates and regulates the muscular tonus.

Furthermore, almost constant accompaniments of the atony of the respiratory muscles are periodical pauses at regular or irregular intervals, due to the circumstance that the fluctuations of the central energies, on which are incumbent the development and maintenance of the tonus of the said muscles, are so intimately united to the so called periodical respiration, "that it is not possible," says Mosso, "to separate these two facts, and to establish the demarcation that would decide which term should be used." "It can generally be said," continues the learned physiologist, "that whenever the tonicity of the muscles of respiration diminishes, there is a tendency in the respiratory centres to diminish the strength of the movements, and a real pause of the respiration frequently occurs" (Figs. 8 and 9 are examples of periodical respiration in tuberculous subjects with low muscular tonus).

The first type was obtained by abdominal compression, the second by extension of the lower extremities.

Moreover, when the costal inspiratory retraction under discussion is due to muscular inactivity, all other things being normal, the costovertebral functional angle is more or less reduced in the whole extent of the affected side, a condition of things not yet met by us to that extreme degree, when it coincided exclusively with signs of very limited pleural adhesions.

In cases of latent phthisis, producing, during rotation of the head, normal tracings in the ascending course, it frequently happens that one of the pens does not remain in the upper abscissa reached, but descends more or less slowly, interruptedly, to the original abscissa. When this phenomenon coincides with a perfect expansibility of the whole chest (during forced breathing, abdominal compression, or flexion of the lower extremities), it is difficult to judge the situation, which may be due to the existence of very retractile pleuritic adhesions or to atony of the corresponding sternocleidomastoid, functional, or of dystrophic nature, that muscle being the usual site (Mariani) of the trophic disorders which supervene with frequency in the muscular structures on the side of the tuberculous process.

(*To be continued.*)

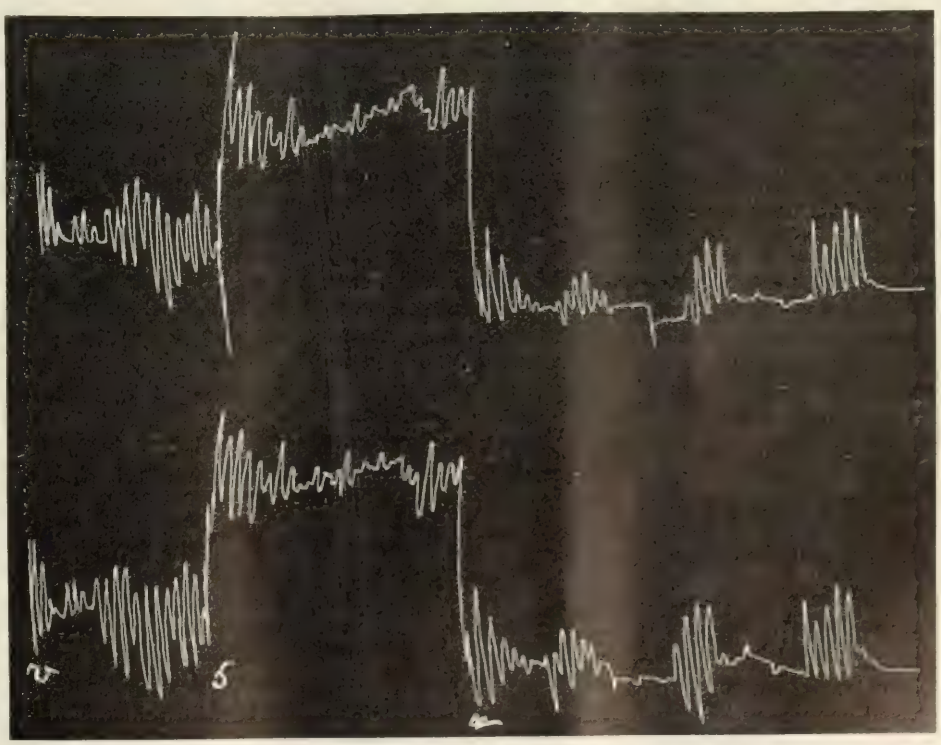


FIG. 9.—Periodical respiration in a case of latent phthisis, coming on when the abdominal compress... was removed.

Correspondence.

LETTER FROM EDINBURGH.

Professor Flexner in Edinburgh.—Work of Royal Edinburgh Asylum.—Royal Medical Society Dinner.—Appointment for Doctor Gunn.—Lister and Washing.

EDINBURGH, *March 23, 1912.*

The announcement that Professor Simon Flexner, of the Rockefeller Institute, New York, was to deliver a lecture in Edinburgh, drew a large audience to the McEwan Hall. The title of the lecture was Specific Local Therapeutics of Infections, with Particular Reference to Epidemic Meningitis. Principal Sir William Turner presided, and the lecture was under the auspices of the university, Professor Flexner being the Cameron prizeman as was intimated in a previous letter. This prize is

awarded at certain intervals to distinguished investigators in the domain of therapeutics. Pasteur was the first to receive it, and Lord Lister the second. Doctor Flexner said the subject of the address related to the local specific treatment of infectious diseases, and especially to the treatment of epidemic cerebrospinal meningitis. He described the steps by which the antimeningitis serum was discovered and the essential part played in the discovery by the experimental production of epidemic meningitis in monkeys. Thus it was that a test of the serum, equivalent to testing it on man, was rendered possible; and through this test it was ascertained that it was only when the serum was introduced directly into the inflamed membranes about the brain and spinal cord that it produced its peculiar and specific effects. He then went on to describe how, after the first successful employment of the serum in the United States, in the State of Ohio and elsewhere, where the epidemic disease prevailed, it was sent to Doctor Ker in Edinburgh, Dr. W. Robb in Belfast, and elsewhere in Great Britain, and then, after its successful employment in these places, it was offered by the Rockefeller Institute for Medical Research to the world. It had now been employed in many European and far Eastern, as well as Western, countries. Reports on its use had been sent in to the lecturer from hospitals in many countries, and these reports, numbering many hundreds, had been subjected to analysis, from which it appeared that the average fatality was from seventy to ninety per cent., and that the fatality of the serum treated cases varied from fifteen to twenty-five per cent. The disease in infants ordinarily was almost always fatal; but now as many infants survived as adults. Moreover, the crippling effects of the disease—except deafness, which might still occur—such as idiocy, paralysis, and blindness, were now nearly unknown. The lecturer then went on to apply the principle of local specific treatment to other kinds of infections of the cerebrospinal membranes and other parts of the body.

The work of the Royal Edinburgh Asylum was described in the report of this institution submitted at the annual meeting on February 26th by Dr. George Robertson, the physician superintendent. In the course of his report Doctor Robertson analyzed the cases that had been treated in the asylum during the past year, dwelling on their predisposing causes. The first cause he referred to was worry and anxiety. This was far more potent to injure the mental well being than the effects of either sudden shock or overwork. No part of the nervous system escaped from its debilitating effects. Under the influence of constant anxiety, the appetite and digestion suffered, palpitation, insomnia, and other nervous phenomena developed, and finally, after the general health had been undermined, there came a mental breakdown in the predisposed. Mental overwork unaccompanied by anxiety, and sudden shock sustained by an average man or woman in good health very seldom led to mental disorder. Instances, of course, occurred in predisposed people, and that was not surprising, but what was more remarkable were the calamities and the overwork which normal adults would stand, provided they were in good health. Drink was the cause of a large number of cases treated, the number due to this cause being larger than the previous year.

As regards treatment, the report stated that in the majority of cases reliance was still placed on such simple remedies as rest in bed, fresh air, simple diet, and freedom from worries. Under that régime the patient quickly improved in looks, put on weight, and steadily regained health and strength. It appeared wonderful that such a simple measure as rest all day in the open air, and others of a similar character, should alleviate the most troublesome symptoms of mental disorder. It acted as a sedative, for example, to patients suffering from feelings of irritability and restlessness, just as fractious children were similarly calmed by being taken outside; and for insomnia, which was one of the curses associated with mental disease, it was more generally useful than any opiate. One explanation of these results might be that many of these so called symptoms of mental disease did not need to exist at all, but required special conditions to call them forth. They were the reactions or responses of a disordered brain to stimuli received from the outside, and if the environment was adapted to meet the disordered state, so as to be nonirritating and soothing, then these insane manifestations ceased because they were not elicited. Dealing with the question of prevention of insanity, Doctor Robertson laid stress on the necessity of preserving a good stock by preventing as far as possible marriage between tainted families. Alcoholism and its effect on the mind were also dwelt upon. During the past year three events took place that will have an important influence on the future care of the insane. First among these was the creation of a diploma in psychiatry by the University of Edinburgh, open to graduates. In the second place there was the publication of the report of the select committee on the Asylum Officers (Employment, Pensions, and Superannuation) Bill. In the third place there had been the introduction of a bill in the House of Lords by the late secretary for Scotland to amend the law relating to lunacy.

The chief guest at the annual presidents' dinner of the Royal Medical Society, held recently in the society's rooms in Edinburgh, was Mr. Robert Jones, F. R. S. S. E., of Liverpool. In replying to the toast of The Guest, he paid a warm tribute to the memory of Lord Lister, whom he described as one of the immortals. A similar tribute was paid by Doctor Bramwell in replying for the university.

Dr. James A. Gunn, F. R. S. E., etc., has been appointed to the newly constituted readership in pharmacology in the University of Oxford. The reader is to have charge of the teaching of materia medica, and also of the construction of a new pharmacological laboratory. Doctor Gunn has had a distinguished career. He obtained the degree of B. Sc., with special distinction in anatomy and in physiology, and the degree of M. B., Ch. B., with first class honors. On graduating as M. D., he was awarded a thesis gold medal, also the Milner-Fothergill gold medal in therapeutics. He has held numerous scholarships, and was recently elected to a Beit memorial fellowship for medical research.

For several years Doctor Gunn acted as assistant to Sir Thomas R. Fraser in the materia medica department of Edinburgh University. As the result of his researches he has been able to make numerous contributions to the literature of pharmacology.

A writer to *The Scotsman* recently called attention to a report regarding the late Lord Lister in which Lister is said to have remarked: "I have not used water for years. I never bathe, I never wash." When asked what he did to insure cleanliness, he is reported to have replied that he only used dry towels, and by rubbing he kept the skin free from all impurities and in good condition for the performance of its functions. "As an intimate friend of Lord Lister during the last fifty years," continues the writer, "who knew his personal habits well, I can confidently assert that this statement is a most absurd, baseless, and untrue one." On one occasion, says the writer, in the course of a lecture to a students' medical society, Lister disapproved of surgeons performing prolonged ablutions of their own hands and of the skin on the part of the patient's body to be operated on, before applying a watery solution of carbolic acid to both. He objected to the natural grease of the skin being removed first by the soap and water, because he knew that carbolic acid has a very strong chemical affinity for oils and grease of every kind and only a weak one for water. He then said: "I, therefore, never wash my hands——" but the rest of the sentence was drowned by the laughter and applause of the students. When these were finished, he also finished his sentence—"I, therefore, never wash my hands immediately before operation, but trust entirely to soaking them a little in a saturated solution of carbolic acid." This incident is supposed to be the origin of the story that Lister never washed!

Therapeutical Notes.

Treatment of Eclampsia.—Thoms (*Yale Medical Journal,* February, 1912) lays great stress on the importance of frequent uranalysis from the beginning all through pregnancy, in order that the first appearance of albumin may be detected and the physician put on his guard. During the first six months of pregnancy monthly uranalyses should be made and after that biweekly. He finds that an increase of albumin with casts, with a decreasing twenty-four hour amount, are present in great majority of preeclamptic toxemias. Increase of blood pressure beyond 160 mm. (maximum in normal pregnancy, Janeway) is another valuable indication of danger. If in addition to albuminuria there are cephalalgia and visual disorder or edema the patient should be put to bed, and receive a saline purge and a forced fluid diet. If to these symptoms there are added dyspnea, sensory disturbances, or epigastric pain and there is an increase in the physical signs, edema, tachycardia, blood pressure, and amount of albuminuria, eclamptic treatment is indicated at once, preferably in a hospital. The author advises conservatism and does not believe that emptying the uterus is always the proper thing to do. The patient should rest in a quiet room, should take an ounce of saturated solution of epsom salt every morning and be forced to take eight ounces of milk and water every hour. If the pulse rate is 100 or over, a deep hypodermic of fluid extract of veratrum, five minims, should be given every four hours, to be reduced to three minims when the pulse drops to 80, and stopped when the pulse drops below that. Nitroglycerin (grain 1/50) hypodermically, should alternate with the veratrum until the blood pressure falls at least to 160 mm.

The colon should be irrigated every eight hours (nine gallons normal saline solution at 120° F.), using twenty minutes for the operation, hot air baths, or hot packs (from thirty to forty-five minutes) every eight hours alternating with the irrigations. Chloral (grains xx-xxx in milk) every four hours should be the only sedative. If maniacal, morphine up to one half grain may be given. Do not restrain by force. An albumin content of eighty per cent. or over is an indication for induction of labor. The author warns against the use of chloroform to control convulsions, on account of its toxic action upon the liver.

Iodine as a Surgical Disinfectant.—Baldwin (*Interstate Medical Journal,* February, 1912) uses iodine as a skin disinfectant in all cases of abdominal sections, and in minor operations as well. In all cases, except emergencies, the usual toilet of the field of operation is made the day before the operation, finishing with the application of a sterile pad. After the patient is anesthetized and on the operating table, the surface of the field of operation is painted once over with tincture of iodine, U. S. P., taking care that it is not allowed to collect in puddles under the patient or in the inequalities of the surface. This coating is allowed to dry, and the sterile sheets and towels are placed in position, and the patient is ready for operation.

In emergency cases the patients are anesthetized, placed on the table, the parts given a dry shave, scrubbed with ether, and painted with iodine. The use of water is omitted as the iodine penetrates better through a dry skin.

Cocaine in Chancroid and Sluggish Ulcers.—G. Frank Lydston (*Journal of the American Medical Association,* February 24, 1912) uses cocaine previous to cauterization, in the belief that the drug is useful aside from its anesthetic properties. He uses a tablet containing from one fourth to one half grain applied with a small cotton swab, moistened to facilitate the dissolving of the tablet. The drug is "rubbed" into the ulcer lightly with the swab. The ulcer in a few minutes is transformed into a vascular, healthy surface from which exudes a bloody serum. When the sore is inclined to be sluggish these applications are made once or twice daily. The drug acts by inducing hyperemia, and its use is of necessity restricted to small areas, but is not confined to chancroids.

When the cocaine is used by the patient, Lydston finds the following formula of special service:

℞ Cocainæ hydrochloridi. . . . . gr xv;
Carbonis animalis. 3j

M. Sig.: Apply twice a day. Cleanse ulcer carefully with hydrogen peroxide and dry thoroughly before applying powder.

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THE NUTRITIVE VALUE OF SOME INDIVIDUAL PROTEINS.

I.

At the present day, in spite of recent advances in our knowledge of biochemistry, it is still common to read of the parts played by carbohydrates, fats, and proteins in nutrition. The standard dietaries, for instance, give as daily requirements so and so many grammes of proteins, fats, and carbohydrates, as if these groups of substances were each chemically homogeneous, or the individuals of each group interchangeable.

The chemical work in the last decade, however, has shown that the individual protein substances differ greatly from one another, both qualitatively and quantitatively in the aminoacid cleavage products that they yield on hydrolysis. The insufficiency of gelatin to replace the protein in the diet has long been recognized. This insufficiency was ascribed to its deficiency in tyrosin and sulphur. Only with the advance in the study of the proteins, was the absence of another aminoacid in gelatin, i. e., tryptophane, appreciated as a factor in its nonavailability to replace body protein. Even then, as Murlin has accurately shown, gelatin may replace two thirds of the mixed protein in the diet to maintain a satisfactory equilibrium between the income and outgo of nitrogen.

A few years ago, it was taught that in digestion, the proteins, or proteids as they were then called, were hydrolized into simpler and more soluble proteoses and peptones. These were absorbed into the body from the intestine as "circulating" or "morphotic" proteins. Now we know that a much more profound cleavage obtains. The proteins are broken down into the aminoacids or very simple combinations of these and absorbed as such. Recent work has indicated that these are resynthetized into the characteristic tissue proteins, which may be relatively widely different from those ingested as food. The unused nitrogen of the surplus aminoacids is desamidized in the tissues, the nitrogen leaving the body as urea—the latter synthesis occurring, naturally, in the liver.

In addition to the utilization of the food protein in this way, some and perhaps all the tissues in the body can utilize the protein of other tissues or cells. This is seen in starvation, where the nervous system and circulatory organs are maintained at the expense of their fellow tissues. Again in the salmon, on their fresh water trip to the spawning grounds, and in winter, in frogs, the reproductive organs and the sperm and ova are developed at the expense of other tissues.

Certain important problems instantly suggest themselves. For instance, what rôle do the chemically incomplete proteins play in nutrition? What proteins, if any, can individually supply all the material in the form of aminoacids required for normal nutrition and for growth? Can the body of itself form the deficient cleavage products, or at least reserve some from the normal protein "wear and tear" to be used again? And finally, which protein, if any, is so constituted chemically that it is best suited both for replacing that catabolized daily, and for purposes of growth?

These problems, however, have not been neglected in the past few years. One can mention the careful experiments of Röhman and his pupils on dogs fed with isolated proteins, of Abderhalden and his collaborators, of Henrique and Hansen on white rats, of Willcock and Hopkins, and finally those of McCollum—the most successful thus far reported—in which edestin, from hemp seed, zein, from corn, sometimes casein were the sole sources of the nitrogen fed. None of these investigators, however, has demonstrated whether any single protein, or combination of proteins, is incapable of supplying the nitrogenous complexes necessary. The experiments with single proteins have been uniformly unsuccessful when carried over long periods of time. The failure seems to be due to the fact that eventually the animals under observation fail to eat sufficient food. This is, as Osborne and Mendel now show,

"the physiological sequence of any imperfect dietary." The experiments of these investigators have just been published in two parts as *Bulletin 156* of the Carnegie Institution of Washington, D. C.

The observations reported in Part I of the bulletin, showed the sufficiency of certain artificial dietaries to maintain grown rats for long periods of time in nutritive equilibrium (from fifty to 286 days). Particularly was this the case when casein or glutenin of wheat was employed with the artificial salt mixture suggested by Röhman. A failure to eat food was the apparent cause of the unsuccessful termination of numerous experiments, and eventually of all of the earlier ones. Monotony of the diet was evidently not the cause of this difficulty. In Part II of the report it is shown that the use of "protein free" milk increased the nutritive efficiency of the diet. This was prepared from skim milk, freed from casein and coagulable protein, and evaporated. The makeup of the inorganic constituents of the diet seems to exercise, then, a profound influence on the maintenance of the animals. Such as they are, the experiments reported in the first section of the bulletin are the most successfully recorded attempts at artificial nutrition with a constant mixture of food stuffs containing only a single protein such as casein. Satisfactory results over long periods followed the gradual replacement of other proteins for the casein, one animal continuing for more than 217 days on a diet in which the sole protein was glutenin. With young rats, it was found impossible to maintain the body weight with the dietaries mentioned; little, if any growth was observed under these conditions.

THE TOXICITY OF MALE FERN WHEN GIVEN WITH CASTOR OIL.

The occasional cases of poisoning from this cause, and the presence on the market, in Germany, of a preparation (Tritol-Stark) in which extract of male fern and castor oil occur in combination, warrant another warning. This is all the more necessary in view of the fact that textbooks on pharmacology fail to lay strong emphasis on the dangers of the combined use of these two agents, or even of the use of the oil as a purgative after the vermifuge has been used. Indeed, most of them seem to make light of the toxicity of aspidium, although Grawitz and other authorities have laid stress on its dangers. Nausea, faintness, tremors, drowsiness, tinnitus aurium, lassitude, and icterus are not uncommonly witnessed, even under the influence of moderate doses in practice, while vomiting, profuse sweating, purging, severe abdominal pain, diminished urination or anuria, with albumin and hyaline casts, muscular twitchings, cyanosis, tetany, delirium, coma, and death have not infrequently occurred under the influence of large doses. Some years ago Sidler Huguenin, in a series of seventy-eight reported cases of aspidium poisoning found that twelve had terminated fatally. When castor oil is administered with the preparation usually employed, the oleoresin, the normal or therapeutic dose is itself rendered toxic, owing to the fact that the filicic acid, one of its toxic constituents, is dissolved by the oil and is thus readily absorbed from the alimentary canal. So thoroughly is this fact recognized in some European countries that such a combination is prohibited by law.

Another feature which should be borne in mind in this connection is that even if toxic phenomena due to aspidium do not prove fatal they are apt to produce after effects of a severe nature on the visual apparatus. Optic atrophy, with typical gray or white discoloration of the optic nerve and contraction of the retinal arteries, has often been observed after severe intoxications, while transient amaurosis, with dilated nonreacting pupils, is comparatively frequent. In forty-four out of Huguenin's seventy-eight cases, temporary or permanent disease of the optic nerve was the main lesion. Suggestive in this connection is the fact that out of these forty-four cases, fifty-seven per cent. had received castor oil along with the aspidium.

Magnesium sulphate is fully as efficacious as castor oil for the purpose, and by enhancing the secretory activity of the intestinal mucosa tends not only to prevent the absorption of filicic acid, but also to favor the detachment of the parasite and its prompt and complete elimination.

AMERICANS GREAT CONSUMERS OF CANDY.

It is quite probable that candy used to be denied to children largely because they liked it so well. The Puritanical idea that anything very pleasant must be wrong was long a dominant factor in the modeling of our diets and in the conduct of our lives. "They are dangerous guides, the feelings," is the Victorian formulation of the same idea. Happily for the children, and for many adults as well, we are coming to look with a little less suspicion upon our feelings and desires; we trust more to Nature and to Nature's indications. The universality of the taste for sweets cannot but be regarded as an indication of their probable dietetic value except to the mind which still looks with suspicion upon all pleasurable sensations.

That this taste for sweets is growing, or at least is being given rein to a greater extent, is clearly

shown by a recent census report, from which we learn that in the five years between 1904 and 1909 there has been an increase of $47,709,000 in the value of the candy produced in the United States. This gain of fifty-five per cent. during a period in which the population has grown probably not more than eight per cent., shows an astonishing growth in the per capita consumption of candy. This increase is due, perhaps, primarily to the increased wealth of the community, but has undoubtedly been influenced in no small measure by the change in the attitude of the medical profession toward the matter of the consumption of candy.

As has been previously pointed out in these columns, the direct beneficial effects of feeding sugar in certain kinds of heart disease seems to have been conclusively demonstrated by the observations of Doctor Goulston and Sir James Sawyer. While their observations published in the *British Medical Journal* for March 18, 1911, and April 1, 1911, subsequently noted in the New York Medical Journal, refer to sugar, their conclusions would probably apply equally well to pure and wholesome candies. Nor does the presence of glucose in candy militate against its digestibility or value, except in certain morbid conditions. In fact, it has been pointed out by Professor Robert Hutchinson, in his work, *Food and Dietetics,* that "in the cases of dyspeptics the superiority of glucose for such patients over ordinary cane sugar cannot be too strongly insisted upon." This superiority is due to the fact that glucose is less prone to fermentation in the stomach than cane sugar, and that cane sugar must itself be converted into glucose in the processes of digestion before assimilation. In giving glucose instead of cane sugar, one step in digestion is saved to the digestive apparatus.

The drawback in permitting the child to eat unlimited candy lies in the absence of fat. If the parent is warned to introduce sufficient quantities of the carbohydrates by insisting upon the use of butter or oils in the diet the child may generally eat pure candy without detriment and even with distinct advantage. The development of the candy industry disclosed by this census report indicates that the medical profession and the public as well are coming to realize and act upon these facts.

The sole dangers of candy eating lie in adulteration, which is still practised to some extent in States where there is no prohibitive legislation, or where such is not enforced. Such substances have been found as lead and potassium chromates, the lakes of tin, and coaltar products like Martius yellow, dinitrocresol, and dinitrosoresorcinol, all of which are used to impart brilliant and attractive color. The use of terra alba, contrary to popular suspicion, is very rare. Common sense will eventually put a stop to all food adulteration; meanwhile the candy lover may confine his palate to confections of modest hue or to those marketed under honorable names.

DIAGNOSTIC IMPORTANCE OF NEWLY FOUND BODIES IN THE LEUCOCYTES IN SCARLET FEVER.

Martin Kretschmer, in the *Berliner klinische Wochenschrift* for March 11, 1912, refers to an article by Döhle, who found, in thirty cases of scarlet fever, small bodies of uncertain shape, suspended in the protoplasm of the multinuclear leucocytes, which bodies presented themselves less stained than the nuclei. Kretschmer has verified this statement and remarks that these newly found contents appear in the beginning of the disease up to the fourth day in the great majority of the leucocytes, from one to six in one cell; the severity of the fever has no influence upon their appearance. He has not been able to find an exact period when these bodies will appear, and he thinks that this microscopic discovery will be of great assistance in the diagnosis of dubious cases. The explanation he gives of why the contents have not been discovered before, is to be found in the method of staining the cells. Döhle has used in some cases methylene green-pyronin, which shows the nuclei light green, the new contents light red, only lightly distinguished from the pink of the protoplasm; he also used Michaelis's azure blue to which he added Hoppe-Seyler's sugar reagent, and also a mixture of orseille and an acid hemotoxylin; with this coloring matter the nuclei become dark blue, while the new contents show up light blue in protoplasm which is hardly changed at all. Kretschmer has used Manson's method of staining; the leucocytes appear then from light green to light blue, the nuclei dark blue, with a reddish shade, the contents pale blue, and the protoplasm without color.

CARD PLAYING.

It is reported that a certain prominent church body is about to relax its discipline to the extent of permitting to its adherents dancing and card playing. We have nothing but approval for dancing, an admirably graceful and strength giving exercise, eminently adapted to produce physical perfection and devoid, in its essence, of the disgraceful characteristics imposed upon it recently by certain leaders, blind or worse; it is an art, perfection in which

requires study and practice, and leads to a healthy fatigue which prevents excesses.

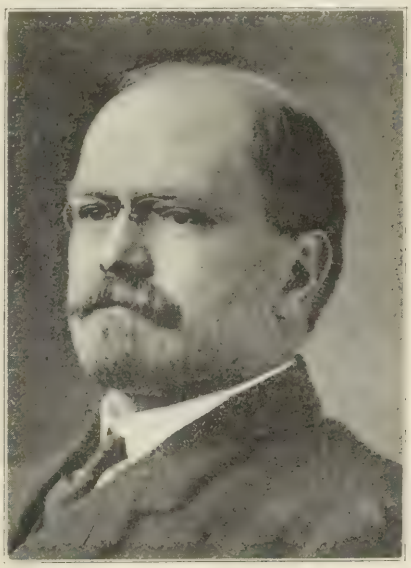
Card playing, on the other hand, is a pure and simple mental dissipation, that grows upon the victim like all other dissipations to the eventual exclusion of logical and close thinking. A valuable distraction for the elderly, once a week, say, if indulged in oftener, especially by the young, it exercises its narcotizing influence with irresistible force. Skill counts for only three per cent. in even the most scientific of card games, much less in the popular gambling forms. The legend which attributes the invention of playing cards to the necessity for amusing a mad king of France possesses verisimilitude. Appealing primarily to the imperfectly balanced mind, they soon reduce that of a better quality to the same level. They are comparable in every way to the habit forming drugs and lead surely to the neglect of every sane and healthy amusement, to say nothing of business or professional duties. We hope that any religious body which has the power will continue to enforce a regulation evidently based, years ago, upon observation of the stupefying effects of card playing, effects which are identical with those of "playing the races," a pastime which finally incurred extinction at the hands of none too squeamish legislatures.

THE VALUE OF TREE PLANTING.

There is a tree planting association in New York which is urging all Nature loving citizens to welcome spring by planting trees in streets, parks, yards, and open places. Such a movement deserves the approval of the doctor. Our destruction of trees in the past has been one of our worst and most shortsighted of extravagances. Not only does our hard and sunny atmosphere demand the rainfall caused by trees, but they are the best purifiers of the air, taking up our exhaled carbonic acid and giving us back pure oxygen; they regulate moisture and the stability of the soil. Furthermore, who would not welcome their grateful shade in our baking streets with their refractory stone sidewalks? The physician should plant a tree himself and urge his patients to do likewise. Another advantage of trees, not to be ignored in an intelligent community, is that they increase the beauty of the country and produce a healthy esthetic influence upon the people.

A GOOD VETO AS TO MILK.

Physicians have reason to congratulate themselves on the success of their endeavors to cause Governor Dix to veto the so called Wheeler milk bill, which he did April 2d. This bill practically nullified the efforts of the past decade and a half to secure properly standardized milk in this State, and had it passed would, in opening the traffic to unrestricted competition, have ultimately caused as much regret to producers and middle men as to consumers. Enormous advertising bills would have been incurred in emphasizing the value of milk sold under certain brands or trademarks, yet low priced milk of harmful characteristics would have been sold in vast quantities to the illiterate poor whose children need protection most.



JOHN HERR MUSSER.

Obituary.

JOHN HERR MUSSER, M. D.,
of Philadelphia.

Philadelphia has lost one of her most eminent physicians and American medicine one of her most distinguished medical men, as teacher, author, and practitioner. Doctor Musser was born in Strasburg, Lancaster County, Pennsylvania, on June 22, 1856, thus dying at the comparatively early age of fifty-five years and nine months. He was a descendant of a long, almost unbroken line of physicians, the first of whom was granted the right to practise by William Penn. After receiving his preliminary education, which terminated in the Millersville State Normal School, and his medical education at the University of Pennsylvania, from which institution he received the degree of M. D. in 1877, Doctor Musser continued his medical studies in Europe. On returning to the United States, he served as interne in the Philadelphia Hospital (Blockley), after which he entered private practice. His rise in the profession was then very rapid, and he became visiting and consulting physician to various hospitals, notably the Presbyterian and University of Pennsylvania Hospitals. After twenty years' service in the Philadelphia Hospital he became consultant to that institution. Doctor Musser's connection with medical societies was a conspicuous feature of his professional life, and he was in turn president of the Pathological Society, of the Philadelphia County Medical Society, and

of the American Medical Association, and member or Fellow of a large number of medical bodies, both in this country and abroad.

As a teacher, Doctor Musser was no less prominent. Starting as quiz master at the University of Pennsylvania, he steadily progressed upward through the various grades, becoming, in turn, demonstrator, associate professor, and finally professor of clinical medicine. His contributions to literature have been numerous. Beside papers in medical journals, he contributed articles to Hare's, Osler's, and Nothnagel's *Systems*. Doctor Musser was also the author of a work on medical diagnosis and had recently finished, in collaboration with Dr. Aloysius O. J. Kelly, who died last year, a *System of Therapeutics*. Doctor Musser will be regretted, not only because of his talents, but also because of the genial and kindly temperament which had won for him a host of friends.

Medical Law.

XI. PRIVILEGED COMMUNICATIONS.

In the case of Neice v. Farmers' Cooperative Creamery & Supply Co., 133 N. W., Rep. 878, it was attempted to elicit from a physician statements made to him by his patient some time after he had treated the patient for the injuries for which the patient was suing, but the trial judge refused to permit the physician to answer. This refusal, under the circumstances, was approved by the Supreme Court of Nebraska.

It appears from the case that two physicians employed by the defendant were examining the plaintiff, and the physician who had attended plaintiff was called in by them. The plaintiff objected to his assisting the other physicians in obtaining evidence. The defendant upon the trial contended that this was long after the relation of physician and patient had terminated and that the statements were therefore not privileged, but the trial court considered that plaintiff still regarded the witness as his physician when making the statements, and accordingly ruled that these were within the privilege and not admissible.

XII. MISCELLANEOUS REGULATIONS AND MATTERS.

The case of Cundiff v. Royal Neighbors of America, 144 Southwestern, Rep. 128, illustrates an unsuccessful attempt made by an insurance association to avoid the payment of the benefit because of a false statement made by the insured to the examining physician.

It appears from the evidence and the papers in the suit, that Eunice Cundiff, wife of the beneficiary, in 1904 went to the office of Doctor Walter, examining physician for a subordinate lodge of the association, who examined Mrs. Cundiff, and ascertained that her lungs were affected to such an extent that she was not a suitable person in his opinion, to receive a benefit certificate, and declined to recommend her application. In April, 1908, Mrs. Cundiff again went to Doctor Walter, who was still examining physician of the same subordinate lodge, and again asked to be examined for life insurance, but her request was declined for the reason that the doctor had previously examined her and had rejected her application and stated that there was no use in examining her again. Mrs. Cundiff then went to another county and applied to Doctor Miller, to examine her. This he did, wrote out his examination in the usual form, took her application in writing, which was signed by her, and forwarded the same to the association, and upon this application and the certificate of Doctor Miller, a benefit certificate was issued in the sum of $1,000, payable to the husband of the insured. In the written application, Mrs. Cundiff stated that no physician had previously examined her for life insurance or indemnity, and declined to recommend her. She also stated that she had never made application to any insurance company, association, or society for insurance or indemnity, and withdrawn her application before final action thereon. She also stated in the application, that she was of sound mind and body and free from disease. Mrs. Cundiff died May 24, 1911.

Doctor Carrier testified that he treated Mrs. Cundiff for pneumonia in January, 1901, and several years thereafter for consumption, although he was unable to state the time of such last treatment. The defendant also introduced other evidence tending to show that she had consumption and that her health was generally bad. On the other hand, there was some evidence introduced by plaintiff, tending to show that Mrs. Cundiff was in good health at the time of the issuance of the benefit certificate sued on and that she attended to her usual household duties. And Doctor Norris testified that he examined Mrs. Cundiff on February 11, 1910, for life insurance and stated that she was in good health then and constitutionally sound, although he stated that he did not examine her lungs. The application for insurance made in 1904, which was rejected by the company because of Doctor Walter's refusal to recommend applicant as a suitable party for insurance was also introduced in evidence.

Upon the trial, judgment was entered for plaintiff for $1,000 from which the defendant appealed, urging as a ground for reversal that Mrs. Cundiff made a false statement in her application for insurance which contained the question "Has any examining physician or physicians for life insurance company, association, or society ever declined to recommend your application?"—to which she answered "No."

The plaintiff in answer to this contention insisted that as the defendant had in its possession the prior application, and knew that Doctor Walter had declined to recommend her for membership in the order and for insurance, it was estopped from setting up the warranty as a defense. In this second application was contained the question "Have you ever been rejected by any life insurance company or companies, mutual benefit association or associations, or fraternal beneficiary society or societies?" To which she answered "Yes." Then followed the question, "If so, give the name of same and the year you were rejected." To which she answered "R. N. A., March 20, 1904."

The question here presented to the court was disposed of by Mr. Justice Broaddud, in the following words:

With the former application in its possession and the report of its examining physician, refusing to recommend Mrs. Cundiff on the ground that she had consumption, and to which particular reference was made in her application when the policy in suit was issued, the appellant ought to be estopped from availing itself of the said warranty, having received all the premiums provided for in the policy. In a well considered case, it is held that: "Where an insurance company had notice at the time of the issuance of the policy that the applicant had been rejected by it, it could not set up the falsity of the statement in the application that he had not been rejected." O'Rourke v. John Hancock Mut. Life Ins. Co., 23 R. I. 457, 50 Atl. 834, 57 L. R. A. 496, 91 Am. St. Rep. 643. And substantially to the same effect it is so held in Rhode v. Life Ins. Co., 132 Mich. 503, 93 N. W. 1076.

News Items.

Change of Address.—Dr. Charles S. Potts, to 2018 Chestnut Street, Philadelphia, Pa.

Clinical Lectures on Nervous and Mental Diseases.—Invitations have been issued to the medical profession to attend a series of eight clinical lectures on nervous and mental diseases, to be given at the Kings County Hospital, Flatbush, Brooklyn, each Saturday morning in April and May, beginning at eleven o'clock.

Middleton-Goldsmith Lectures.—Professor Ludwig Pick, of Berlin, Germany, will deliver the Middleton Goldsmith lectures of the Alumni Association of the College of Physicians and Surgeons, on November 7th, 8th, and 9th. Professor Pick has many friends and former students in this country, who will welcome this opportunity of hearing him again.

The Guild of St. Luke.—A regular meeting of this organization of Roman Catholic physicians was held at the Catholic Club on Thursday, April 4th. The subject discussed was The Decline of the Birth Rate, Dr. J. J. McMahon introducing the topic. Dr. Charles E. Nammack is president of the guild, and Dr. James J. Walsh is corresponding secretary.

The Harvey Society.—The annual meeting of this society will be held at the College of Physicians and Surgeons, 437 West Fifty-ninth Street, New York, on Wednesday, April 10th, at 8:30 p. m., under the presidency of Dr. S. J. Meltzer. The other officers of the society are: Dr. Frederic S. Lee, vice-president; Dr. Edward K. Dunham, treasurer; Dr. Haven Emerson, secretary.

A Tablet Unveiled to Doctor Long.—A bronze memorial tablet to Dr. Crawford Long was unveiled at the University of Pennsylvania on March 30th, in memory of the seventieth anniversary of his use of ether as an anesthetic. Dr. J. William White, John Rhea Barton professor of surgery in the university, delivered an interesting address on the relation of the history of the university to the discovery of the anesthetic use of ether.

American Medical Editors' Association.—The annual meeting of this association will be held in Atlantic City, N. J., on June 1st and 3d, with headquarters at the Marlborough Blenheim Hotel. Dr. Thomas L. Stedman, editor of the *Medical Record,* will preside, and an attractive programme is being arranged. The annual banquet will be held on the evening of June 3d. Every editor and all who are associated with medical journalism will find this meeting well worth attending.

Clinical Society of the Jewish Maternity Hospital.—At a meeting of this society, held on the evening of March 27th, the following officers were elected: Dr. A. Hymanson, president; Dr Joseph Bakst, vice-president; Dr. Alexander P. Kaplan, secretary and treasurer. The programme of the next meeting of the society, which will be held on April 24th, includes two papers, as follows: Tuberculosis in Infants, by Dr. A. Hymanson, and The Use of Fetal Serum to Cause the Onset of Labor, by Dr. A. J. Rongy.

Mütter Lectureship of the College of Physicians of Philadelphia.—The Mütter Lecture, instituted by the late Professor Thomas Dent Mütter, M. D., LL.D., on some subject connected with surgical pathology, will be delivered before the College of Physicians of Philadelphia in December, 1912. The compensation for this lecture is $200. The appointment is open to the profession at large, and application, stating in full the subject of the proposed lecture, must be made before June 1st, to the Committee on Mütter Museum, which is composed of the following members: Dr. George McClellan, chairman, Dr. Henry Morris, and Dr. George P. Müller.

American Society of Sanitary and Moral Prophylaxis.—A regular meeting of this society will be held at the New York Academy of Medicine, Thursday evening, April 11th, at 8:30 o'clock. The general subject for discussion will be the social evil, and papers will be read as follows: Recent Progress in Governmental Attitude toward Prostitution, by Professor E. R. A. Seligman, of Columbia University; The Economic Causes of Prostitution, by Florence Kelley, of the Consumers' League; What Are the Next Practical Steps to Take in Dealing with the Vice Problem? by Dr. Howard A. Kelly, of Johns Hopkins University. An interesting discussion will follow.

Mortality of New York.—During the week ending March 30, 1912, there were reported to the Department of Health of the City of New York 1,617 deaths from all causes, corresponding to an annual death rate of 16.31 in a thousand of population, as against 1,833 deaths and a rate of 19.19 during the corresponding period in 1911. All the infectious diseases. The following cases of and deaths from infectious diseases were reported during the week: Pulmonary tuberculosis, 553 cases, 219 deaths; diphtheria and croup, 292 cases, 25 deaths; measles, 1,921 cases, 20 deaths; scarlet fever, 512 cases, 23 deaths; chickenpox, 262 cases, 0 death; typhoid fever, 21 cases, 7 deaths; whooping cough, 49 cases, 8 deaths; cerebrospinal meningitis, 15 cases, 5 deaths; total, 3,625 cases, 307 deaths.

The Warren Triennial Prize.—This prize will be awarded in 1913, and theses submitted in competition will be received up to April 14, 1913. The dissertation must be based on some special subject in physiology, surgery, or pathology, must be in English, French, or German, and must be typewritten and suitably bound. Material that has previously been published will not be considered, and a high value will be placed on original work. The Warren Triennial Prize was founded by the late Dr. J. Mason Warren, in memory of his father, and his will provides that the accumulated interest of the fund shall be awarded every three years to the writer of the best dissertation on physiology, surgery, or pathological anatomy. The amount of the prize for 1913 is $500. For further information regarding the regulations governing the competition, address Dr. Frederic A. Washburn, resident physician, Massachusetts General Hospital, Boston

Personal.—Dr. Edward H. Bradford, who recently resigned as professor of orthopedics in the Harvard Medical School, has been appointed dean, to succeed Dr. Henry A. Christian, whose resignation takes effect next September.

Dr. Fred Brush has resigned as superintendent of the New York Postgraduate Medical School and Hospital, to become superintendent of the Burke Relief Foundation. He will devote his attention to the planning and organization of the Convalescent Hospital, which is to be erected at White Plains on the sixty acre plot of land recently purchased for that purpose.

Sir Bertrand Dawson, physician extraordinary to King George V., arrived in New York on Friday, March 29th. He has come to study American methods in surgery, and will visit the principal hospitals in New York, Philadelphia, Washington, and Baltimore, in addition to the institution of the Mayo brothers in Rochester, Minn.

Dr. George H. Mallett, of New York, has been appointed gynecologist to the General Hospital

Meetings of Local Medical Societies to be Held during the Coming Week:

MONDAY, *April 8th.*—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence, New York; New York Ophthalmological Society; Association of St. Mary's Hospital, Brooklyn; Williamsburgh Medical Society, Brooklyn.

TUESDAY, *April 9th.*—New York Academy of Medicine (Section in Public Health); New York Obstetrical Society; Buffalo Academy of Medicine (Section in Medicine); Clinical Society of the New York Nose, Throat, and Lung Hospital.

WEDNESDAY, *April 10th.*—New York Pathological Society; New York Surgical Society; Medical Society of the Borough of the Bronx; Alumni Association of the City Hospital; Brooklyn Medical and Pharmaceutical Association; Alumni Association of Norwegian Hospital, Brooklyn.

THURSDAY, *April 11th.*—New York Academy of Medicine (Section in Pediatrics); Brooklyn Pathological Society; Blackwell Medical Society of Rochester, N. Y.; Jenkins Medical Association, Yonkers.

FRIDAY, *April 12th.*—New York Academy of Medicine (Section in Otology); New York Society of Dermatology and Genitourinary Surgery; Eastern Medical Society of the City of New York; Society of Clinical Serology; Society of Alumni of St. Luke's Hospital; Society of Ex-Internes of the German Hospital in Brooklyn.

SATURDAY, *April 13th.*—The Academic Club, New York

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

March 21, 1912.

1. ABRAHAM JACOBI: Significance of the General Practitioner.
2. HANS BARKAN and WILLIAM PALMER LUCAS: Acute Suppurative Pericarditis in Infancy.
3. MARY ELIZABETH MORSE: Blood Platelets in Normal Women, in Obstetrical Patient, and in the Newborn.
4. HORACE PACKARD: Demineralized Food and Cancer.
5. DAVID COGGIN: Delayed Total Absorption of a Traumatic Cataract after Settlement with an Accident Insurance Company.

2. Acute Suppurative Pericarditis in Infancy.—Barkan and Lucas report a case in which an infant had acute suppurative pericarditis and presented no symptoms attributable to the heart, except the collapse, which is a common symptom in cases of marked infantile atrophy, no physical signs such as bulging of the precordia, increase of the cardiac area, loss of cardiac impulse or sounds, dyspnea, or cyanosis, beyond that found in all cases of collapse just at the end, although it was judged from the findings at autopsy that the disease had existed at least four days, during which period the temperature had remained about normal. There was no involvement or infection of the lungs or pleura; no pneumonia, pleurisy, or empyema, such as occurs in ninety per cent. of the cases in infants. There was no endocarditis or myocarditis, none of the acute infectious processes ever found to be the cause. The only processes to which it could have been secondary were an eczema, which was gradually improving at the time, or some subacute intestinal infection which gave no definite symptoms.

3. Blood Platelets.—Morse concludes that, 1, there is an increase in the platelets accompanying menstruation in some normal women, but not in all; 2, most primiparæ have a high normal or an increased platelet count during the latter half of pregnancy, while multiparæ usually show no rise; 3, there are no special changes in the platelets during labor or the early days of the puerperium. At the end of the first week there is an increase which does not seem to be dependent upon lactation; 4, in eclampsia and preeclamptic toxemia the platelets may be high, low, or normal, and they may be greatly increased during recovery; 5, after post partum hemorrhages of considerable size the platelets show a moderate rise with a maximum occurring late in the puerperium; 6, the platelets may be low after prolonged labors terminated by operation. In case of short uncomplicated obstetrical operation done when the patient is in good condition, the platelets follow the same curve as in a normal labor and puerperium; 7, in uncomplicated abdominal and vaginal operations there is in some cases a transitory rise of the platelets following operation. Scopolamine-morphine used during labor causes no change in the platelets; 8. the number of platelets at birth varies greatly, is sometimes high and sometimes low. After the end of the first week they become uniformly numerous (350,000 to 450,000); 9, the platelets show a marked increase in icterus neonatorum; 10, in hemorrhagic diseases of the newborn there is no diminution of the platelets at the onset, but a posthemorrhagic rise with a late maximum; 11, in skin lesions of early infancy the platelets may be high or rather low, depending on the condition of the child.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

March 23, 1912.

1. JOSEPH C. BLOODGOOD: Medical Aspects of Surgical Diseases, or Preventive Surgery.
2. RAYMOND C. COBURN: New Apparatus for Administering and Warming General Anesthetics and New Methods of Administration.
3. STERLING BUNNELL: Use of Nitrous Oxide and Oxygen to Maintain Anesthesia and Positive Pressure for Thoracic Surgery.
4. L. PIERCE CLARK and CHARLES E. ATWOOD: Significance of the Habit Movements in Mental Defectives.
5. ABRAHAM SOPHIAN: Controlling the Administration of Serum in Epidemic Meningitis.
6. BARTON COOKE HIRST: Operation for Prolapsus Uteri without Disturbance of Anatomical Relations or Necessity for Abdominal Section.
7. CHARLES M. MONTGOMERY: Diabetes Mellitus Associated with Tuberculosis of the Adrenal Glands.
8. DOUGLASS W. MONTGOMERY: Unusual Sensitiveness of the Colon to Mercury.
9. G. W. MCCASKEY: Sporadic Cerebrospinal Meningitis Simulating Uremia of Bright's Disease.
10. A. C. BURNHAM: Chloride Excretion in Alcoholic Cirrhosis.
11. J. W. PETTIT: Effect of Intercurrent Pneumonic Complications on the Course of Chronic Pulmonary Tuberculosis.
12. M. HERTZSTEIN and A. BAER: Acute Mercurial Poisoning followed by General Necrosis of Maxillary Bones and Purulent Otitis Media.
13. CARROLL SMITH: Intravenous Local Anesthesia.
14. S. A. SMITH: Status Epilepticus with an Unusually Large Number of Convulsions.
15. MARTIN F. EUGMAN: Epithelioma of the Tongue with No Recurrence Nine Years after Clinical Cure with the X Ray.
16. R. L. MURDY: Malicious Amputation of the Penis.

2. New Apparatus for Administering and Warming General Anesthetics.—Coburn describes a new apparatus, primarily for nitrous oxide-oxygen anesthesia. He has also perfected two new methods of administration ether by the closed drop method and the warm vapor method. The gas or vapor is warmed in the chamber or bag by a small light electric heater, with a flexible cord which may be connected to any lamp socket (either direct or alternating current), attached by spring clamps to the chamber. This heater can be attached or detached at any time without removing the inhaler from the patient's face. A small rheostat, a short distance from the heater, controls the radiation.

5. Controlling the Administration of Serum in Epidemic Meningitis.—Sophian, in the operation of administering serum, employs an assistant to take blood pressure readings throughout the whole operation. If the blood pressure drops ten mm. during the removal of cerebrospinal fluid it indicates that the withdrawal must cease. In a similar manner a drop of twenty mm. in an adult is a safe indication to stop the further injection of serum. He concludes his paper by saying that the old method of administering serum is inaccurate and sometimes dangerous. The change in blood pressure determines accurately the quantity of serum than can be safely injected, and indicates also the quantity of cerebrospinal fluid that can be withdrawn. By the blood pressure method the dose is smaller and the after effects are much less severe.

7. Diabetes Mellitus Associated with Tuberculosis of the Adrenal Glands.—Montgomery reports this case not only because of the association of diabetes mellitus and tuberculosis of the adrenal glands, but because of the occurrence of apparent primary tuberculosis of the adrenal glands. Two other cases have been found by the writer in the literature of the subject. He is of the opinion, at least in his own case, that the association of the two conditions was a mere matter of coincidence, no evidence of causal relationship having been discovered.

8. Unusual Sensitiveness of the Colon to Mercury.—Montgomery, while prescribing for a

patient's eczema, determined on a course of salicylate of mercury injections. The suspension used was ten per cent. in liquid petrolatum. The next morning, after an injection of fifteen minims into the buttocks, the patient suffered from a severe dysentery (tenesmus and bloody stools). He would get up every few minutes, suffering the most severe bearing down pains, with unbearable pain across the abdomen below the navel. About a week later a second injection was given with similar results. While the lower bowel in every one reacts to the stimulus of mercurials, in this case the stimulation went on to the production of dysenteric diarrhea and bloody stools; erosion and even ulceration of the colonic and rectal mucous membrane is possible.

10. **Chloride Excretion in Alcoholic Cirrhosis.**—Burnham reports a case of alcoholic cirrhosis of the liver, with slight involvement of the kidneys. He observed that there was a constant and continuous decrease in the elimination of water and chlorides, upon which elimination diuretics had but a slight and transitory effect. A dose of ten grains (2.5 drachms) of salt was followed by a retention of water and a corresponding increase of weight. The retention of salt appears, at times, to be the primary process. A nearly salt free diet may prolong the ascitic stage of cirrhosis, and allow time for the desired collateral circulation.

11. **Intercurrent Pneumonic Complications in Chronic Pulmonary Tuberculosis.**—Pettit is of the opinion that intercurrent pneumonia during the course of pulmonary tuberculosis is not unfavorable, but, on the other hand, appears to exert a beneficial influence, in the case cited by the writer having apparently effected a cure, probably by effecting an accumulation of leucocytes in the tuberculous focus.

13. **Intravenous Local Anesthesia.**—Carroll Smith describes the technique of this method of anesthesia, first developed by Bier. The anesthetic solution is injected into the veins in a bloodless segment between two Esmarch bandages. This is called "direct anesthesia." After a short time the limb distal to the segment becomes anesthetized, followed by motor paralysis ("indirect anesthesia"). This method is especially useful in cases of heart or lung complications, but is contraindicated in diabetic and senile gangrene and in arteriosclerosis. In nervous patients and in those under ten years of age this method is not advised. Acute and chronic infections are, however, not contraindications.

MEDICAL RECORD

March 23, 1912.

1. Allan McLane Hamilton: Pathogeny of Mental Disease. Minor Psychoses.
2. Robert T. Morris: Prominent Ears.
3. G. A. MacCallum: Malformation of *Tænia saginata* (T. triedre).
4. Herman B. Sheffield: Atypical Incipient Poliomyelitis and Its Diagnostic Difficulties.
5. W. E. Deeks: Pellagra in the Canal Zone.
6. Augustus Maverick: A Case of Acroparesthesia.
7. William F. Waugh: Berberine.

2. **Prominent Ears.**—Morris reminds us that prominent ears, in addition to being unsightly and a cause of mental suffering to the owner, are a source of physical danger in that they may deflect currents of cold air against a delicate drum membrane, especially on windy days. For this latter reason he suggests the desirability of changing the "set" of them. In his method of operation he excises practically all the fibrocartilage of the concha, antihelix, and antitragus. An ellipse of skin is removed from the posterior part of the ear and from the mastoid region of the scalp, of such a shape that one half relates to the ear and the other half to the mastoid region of the scalp. The cartilage is then removed, and the very thin skin over concha and antihelix is buttonholed at one or more points for purposes of drainage. The ear is then sutured in place, and two thicknesses of iodoform gauze cut to conform with the wound line are nicely fitted between the skin of helix and skin of scalp. Previous to operation the auditory canal is plugged with cotton which is removed, and the meatus left open, before the final dressings of iodoform gauze are applied.

4. **Atypical Incipient Poliomyelitis and Its Diagnostic Difficulties.**—Sheffield says, a decade ago, the diagnosis of acute poliomyelitis was easy, because the pathogenic microorganism was supposed to confine its energies to the area of the anterior horns of the spinal cord, the paralysis apparently being limited to the extremities. Later knowledge shows that the poliomyelitic inflammatory process often extends also to the posterior horns of the cord, the medulla, pons, cerebellum, cerebri crura, and meninges, which gives rise to a symptom complex which may at first lead to erroneous diagnoses. The writer describes four atypical cases: 1. Poliomyelitis affecting the face, abdomen, spine, and extremities, resembling encephalitis; 2, poliomyelitis affecting the left muscles of the neck, shoulder, and tongue, resembling meningitis; 3, poliomyelitis affecting the superficial and deep muscles of the neck and extremities, resembling polyneuritis; and lastly poliomyelitis affecting the left glutei and abdominal muscles, rsembling tuberculous coxitis.

6. **Acroparesthesia.**—Maverick reports a case, the chief feature of which is a paresthesia of an extremity. "Needles and pins," tingling, pricking, itching are present in the fingers especially at their tips. These sensations are persistent for months and often years, and are not infrequently accompanied with pain or discomfort of varying severity, sometimes interfering with sleep and work, being generally worse at night or in the early morning. In one rare variety the affected fingers are cyanotic and show marked vasomotor disturbance, bordering very closely on the diagnosis of Raynaud's disease. In the writer's case Sprudel salts were given twice daily and local douches of hot and cold water four times a day, followed later by an irritating ointment of capsicum. Temporary relief ensued, but the case was finally cured by partial excision of the supplying cutaneous nerves.

BRITISH MEDICAL JOURNAL.

March 16, 1912.

1. C. W. G. Bryan: Serum and Vaccine Therapy in Diseases of the Eye. (*Lecture I.*)
2. Samuel Lodge: Endocranial Conditions.
3. A. E. Barker: Experiences with Spinal Analgesia.
4. T. H. Butler: Subdural Abscess and Osteomyelitis Treated with Vaccines.
5. F. P. Sturm: Nasal Obstruction Due to Osteomata.
6. J. R. Collins: Notes on Arthritis.
7. J. H. Sanders: Boric Acid Poisoning.
8. P. S. Hichens and N. B. Odgers: Vegetable Gastrolith.

1. **Serum and Vaccine Therapy in Diseases of the Eye.**—Bryan discusses briefly the steps which

led up to the present day methods of serum and vaccine therapy and the means of control of such therapeutical measures by the opsonic index. He has found that in the case of eye diseases direct inspection of the affected organ and the influence upon sight are ample guides to the dose and frequency of repetition. In diseases of the iris, cornea, and sclera, vascular injection decreases an efficient dose. Bryan believes that the use of old tuberculin is attended with too great risks to be justifiable and favors some of the newer preparations, particularly the bacillary emulsion. He deals exclusively with the subject of ocular tuberculosis in this paper, and cites the results of many observers as well as his own to show that tuberculin treatment of the forms of the disease affecting this organ is in general quite successful.

3. **Spinal Analgesia.**—Barker has collected the experiences of his associates and his own with the use of a uniform way of induction and control of analgesia which he devised several years ago. The combined series covers 2,354 cases in all. There were but three deaths (0.1 per cent.) attributable to the anesthetic. Among untoward effects he saw no permanent nerve lesions; three cases only of transient diplopia; faintness, retching, headaches, and vomiting were seen in a considerable number of cases and were severe in about 2.5 per cent., but were never lasting. There were 1.5 per cent. of failures to enter the dural space and 0.2 per cent. of failures to induce analgesia after injection. Analgesia was insufficient in 4.2 per cent. and required a small amount of general anesthetic for its completion. Barker uses stovaine five parts, glucose five parts, and distilled water ninety parts, all by weight. This solution is approximately isotonic with the blood and has a specific gravity of 1,023, against that of the spinal fluid, which is but 1,007. Owing to this, it remains to a large extent unmixed with the spinal fluid if injected slowly. The height of analgesia is controlled by posture of the patient. Barker adjusts the patient in a lateral position with head and shoulders well raised. By alteration of the height of the head and shoulders it is possible to bring one or another vertebra to the lowermost level of the curve in the spine as compared with the horizontal. The fluid pools here, and analgesia includes all the region below this point. The analgesia is greater on the low side. It is often the case that the analgesia is complete on the lower side, while the sensation on the other is scarcely impaired. By changing the patient to the opposite side the fluid will pass across and this side can then be rendered analgetic.

6. **Arthritis.**—Collins is of the opinion that practically all of the cases of obscure arthritis are due to some form of microbial infection and cites several cases in substantiation of his views. In the cases cited a thorough search has led to the discovery of some focus from which the organism could be obtained, and in each case the employment of a vaccine has yielded good results when other means of treatment had proved of no avail.

7. **Boric Acid Poisoning.**—Sanders reports a case which resulted from absorption of the drug from colonic irrigations given to relieve dysentery. The symptoms were first a rash resembling that caused by bromides, and then restlessness and delirium, followed by weakness. The symptoms developed suddenly and the rash lasted over ten days. The danger to life was considerable, but the patient recovered under careful watching after immediate withdrawal of the offending drug.

LANCET.

March 16, 1912.

1. F. A. Bainbridge: Paratyphoid Fever and Meat Poisoning. (*Lecture I.*)
2. A. E. Barker: Derangements of the Knee.
3. H. Batty Shaw: Hypersensitiveness and Certain Obscure Clinical Manifestations.
4. A. H. G. Burton: Bed Isolation of Infectious Diseases.

1. **Paratyphoid and Meat Poisoning.**—Bainbridge discusses the four varieties of bacteria associated with these diseases and the bacteriological means of their differentiation. The four are 1. *B. suipestifer,* 2. *B. paratyphosus* (*B*), 3. *B. enteritidis,* 4. *B. paratyphosus* (*A*) and together make up what is known as the Salmonella group. He defines paratyphoid fever as a disease which clinically resembles, and is often indistinguishable from enteric fever, and which is caused either by *B. paratyphosus* (*A*) or (*B*); the latent period varies generally from eight to eighteen days, and the usual mode of infection is by human carrier cases. Meat poisoning is a disease of which the characteristic symptom is acute gastroenteritis of comparatively brief duration, and which is caused in a very considerable proportion of cases by either *B. enteritidis* or *B. suipestifer;* the latent period rarely exceeds forty-eight hours, and the usual source of infection is contaminated meat. Bainbridge then proceeds to give in detail the symptomatology, diagnosis, epidemiology, post mortem findings, and mortality of the two forms of paratyphoid fever.

3. **Hypersensitiveness.**—Shaw outlines the symptoms seen in this condition in animals and man and shows the parallelism existing between one or another of these and certain obscure clinical phenomena. Asthma, emphysema, certain cases of edema of the lungs, idiopathic epilepsy, many skin diseases, angioneurotic edema, the rashes of the acute infectious diseases, certain alterations in temperature, some blood changes, and certain cases of anuria and albuminuria all are very suggestively accounted for by the theory that they are in some way due to the development of a state of hypersensitiveness. This idea is strongly supported by the development in animals of hypersensitiveness to their own organs and tissues. If an animal is injected with the serum of an eclamptic woman, and two days later is injected with amniotic fluid, hypersensitive phenomena develop. This suggests that possibly the eclamptic woman is suffering from absorption of amniotic fluid and has become hypersensitive to this. In the other cases mentioned the protein may be derived from the several tissues of the individual so afflicted. Though the proof of the contention is meagre Shaw's arguments are strong in favor of such an explanation.

4. **Bed Isolation.**—Burton admits the following classes of cases to the same ward and isolates solely by the adoption of strict surgical asepsis. 1. All cases of puerperal fever and erysipelas, and most cases of pertussis, rubella, and varicella. 2. All cases notified as infectious disease, but found on

admission to present no infectious condition. 3. Cases in which the diagnosis is doubtful and observation is necessary. 4. Cases from the other wards of the infectious disease hospital requiring operation, in which the after treatment may be prolonged. 5. Convalescent cases of diphtheria and measles. 6. Cases of epidemic diarrhea. In a period of two years there were 668 cases treated in the wards in this way and but two cases of infectious disease developed while thus cared for; both were scarlet fever. The use of coats by physician and nurse, and the careful cleansing of the hands between cases, together with the use of individual utensils in certain instances, are the only measures of separation. Burton thinks this method of isolation is safer than the actual barrier system, for the latter gives a false sense of security which is dangerous.

PARIS MÉDICAL

March 16, 1912.

1. Paul Camus: Psychic Equivalents of Epilepsy.
2. Guiart: How to Avoid Toadstool Poisoning.
3. Marx: New Operation of Vaginal Marsupialization.
4. Schreiber: Malt Soups.

PRESSE MÉDICALE

March 9, 1912.

1. Pierre Teissier: Inaugural Address, Course in Internal Pathology.

March 13, 1912.

2. Hutinel: Erythemata with a Malignant Syndrome in Infections.
3. S. Pozzi: Carrel's Experiments on the Life of Tissues outside the Organism.

March 16, 1912.

4. A. Gosset: Primitive Sarcoma of Stomach.
5. Gosset and P. Masson: Intestinal Cancer of Stomach.

March 20, 1912.

6. E. Enriquez and J. Cottet: Criticism of Sphygmomanometric Technique.

2. Erythemata with Malignant Syndrome in Infections.—Hutinel reports a case of typhoid fever in a boy of twelve years, who presented a scarlatiniform erythema on the knees, elbows, and buttocks, beside a leaden tint, a bad facies, ulcerated lips and nostrils, congestion at base of left lung, delirium alternating with extreme prostration, a very grave case in fact, contrary to the run of cases in children, which are generally favorable. The treatment was cold baths (32° C.), every three hours, cold compresses on the abdomen, hypodermic injections of camphorated oil, and every day a dose of adrenalin, one in 1,000, eight drops divided into two doses. Even Hippocrates knew the danger of erythematous eruption in the course of an infectious fever, but its gravity has escaped the attention of many modern pathologists. It may be morbilliform or scarlatiniform in character and is usually accompanied by the excoriation of lips or nostrils, a lesion which will infect the skin of the finger if the patient touches it. Great prostration and adynamia are characteristic and death is the usual termination. Similar erythemata appear in the course of other infections and are always a grave sign. They must not be confounded with drug rashes. The autopsy in such cases discloses an enlarged liver with fatty degeneration; the kidneys are also affected; the heart is often soft and discolored; the suprarenal capsules are enlarged and increased in weight; occasionally the thyroid and the pancreas are also altered. Fortunately adrenalin had a marvellous influence in the case under discussion; its remission was marked by a recrudescence of the symptoms, its renewal by their removal. It may be given for several weeks without danger, but should be watched. Rarely it is contraindicated and cannot be exhibited.

4. Sarcoma of Stomach.—Gosset states that only 150 cases of primitive sarcoma of this organ have been reported. Beside his own case, in which he performed two operations with excellent results, the patient being now in good health and gaining in weight, he summarizes the reports of sixteen other cases. Practically, the writer says, there are but two kinds, endogastric and exogastric, and the only really good operation is a gastrectomy; in the exogastric sarcoma, we may expect life for three months to seven years; in the endogastric form the mortality is very high, especially in palliative operations, which are usually performed very late.

5. Intestinal Cancer of Stomach.—Gosset and Masson state that there are gastric cancers that the histologist cannot distinguish from those of the intestine. Topographical classification may have a practical and clinical value, but is not justified from the anatomopathological viewpoint. They describe a case of their own, in which the neoplasm originated in a stomach affected with a mixed gastritis, in the pyloric end. Once the normal glands became atrophied they regenerated mucous tubules, which, by a morphological change, approached the intestinal type. The neoplasm was a cylindrical epithelioma the cells of which had an evolutionary tendency markedly intestinal. Morphologically its structure in no way resembled the gastric glands. The writers think it may have originated in a heteroptotic intestinal gland or in a gland changed metaplastically into an intestinal one, and they aver that cancers of indisputably gastric origin are very rare.

6. Sphygmomanometric Technique.—Enriquez and Cottet point out that the practice of sphygmomanometry depends very largely on the personal equation of the operator, and that the figures obtained have no absolute value. They recommend the little instrument devised by Potain, which, used with sufficient delicacy of manipulation, will afford very satisfactory results.

SEMAINE MÉDICALE

March 13, 1912.

1. J. Lhermitte: Juvenile Hepatitis with Degeneration of the Corpus striatum; Wilson's Progressive Degeneration.

March 20, 1912.

2. R. de Bovis: Treatment of Puerperal Convulsions by Trephining.
3. Angelvin: New Method of Reducing Luxations of the Shoulder.

2. Trephining for Eclampsia.—De Bovis discusses the three operations of Zangemeister for eclampsia, in which the results were not brilliant, there being one death and two very slow recoveries, without cure of the convulsions. Eclampsia, according to the writer, is a disease *totius substantiæ*, wherefore trephining can be only a symptomatic treatment which modifies in no way the cortical irritability or the gravid intoxication. Lumbar puncture has also proved to be valueless. Nevertheless, de Bovis thinks we may return to trephining, using, however, the "decompressive" method of Cushing, who recommended making the cranial fenestra over the temporal muscle, which prevents cerebral hernia and, after healing, prevents loss of bony substance.

4. New Way of Reducing Shoulder Luxations.—Angelvin does away with an assistant by seizing with his right hand the hand of the dislocated member, which is thrown about the operator's neck, and with the free left hand directs without difficulty the head of the humerus, extending, counterextending, and reducing at will. The illustration accompanying the communication shows reduction of a right dislocation; it seems to us that if it were question of the left, the operator's left hand should be used to grasp the hand on the affected side, and the manipulations could be better done with the operator's right.

DERMATOLOGISCHE WOCHENSCHRIFT.

February 17, 1912.

1. Hanacek: Reinfection and Isolated Secondary Lesion after Treatment with Salvarsan.
2. Karl Fluss: Critique of the Atropine Treatment of Gonorrhœa in the Male.
3. P. A. Pawloff: Influence of Ritual Circumcision on the Venereal Contagion (Hard and Soft).

March 9, 1912.

4. Edward Bruner: Extragenital Chancroid; Chancroid of the Foot.

3. Ritual Circumcision and Venereal Contagion.—Pawloff, for more than twenty years, has been collecting statistics of the occurrence of venereal and nonvenereal affections of the genitals among the noncircumcised (Christian) and circumcised (Jews and Mohammedans) classes of Moscow, with the following results: In 7,065 uncircumcised persons there occurred, 1, nonvenereal affections of the genitals, 1,108 cases; 2, gonorrhea and its complications, 1,108 cases; 3, hard and soft chancres, 1,773 cases; 4, syphilis with site of the initial lesion undetermined, 895 cases. In 412 circumcised cases there were, 1, nonveneral affections of the genitals, 21 cases; 2, gonorrhea and its complications, 299 cases; 3, hard and soft chancres, seventy cases; 4, syphilis with site of the initial lesion undetermined, twenty-two cases. This gives the following percentages for the two classes of patients: Nonvenereal diseases of the genital, uncircumcised, 15.68 per cent.; circumcised, 5.09 per cent.; relative frequency of chancre as compared with gonorrhea, uncircumcised, 0.538 per cent., circumcised, 0.234 per cent.; relative frequency of syphilis with undetermined initial lesion to gonorrhea, uncircumcised, 6.273 per cent.; circumcised, 0.073 per cent. This shows a very large percentage in favor of the circumcised, due undoubtedly to the facts that the prepuce and corona are the favorite sites for chancre infection (87.3 per cent. of all cases), and the former is absent and the latter hardened and toughened in those who have undergone the ritual operation. Chancres in other locations do not show these differences, or are even more frequent in the circumcised, as the following figures show: Chancres of the meatus, uncircumcised, 2.2 per cent., circumcised, 2.8 per cent.; of the glands, uncircumcised, 5.3 per cent., circumcised, 5.8 per cent.; of the foreskin or its site in those without it, uncircumcised, 87.3 per cent., circumcised, 38.5 per cent.; of the shaft of the penis, uncircumcised, 3.8 per cent., circumcised, 35.7 per cent.; of the furrow between the penis and scrotum, uncircumcised, 0.5 per cent., circumcised, 14.2 per cent.; of the scrotum, uncircumcised, 0.6 per cent., circumcised, 2.8 per cent. These figures must not be considered without taking into account the fact that since that part of the genital organ most susceptible to infection is absent in the circumcised, the relative proportion of other infected sites in a given number of cases is necessarily increased; but Pawloff has no doubt at all that circumcision does lessen susceptibility to the chancrous and chancroidal contagion. It does this, however, by obviating the occurrence of balanitis, balanoposthitis, etc., conditions which favor the retention and implantation of the virus. He does not follow Lewin in advocating the operation as a prophylactic measure, more especially as the recent discoveries of Metchnikoff, Neisser, and others have shown that cleanliness and the use of simple protective measures are fully as efficacious as ablation of the prepuce.

4. Extragenital Chancroid.—Bruner recalls that the specific bacillus of this affection, first described by Ducrey in 1889, has been grown artificially by numerous investigators and it has been proved by successful human inoculation. The last step in the demonstration was taken by Nicolle, when he inoculated monkeys with the virus, obtaining the organisms in pure culture, and producing with it typical chancroidal ulcerations in man and animals. When the lesion occurs extragenitally in the human subject, however, its appearance is often such that it cannot be differentiated with certainty from other ulcerative lesions; so that on the fingers, for instance, it has often been mistaken for a panaris, a phlegmon, or a broken down chilblain. The microscope is indispensable for its recognition. The organism is a small bacillus 1.48 μ long and 0.5 μ broad, with rounded ends and occasionally constricted centres, and can be demonstrated by Unna's specific polychrome methyl blue glycerin ether method. Accidental infection from a genital lesion, either on the patient or on another, is the commonest cause of the extragenital lesion; a number of cases have occurred among physicians infected during various operative procedures; and some have been undoubtedly due to *coitus contra naturam*. In Bruner's case, where the chancroid was seated on the dorsum of the foot, just above the root of the great toe, the mode of inoculation was not ascertained.

MEDIZINISCHE KLINIK.

February 18, 1912.

1. M. Heyde: Causes of Death from Burning.
2. A. Krecke: Should Definition and Name of Basedow's Disease Be Kept in Our Nomenclature?
3. Felix Hagen: Treatment of Gonorrhea and Its Complication with Gonococcic Vaccine.
4. F. Bannes: Diagnosis of Foreign Bodies in the Bronchial Tube, with Report of a Case of Transmigration of a Foreign Body from the Right Bronchus into the Left.
5. Fritz Berger: Epileptic Attacks from Appendicitis.
6. Ludwig Seyberth: Rupture of the Uterus in Uterus Bipartitus.
7. Sauermann: Physiology of the Milk Secretion and the Nutrition of the Newborn in the First Days of Life.
8. Gottlieb Maly: Technique of Determining Hemoglobin.
9. Ernst Portner: Diseases of the Bladder.

February 25, 1912.

10. Rud. Th. Jaschke: Circulation and Pregnancy.
11. F. Lux: Present Epidemic of Diphtheria.
12. A. Menzer: General and Particular Remarks on Vaccine Therapeutics.
13. Lilienstein: "Unbloody" Phlebostasis.
14. Marie Hollensen: Which Is the Best Way for a General Practitioner to Carry through Tuberculin Treatment?
15. Koloman Freuder: Ulcus Cruris Varicosum.
16. F. Umber: Scarlatinoid Serum Exanthemata and Their Distinction from True Scarlet Fever through Ehrlich's Amidobenzaldehyde Reaction.
17. Georg F. Nicolai: Origin of Extrasystoles.

1. Causes of Death from Burning.—Heyde gives a good and condensed review of the theories of the causes of death from burning. Clinical ob-

servation has taught us that we can expect a fatal ending only if a certain part of the surface of the body has been destroyed. But such a fatal ending happens often in cases in which the patients have done well for twelve or fifteen days under proper treatment and when the severity of the injury would not in itself decide us to expect such lethal outcome. The author reviews the different theories and clinical observations as well as animal experimentations. He finds that beside the theory of shock we must also take into consideration the toxicity of albumin foreign to the species, but not only this species foreign albumin will produce anaphylactic reaction, but albumin produced from the same body can also cause such a reaction. Such hypersensibility could, therefore, well cause death. The author, therefore, proposes to us to consider the breakdown of albumin and the hypersensibility in all cases of burning.

2. **Definition of Thyroidism.**—Krecke proposes to obliterate from our nomenclature the name Basedow's disease, and to divide thyroidism into three classes, basing the division upon the deficiency of the heart. Thyroidism of the first grade, therefore, would include such cases which show multiple alterations in metabolism, especially changes in the nervous system, but in which the defect of the heart demonstrates itself only subjectively as a severe palpitation. The second grade would include cases in which the circulation apparatus was more severely affected and in which tachycardia could be objectively demonstrated by about 120 heart beats. Thyroidism of the third grade would then include what we at present call Basedow's disease with all its well known symptoms, exophthalmus, goitre, severe tachycardia, extremely nervous condition, loss of weight, etc., but also cases in which the patients do not show exophthalmus, but very severe tachycardia (pulse permanently over 120) and extreme disturbance of the nervous system.

3. **Treatment of Gonorrhea and Its Complications with Gonococcic Vaccine.**—Hagen remarks from his observations that active immunization from gonococcic vaccine is absolutely ineffectual in gonorrheal urethritis, and in complications of gonorrhea where tumor formation from localized foci of gonococci have not been formed; but in all other cases and complications, he says, a trial at least should be given to the vaccine.

11. **Present Epidemic of Diphtheria.**—Lux speaks of the very severe epidemic of diphtheria in Rostock, which began in September, 1911, totaling in four months 265 attacks with twenty fatal endings, thus giving a mortality of seven per cent. He compares this epidemic with the epidemic of 1905, which from June, 1905, to February, 1906, showed 210 cases, with a mortality of 5.2 per cent. The year 1906 had 377 cases, with only five per cent. of mortality; 1907, 415 cases, with three per cent. of mortality; morbidity and mortality slowly receded during 1908 up to 1911, in which year the month of August had eleven cases with no mortality. The present epidemic shows a mixed infection, such as scarlet fever and diphtheria, and as sequelæ, necrotic processes leading to sepsis. Antidiphtheritic vaccine was used in all cases, and the author speaks about the doses given. He remarks that only in exceptional cases the patient should receive less than 1,000 units, 2,000 is the average, and severe cases, 4,500. Nurslings should not receive more than 3,000. Only exceptionally he mentions an injection of 12,000 units.

12. **Vaccine Therapeutics.**—Menzer remarks that for the preparation of multivalent vaccines we should use only fresh, human, original bacteria. Acute and chronic bronchial catarrhs from streptococcic infections will be cured by such vaccines, which also will be of great help in the diagnosis and treatment of phthisis, as with tuberculosis of the lungs there usually exists a streptococcic infection.

13. **"Unbloody" Phlebostasis.**—Lilienstein uses rubber tubes, which he attaches to arm cuffs or in severe cases to cuffs around the legs. These tubes are connected with a manometer and a rubber bulb through which the operator can inflate the cuffs to a pressure indicated by the manometer. In the arms, for example, he inflates the cuffs up to the disappearance of the radial pulse (from about 120 to 180 mm. Hg.). This pressure he keeps for about three minutes, when he slowly empties the tubes. He uses this phlebostasis, as he calls the method, in arterial sclerosis with myocarditic symptoms and dyspnea. He finds that in such cases he effects a permanent cure. As contraindications he mentions the inclination to thrombus formation, and edema or varices of the extremities.

WIENER KLINISCHE WOCHENSCHRIFT.

February 29, 1912.

1. R. Doerr: Anaphylaxis.
2. Ernst von Czyhlarz and Alfred Selka: Radiological Diagnosis of Intestinal Stenosis.
3. Konrad Staunig: Paradox Albuminuria and Urobilinuria and on the Etiology of Cardial Cirrhoses and "Heart Goitre" in Organic Tricuspid Disease.
4. B. Burianek: Pressure Paralysis of the Upper Extremity after a Short Use of Esmarch Bandage.

March 7, 1912.

5. M. Oppenheim: Clinical Observation and Etiology of Atrophic Dermatitides.
6. Doberer: Technique and Result of Operations for Epilepsy.
7. Paul Biach and Eduard Hulles: Relation of the Pituitary Gland to the Genital Organs.
8. Anton Jonass: Clinical Observation on Ehrlich's Aldehyde Reaction in Disturbances of the Circulation.
9. Oskar Neugebauer: Mastisol Bandage in Burns.
10. Alexander Frankel: Joseph Lister.

1. **Anaphylaxis.**—Doerr gives a short review of the development of the anaphylaxis theory and remarks that the following five points are generally accepted: 1. Anaphylaxis is an antigen, antibody reaction; 2, these anaphylactic antigens are biologically active albumins and, 3, their anaphylactic symptoms are toxicological; 4, the toxine is produced through a fermentative albumin dissolution which splits up the originally atoxic proteins into highly toxic peptonoid derivatives; 5, but this toxine does not affect the central nervous system. The author then develops the mechanism of the toxine formation, the matrix of the toxine, and the composition of these toxines. He speaks furthermore of the relations which exist between anaphylaxis and blood coagulation, and thinks that the changes in the blood which finally produce the symptoms in anaphylactic shock consist in liberation of certain coagulation ferments through absorption of antagonistic substances.

6. Technique and Result of Operations for Epilepsy.—Doberer reports a case of an epileptic patient upon whom he operated, using a combination of Kocher's valve operation and Winkelmann's radical operation for hydrocele, with some modification of his own. The result was so far good that the attacks ceased and the change in the patient was remarkable, although, he remarks, that the time of observation is much too short to come to a final conclusion.

7. Relation of the Pituitary Gland to the Genital Organs.—Biach and Hulles have found a peculiar atrophy of the pituitary gland itself and of its cells in castrated animals, male as well as female cats.

9. Mastisol Bandage in Burns.—Neugebauer favors von Oettingen's mastic bandages in burns. He uses a mastic preparation called mastisol, with which he covers the whole area of the burn and the surrounding tissue, which is then covered with cotton. Cleaning of the wound is not an absolute *conditio sine qua non.* The cotton is then covered with a bandage. If possible, only the bandage is removed, and if the cotton is saturated with the secretion, another layer of cotton is placed over the old one. This treatment gives to the burned area absolute rest, and only in severe pain is the original cotton removed and the wound examined. Eczema does not appear, and the original cotton is removed after one week, when the wound shows a very healthy condition. This treatment can be applied only in mild burns.

ZENTRALBLATT FÜR CHIRURGIE.

March 16, 1912.

1. Momburg: Formation of a Ligamentum Tibionaviculare by Free Transplantation of Fascia in Flatfoot.
2. W. Wolf: Use of Tincture of Iodine in the Treatment of Surgical Tuberculosis.

2. Iodine and Tuberculosis.—Wolf thinks iodine almost a sovereign remedy in the promotion of the healing of wounds after operations on persons suffering from tuberculosis of the bones and soft parts.

ZENTRALBLATT FÜR GYNÄKOLOGIE.

March 2, 1912.

1. C. Fleischmann: Amputation and Resection of the Corpus Vaginæ.
2. O. Hoehne: Toxine Resorption from the Abdomen and on Intraperitoneal Narcosis.
3. L. M. Bossi: Possible Etiology of Insanity in Woman from Sexual Causes.
4. L. A. Kriwsky: Abdominal Radical Operation in Carcinoma of the Uterus.

March 9, 1912.

5. L. Nürnberger: Septic Extragenital Infections in Post partum Cases.
6. Von Holst: Inversio Uteri.
7. A. Solowij: Pelvis with Poorly Developed Vertebral Column in the Long Axis.
8. Th. Nagy: Pituitrin for Exciting and Increasing Labor.
9. G. Hager: Pituitrin as a Remedy to Interrupt Pregnancy in Woman Who Delayed Labor.

2. Toxine Resorption from the Abdomen.—Hoehne has made experiments with diphtheria toxine as an artificial toxine and with resin and crotin as a plant toxine on rabbits. The object of his researches was to find out the absorption of toxines from the abdomen. He thus found that the prophylactic stimulation treatment of the peritoneum before septic operations on the abdomen produces a peritoneal exudation which is aseptic. This statement should be kept in mind in such operations as stated, if we wish not only to keep the bacteria in the infected region, but also to forestall a general toxication of the body.

3. Possible Etiology of Insanity in Women from Sexual Causes.—Bossi takes up the question of insanity in women from certain sexual causes. He avers that it exists and states that in many cases in which the women come early for treatment a cure of the infectious diseases of the genitals will also bring with it a recovery from the neuropsychopathies.

5. Septic Extragenital Infections in Post Partum Cases.—Nürnberger reminds us that a fever which appears *post partum* is not always a sign of sepsis, but the possibility of an appearing sepsis must always be kept in mind. He reviews the literature of the extragenital sepsis in post partum cases, and says that about forty-six per cent. of women in childbed suffer from such attacks. The fatal ending of these attacks is not great; the author does not give figures. He hopes that with the rubber gloves we will again see a new era in post partum fevers.

8 and 9. Pituitrin.—Nagy favors the use of pituitrin in labor, but he also speaks of the possibility of the fetus being affected by the drug. He has found that the heart sounds of a fetus, the mother of which received pituitrin, became very much decreased. As the blood of the fetus during a labor accumulates carbonic acid while during intermission oxygen is absorbed, a quick succession of labors might possibly increase the amount of carbonic acid, so much so that the fetus might become asphyxiated.——Hager reports a case of a woman, whose first child was born dead thirty-four days after the calculated time. The second pregnancy was interrupted through a natural abortion in the third month. The third pregnancy was overdue two weeks, and to prevent again the birth of a dead child, pituitrin was administered, which was immediately followed with the birth of a well developed boy. The post partum period was without any accident.

AMERICAN JOURNAL OF DISEASES OF CHILDREN.

March, 1912.

1. A. F. Hess: Use of a Simple Duodenal Catheter in the Diagnosis of Certain Cases of Vomiting in Infants.
2. G. Draper and F. W. Peabody: A Study of the Cerebrospinal Fluid and Blood in Acute Poliomyelitis.
3. Prof. Czerny: Atrophy of Infants.

1. Duodenal Catheter in the Diagnosis and Treatment of Vomiting in Infants.—Hess described in the May number of this journal a duodenal tube for infants. This first tube consisted of a soft rubber tube with a silver plated, perforated leaden ball at the end, which was carried through the pylorus by means of gravity and the onward movement of peristalsis. Later, the same results were obtained by making use of an ordinary soft rubber Nélaton catheter. During the past few months Hess has made use of this infant duodenal catheter in about 200 cases. That the catheter really gets into the duodenum has been demonstrated by the use of radiographic pictures. The successful use of the catheter depends upon practice. Hess goes into some detail in describing the ways in which we may be certain that we have reached the intestine. The values of the tube are many. It gives a method of making an absolute

diagnosis of pyloric spasm, and of sharply differentiating this condition from vomiting not spastic in nature. It is not possible to differentiate a simple spasm from a true stenosis of so mild a character as to permit of a No. 15 (F) catheter, but in more severe grades of stenosis the likelihood of such a pathological condition can at least be surmised. The writer has shown that cardial spasm nearly always accompanies pyloric spasm. It should also be noted that there is not only commonly an increase in gastric secretions in pyloric spasm, but that the same condition is frequently found in the duodenum. In pylorospasm the passage of the tube through the pylorus seems to relax the ring and in this way to diminish the vomiting. Duodenal feeding is feasible, and in such cases as do not retain food, gavage should be used.

2. A Study of the Cerebrospinal Fluid and Blood in Acute Poliomyelitis. — Draper and Peabody found the following changes in the cerebrospinal fluids of poliomyelitis. Fluids taken during the early stages of the disease, and especially before the onset of paralysis, tend to show an increased cell count with a low globulin content. At this early stage the polymorphonuclear cells may amount to ninety per cent. of the total. Most fluids, however, show lymphocytes and large uninuclear cells almost exclusively. After the first two weeks the cell count usually drops to normal, and there is frequently an increase in globulin content. A slight increase in globulin may persist for seven weeks or more. Analogous changes may be found in fluids of abortive cases. All fluids examined reduced Fehling's solutions. The blood of these cases shows a constant leucocytosis. In several instances the count has been as high as 30,000. In only one case was there a definite leucopenia. Besides the increase in total cells, there has been an equally constant increase of polymorphonuclears of ten to fifteen per cent. above the normal, and a diminution of the lymphocytes of fifteen to twenty per cent. The other forms of leucocytes showed no abnormities.

INTERSTATE MEDICAL JOURNAL

February, 1912.

1. William Osler: Chronic Infectious Endocarditis.
2. George Dock and Downey L. Harris: Vaccine Virus and Vaccination in the St. Louis Public Schools.
3. Hugh A. Baldwin: Iodine in Surgery.
4. George H. Hoxie: Hormonal in Intestinal Stasis.
5. Charles G. Chaddock: New Reflex Phenomenon in the Hand: The Wrist Sign.
6. Joseph H. Pobes: Transduodenal Choledochotomy.
7. L. H. Hempelmann: Hemorrhagic Infarct of the Small Intestine.

1. Chronic Infectious Endocarditis.—Osler describes this form of endocarditis which is pathologically unlike the ordinary ulcerative form, in that there are usually large, hard, firm, greyish yellow vegetations projecting from the valves like warts, and in many cases an extension over the walls of the endocardium. This form has been called endocarditis lenta, as the symptoms may persist from six to thirteen months or longer. It is ushered in with a fever of the septic type (daily rising to 102.5° or 103° F.), which may continue for six or seven months before the cardiac signs become pronounced. Chills may occur at intervals, but they may be entirely absent. Anemia occurs early and may lead us astray in our diagnosis. Embolic attacks are present in many cases and may give us the first hint as to the nature of the disease. Ephemeral cutaneous nodes are pathognomonic of this trouble—small swollen areas about the hands or feet, or raised reddish nodes, like an ordinary wheal, painful but disappearing in a day or two. Organisms are found in the blood, a streptococcus known as *mitior* or *viridans*, because a poorly growing organism producing a green pigment on blood plates, associated sometimes with the influenza bacillus, the pneumococcus, and the staphylococcus. Vaccine treatment is of no avail in these cases.

5. New Reflex Phenomenon in the Hand; the Wrist Sign.—Chaddock reports a new reflex movement of the hand. The location of the sensitive area is on the palmar (anterior) surface of the wrist at the junction of the palm with the wrist, and just at the ulnar side of the tendon of the flexor carpi radialis and the tendon of the palmaris longus, evident as a groove or depression when the hands and fingers are in moderate flexion. Irritating this area by scratching it with a dull orangewood stick, or with a dull nail file, or by pressing with the point of either, is followed, in certain disorders by a flexion of the wrist and simultaneous extension and separation of all the digits. This response may be slow or follow very quickly. This reflex is observed in cases where there is disease of the motor tract or tracts—dementia paralytica, organic epilepsy, organic hemiplegia, multiple sclerosis, tuberculous meningitis of the cord, cerebrospinal lues, chorea of Sydenham, and cerebral trauma, skull fracture with endocranial hemorrhage.

7. Hemorrhagic Infarct of the Small Intestine.—Hempelmann, while observing that the diagnosis of mesenteric thrombosis is always difficult and in many cases impossible, suggests some useful points as indicative of this condition. Sudden abdominal pain in a patient over thirty years of age, the pain being either very severe from the first or becoming steadily worse for several days, and this often associated with writhing on the bed, and nervous phenomena remotely suggesting hysteria combined with lack of rigidity and distention, comparatively normal pulse and temperature, bloody vomiting and stools, and a demonstration of a source from which an embolus may have been derived (endocarditis, phlebitis), all these points suggest or point to an intestinal hemorrhagic infarct. Abdominal section with the removal of the affected area and anastomosis is indicated. In many cases, however, it may be best to establish an artificial anus by bringing the ends of the bowel operated on out of the abdominal wound, rather than risk an immediate anastomosis.

MONTHLY CYCLOPEDIA AND MEDICAL BULLETIN.

February, 1912.

1. Heinrich Stern: Some European Spas: Their Value and the Scenes.
2. Albert Bernheim: Constipation with Diarrhea.
3. Estill D. Holland: Treatment of Parasyphilitic Conditions with Salvarsan.
4. Louis Kolipinski: Hay Asthma: Symptoms, Diagnosis and Etiology.
5. J. Madison Taylor: Treatment of Chronic Disease, with Special Reference to Simple, Efficacious Remedial Measures Readily Applied, but Often Neglected.

1. European Spas.—Stern deplores the commercialization of certain European spas. He does not believe the mineral waters at these resorts, in

general, to be as valuable in the treatment of disease as is frequently maintained, though they may be of use to some patients. Health resorts serve especially the purpose of removing the patients from their usual surroundings to a salubrious environment.

2. **Constipation with Diarrhea.**—Bernheim has observed constipation in association or alternation with diarrhea in certain gouty patients, after abdominal and rectal operations, in pulmonary tuberculosis, in achylia gastrica, and often in cases of hypochlorhydria with gastrointestinal atony. Upon administering fuchsin internally in such cases he found that stained food remnants remained in the intestine for an abnormally long time in spite of the diarrhea present. Symptoms in part such as those attributed to autointoxication and vasomotor ataxia resulting from retention of fecal matter were observed, viz., headaches, dizziness, drowsiness, indefinite pains, general inertia, chronic catarrhal conditions of the nose and pharynx, tachycardia or slow pulse, and in some cases frequent micturition. In young girls and women there were sometimes pronounced chlorotic symptoms; these remained unrelieved by iron, the diarrhea continuing. In treating such patients the author administers, where necessary, three to five large doses—from two to five grains—of calomel, followed by a laxative salt or water. In other instances castor oil, from half to one teaspoonful two or three times daily, with or without an equal amount of good olive oil, continued for about a month, proved effective. In cases with excessive fermentation and resulting atony ichthyol is serviceable. Physical treatment includes enemas of oil or oil emulsions, hot baths with massage (preferably by an attendant), or wet packs frequently renewed; the last are especially useful in cases with pain or tenesmus. Rest in bed and gastric lavage may also be advisable. Variety and plenty should characterize the diet; in the individual case, certain special articles of food such as strong, sweetened coffee, beer, cream, bread with butter and honey, stewed or dried fruit, cheese and agaragar, may prove useful. Hygienic treatment comprises moderate exercise alternating with rest, fresh air, salt baths, sitz baths, and sensible wearing apparel. Stress is laid by the author on prophylaxis in patients of this type. Packing the wound with gauze in laparotomy cases should be avoided, and in rectoanal operations the dissection of membranes to be excised should be more thorough and accurate. A reduction in the use of laxative pills, now almost universal, is also much to be desired.

3. **Salvarsan in Parasyphilitic Conditions.**—Holland reports four cases of tabes and one of paresis in which he administered salvarsan. Marked improvement in respect of gait, sight, pains, and bladder control in the tabetics, and of the mental state in the paretic, was observed.

4. **Hay Asthma.**—Kolipinski has found efficient in hay fever a solution of calcium creosote, diluted with eight to ten volumes of water, and sprayed into the throat and nose every hour or two for two or three days. If the solution causes irritation, it should be further diluted. The involvement of the eye, pharynx, larynx, and face needs no other treatment, and the neuralgia also vanishes. In hay asthma potassium iodide in five grain doses, three times a day, can be considered a specific, rarely failing to cure in a week or two. An opiate at bedtime for a few days and small doses of arsenic are valuable adjuvants.

5. **Treatment of Chronic Disease.**—Taylor emphasizes the necessity, in the management of chronic affections in general, of raising to their highest efficiency all the functions of the body through the practice of what he terms "reconstructive personal hygiene." This comprises such measures as the attainment of mental and emotional rest, diet, skin friction and bathing, colonic irrigations, systematic education of the respiratory function, massage, and elastic support of relaxed structures. The possibilities of a combination of such measures lie in rendering available latent, undeveloped energies in various parts of the organism and thereby aiding the body to resist the inroads of the chronic disease present, whatever be its seat.

NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

February, 1912.

1. W. D. Roussel and Espy Williams: Fecal Obstruction of the Small Intestine.
2. Solon G. Wilson: Tuberculosis in Children from a Clinical Standpoint.
3. Walter Tusson: Idiopathic Purpura Hemorrhagica.
4. Oscar W. Bethea: New Method of Enterectomy.
5. E. M. Dupaquier: Hectine; Notes from Its Practical Use.

1. **Fecal Obstruction of the Small Intestine.**—Roussel and Williams report an interesting case where the small intestine was obstructed by a stone, one and one half inch in diameter and two inches long, one extremity of which was irregularly rounded in shape, and the other smooth and flattened with sharp edges directed toward the distal end of the bowel. The point at which the stone lay was four and one half feet from the ileocecal junction. The stone was removed by operation, at which time a small stercoral ulcer was found, six inches from the incision in the gut, at which place the mass had evidently been lodged firmly for some time, before moving on.

2. **Tuberculosis in Children from a Clinical Standpoint.**—Wilson, after a discussion of this interesting question in which he expresses his belief that the danger from infection by the alimentary route has been exaggerated as well as that from the streets, goes into the question of immunity and the manner in which it is effective. In the matter of treatment he is inclined to the opinion held by those men with whom he worked in Europe, who are unanimous in the statement that the use of tuberculin is a dangerous procedure, and if employed at all, it should be given in very small doses in all forms and in all stages of tuberculosis, the principle being to keep up the anaphylaxis and not to get an antitoxic action, as is the case when large doses are used. He concludes his article with the expression of his belief that if some plan could be formulated to prevent tuberculous infection during the first three or four years of life, not only would infant mortality be reduced, but also adult morbidity.

4. **New Method of Enterectomy.**—Bethea suggests a novel method of approximation following intestinal resection, which does not change the

course of the intestinal current or encroach upon the lumen of the tube. The operation, moreover, is both safe and rapid. Excision of the part to be removed is made in the usual manner. An additional section from one half to one inch is incised down to the mesentery. This additional section is suspended upon the handle of a suitable instrument thrust through its lumen, and a longitudinal incision is made through the peritoneal covering along a line opposite the mesentery. The peritoneal covering is grasped with thumb forceps at each margin of the incision in turn, and the peritoneum with some subperitoneal tissue is peeled down on each side and the musculomucous tube lifted out. After the ends of the intestine are united by a continuous suture through all its coats, one peritoneal flap is raised to cover one side of the wound and the margin stitched with a continuous suture to the united portions of the gut. The other flap is then raised and sutured in the same manner, but is made slightly to overlap the first flap, where the two meet in the median line. These flaps when stitched together reinforce and cover in the sutured ends of the gut.

ST. PAUL MEDICAL JOURNAL.

February, 1912.

1. MAURICE H. RICHARDSON: Diagnosis and Treatment of Diseases of the Biliary Tract; Difficulties and Dangers.
2. LEVERETT D. BRISTOL: Mediastinal Tumors.

1. Diagnosis and Treatment of Diseases of the Biliary Tract; Difficulties and Dangers.—Richardson divides gallstone cases into two chief groups, the plain and the obscure. To him there seems to be no middle class. After a few hundred cases the surgeon becomes skilful in interpreting histories, generally with confidence and correctly, even in the obscure cases, yet he will not infrequently be mistaken in the positive opinion. The less positive the diagnosis, the more frequently will no gallstones be found. In these diseases of the right upper quadrant of the abdomen, familiarity with the history and the physical signs must be coupled with a view of the exact pathological conditions upon the living patient. The author cites many lesions which may be mistaken for cholelithiasis. The real indication for exploration of the biliary tract is the presence of an organic lesion in which mechanical and surgical relief is the best or only chance. In every case the fullest possible investigation should be made, emphasizing the contraindications rather than the indications. As to the selection of methods, the safest, though not always the most effective, is simple cholecystostomy; the most dangerous, that upon the hepatic and common ducts. Thorough palpation with the whole hand in the abdominal cavity should precede all operations on the biliary tract. Gallstones are most commonly overlooked in the common or hepatic duct, and when this happens they necessarily cause persistent trouble. If overlooked in the gallbladder, their presence may never be suspected. The prognosis in these cases depends upon the promptness of diagnosis. The author warns the inexperienced surgeon to keep out of the depths of the gallbladder region, and calls attention to the frequency of hernia as a result of these operations. To avoid the latter the operator must be careful in closing the wound, and the patient must wear a supporter for a long time.

2. Mediastinal Tumors.—Bristol dwells on the importance, in these cases, of the study of the blood, the employment of the Wassermann and tuberculin tests, and most important the use of the x ray. Skiagraphs of two cases are given. In his conclusion he emphasizes three points: The possible presence of a mediastinal tumor in all cases giving symptoms and signs referred to the chest; the great value of the x ray in making possible a positive diagnosis in an obscure case; the dependence upon post mortem examinations in doubtful cases.

YALE MEDICAL JOURNAL.

February, 1912.

1. JOHN F. ERDMANN: Diverticulitis of the Colon.
2. HERBERT K. THOMS: Treatment of Eclampsia.
3. DONALD L. ROSS: Some Points in the Treatment of Epilepsy.

1. Diverticulitis of the Colon.—Erdmann advises us that the entire intestinal tract is subject to this condition, from the cervical esophagus to the lower sigmoid, and that diverticula, like gallstones, are harmless until secondary changes in them are productive of inflammatory or destructive (ulcerated or gangrenous) action. The symptoms, in the acute cases, of this condition are those of a transposed (left sided) appendicitis, acute fulminating, generally spreading peritonitis, acute abscess formation, mass formation resolving, or with abscess formation perforating into the bladder or bowel or giving rise to an ischiorectal abscess. In this variety there is no pathognomonic symptoms, and exploratory operation alone will differentiate this from other inflammatory troubles in this region. In the subacute variety pain in the left lower abdomen, especially if there are recurrent attacks, with constipation to partial bowel obstruction, will facilitate diagnosis. In the chronic variety, with marked infiltration, the symptoms are those of obstruction, more or less marked, with occasional objective evidence of tumor, without the presence of blood in the stools or emaciation, as in carcinoma. The treatment of this condition varies with the type. In the acute perforative or gangrenous type, the treatment is that of appendicular or intestinal perforation. In the chronic infiltrating type, with partial obstruction, removal of the affected portion with anastomosis is indicated. In the obstructive cases a primary artificial anus may be made, with secondary removal, anastomosis, and final closure of the artificial anus.

DUBLIN JOURNAL OF MEDICAL SCIENCE.

March, 1912.

1. C. YELVERTON PEARSON: Four Successful Cases of Cæsarean Section.
2. M. J. NOLAN: Proposed Sterilization of the Mentally Unfit.
3. RICHARD R. LEEPER: Causation of Insanity in Ireland.
4. M'ARDLE: Fractures and Dislocations at the Elbow Joint.

1. Cæsarean Section.—Pearson maintains that in competent hands the operation of Cæsarean section is not more dangerous to the mother than the induction of premature labor, probably less so, while it is certainly safer for the immediate life of the child, who instead of being born prematurely, is brought into the world in a mature condition. Pearson thinks it better to select a time to operate that will anticipate the onset of labor, as the advantages of doing so outweigh those of operating at the time of the uterine contractions.

GLASGOW MEDICAL JOURNAL.

March, 1912.

1. George Thomas Beatson: Splenic Metastasis in a Case of Carcinoma of the Tongue, Due Probably to Vascular Dissemination.
2. John Guy: Use of Tuberculin in Phthisis.
3. John Parlane Granger: Plague as a Factor in History.
4. Alex. Mills Kennedy: Auriculoventricular Node and Bundle in a Case of the Adams-Stokes Syndrome.

2. Tuberculin in Phthisis.—Guy concludes from an analysis of the results obtained that tuberculin can be administered with comparative safety if the dose is carefully regulated and the temperature watched. He can find nothing from a clinical standpoint which will enable him to say that one variety is better than another, but unexpected reactions occur at times with the bacillary emulsion. Some patients with phthisis will not do well with tuberculin, and sometimes this can be determined only by a trial of the remedy.

JOURNAL OF TROPICAL MEDICINE AND HYGIENE

February 1, 1912.

1. Graham E. Henson: Possible Etiological Factors in Malarial Recurrences: The Significance of such Cases, and Their Treatment.
2. George C. Low: Persistence of Eosinophilia and Persistence of Absence of Embryos in Peripheral Blood in a Case of *Filaria loa* Infection.

1. Malarial Recurrences.—Henson is impressed with the diametrically opposed views held by various observers concerning the etiology of recurrences. The theories advanced which are entitled to consideration are those of parthenogenesis, or the reproduction of the organisms by unfertilized macrogametes; intracorpuscular conjugation, the young hyaline forms uniting inside the corpuscles with resulting production of a resting, resistant form capable of multiplying after periods of quiesence; and asexual reproduction by schizogony, this taking place continually from the time of infection, but undergoing fluctuations which account for the absence of clinical symptoms and their subsequent return. The author gives evidence to support his belief that the parthenogenesis theory is untenable. Intracorpuscular conjugation, on the other hand, is generally present in recurring cases; while the work of Craig in this connection has not as yet been absolutely conclusive in associating certain special forms of plasmodia with recurrences after a long interval, there is reason to believe that further studies will prove them to be the etiological factor. Asexual reproduction by schizogony is generally accepted as the cause of short interval relapses, but the length of time that the resulting body is capable of keeping the infection alive in man is at present undetermined. The significance of malarial recurrences, Henson emphasizes, lies in that they show that the primary infection was not properly treated; the patients become chronic sufferers and are a constant menace to the community. Adequate treatment of the acute attack is of immense importance for the eradication of the disease. There is evidence that, contrary to former opinion, the sexual forms of the malarial organism can be eliminated from man by continued cinchonization, thus removing the possibility of transmission of the disease through the mosquito. In the estivo-autumnal infections ten grains of quinine sulphate, three times daily, for a period of from two to three weeks results in complete sterilization of the blood; in the benign tertian and quartan infections the dose can be reduced to twenty grains daily. Efficient treatment resulting in death of the sexual forms, it is very necessary to have some practical method whereby to ascertain when the forms disappear and the case can be considered as cured. The author recommends for this purpose a modification of the Ross "thick film" technique which is less time consuming than the latter: Two or three large drops of blood are spread over a square inch of the slide, allowed to dry, and immersed in a five per cent. solution of acetic acid for from a half minute to two minutes, to remove the hemoglobin, then washed in ninety-five per cent. alcohol for a few seconds, rinsed in distilled water, covered with a two per cent. solution of sodium bicarbonate for twenty seconds, washed in water, then in alcohol and, without drying, stained. Wright's stain is used, but the dilution must be greater than is used for a thin smear. Only chemically pure ingredients should be used; the acid should be quite neutralized, but the alkali should not be in excess. The entire process is completed in about five minutes, the parasites being stained blue.

JOURNAL D'UROLOGIE (SUPPLEMENT TO ANNALES DES MALADIES GÉNITO-URINAIRES).

July, 1911.

1. Widal, Benard, Vaucher: Hydremia of Bright's and Cardiac Diseases; Its Determination by the Refractometric Method.
2. Heitz-Boyer: Functional Capacity of the Two Kidneys.
3. Pousson: Resistance of Nephrectomized Patients to Operative and Accidental Traumatism.
4. Legueu and Verliac: Anatomical and Pathological Study of Cysts of the Kidney.
5. Carlier: Partial Nephrectomy in a Tuberculous Horseshoe Kidney.
6. Rafin: Kidney Calculus.
7. Bazy: Prolapse of the Ureters in the Bladder.
8. Marion: Cystoscopic Diagnosis of Vesical Tumors.
9. Desnos: Early Prostatectomy in Prostatic Cancer.
10. Michon: Tertiary Syphilis of the Urethra and Urethral Fistula.
11. Janet: Errors in the Diagnosis of the Gonococcus.
12. Jeanbrau: Novocaine Spinal Anesthesia in Urinary Practice.

1. Cardiac and Kidney Edema.—Widal, Benard, and Vaucher recall that the blood being an organic intermediary between the tissues and the kidneys, varies in density with the hydration and dehydration of the tissues. The total quantity of colloids in the circulation is nearly invariable. If water increases in the blood, the relation of albumin to the total amount of blood diminishes and the serum is diluted. The amount of colloid present is estimated by the refraction which a ray of light undergoes when passing through a drop of serum. The refractory used is that of Pulfrich, modified by Reiss. Edema of the tissues is accompanied by edema of the blood. A general fall in weight precedes the elevation of the indicator of the refractometer. This shows that the dehydration is divided into two parts, first, the excess of water is eliminated, but the serum remains diluted; second, the dehydration continues, and the serum becomes concentrated. The refractometer also shows the mechanism of the action of digitalis. This drug produces a sudden rise of pressure in the circulation and, by the mechanism of a vacuum pump, influences the edema of the blood, and therefore the ensuing quick blood dilution. The water is soon eliminated and the curve ascends rapidly. Theobromine accomplishes the same result. At the end of the hydration process the refractometer gives valuable information. If the weight increases, if it is neces-

sary to restrict salt, and if the refractometric curve lowers, edema is beginning again. If the curve remains in equilibrium, the patient is simply taking on weight, the kidneys have become permeable to chlorides, and normal alimentation is resumed.

3. **Resistance of Nephrectomized Patients.**—Pousson says that he has never been able to attribute bad results to chloroform narcosis when decapsulation or nephrectomy has been performed in grave cases of Bright's disease. The quantity of urine, urea, or salts has even increased after operation. Cocaine spinal anesthesia has no effect on the kidney. Stovaine spinal anesthesia decreases the quantity of urine, even to 300 c.c. in twenty-four hours. This persisted from two to three days and in one case for nine days. In sixty-six per cent. of cases the urea and sodium chloride were diminished; phosphates not affected; albumin, neither constant nor abundant; microscopically, epithelium cells, leucocytes, and red blood cells have been found, but no casts. He believes chloroform to be a better anesthetic for kidney operations. He has done decapsulation and nephrectomy with somnoform with no ensuing kidney disturbances attributable to the anesthetic. Clinically, a patient with but one kidney has good resistance to infections and autointoxication. He cites a case of a tuberculous patient who contracted syphilis, and in whom mercury caused a severe syphilitic stomatitis. After nephrotomy this patient tolerated mercury well. Save one case, in a patient of fifty-six years, in whom the right kidney had been extirpated for cancer three years before, and who succumbed to anuria after a trauma of the remaining kidney, Pousson had no cases which gave any light on the resistance of the kidney to traumatism. He has operated twenty times upon patients with but one kidney. The primary operation was: Tuberculosis of the kidney, ten; infected hydronephrosis, one; pyonephrosis, two; colon bacillus pyelonephritis, one; calculus pyonephrosis, one. Two died; but not of kidney insufficiency. The secondary operations were: Double ovariotomy; nephropexy, and after that laparotomy for tuberculosis of the perineum; litholopaxy; ovariotomy; anal fistula; amputation of thigh; ovarian cyst; nephrotomy; stretching of sacral plexus; lumar hernia; hysterectomy; exploratory laparotomy; extirpation of breast cancer with axillary glands; nephrolithotomy; amputation of arm for sarcoma; lombotomy for hematuria; then, five years later, nephrotomy and decapsulation of kidney.

6. **Kidney Calculus.**—Rafin gives the statistics of forty-eight cases operated in for kidney calculus: Twenty-eight were men, and twenty were women. The kidney was infected twenty-nine times, and aseptic nineteen times. The infecting bacteria were: Staphylococcus, pure, eleven cases; streptococcus, and colon bacillus, three cases; staphylococcus and pneumococcus, one case; streptococcus and tuberculous bacillus, three cases; colon bacillus, pure, six cases; pneumococcus, one case; bacillus of Talam-Froenkel, one case; diplococcus of Vibert and Bordas, one case; sterile, two cases. The operative mortality was 10.4 per cent. The aseptic cases or those but slightly infected, nineteen, all ended in recovery. The twenty-nine infected cases gave a mortality of 17.2 per cent. In the aseptic cases pyelotomy was performed ten times; nephrotomy nine; nephrectomy one. In the infected cases, nephrotomy was done sixteen times. Five cases were bilateral and infected; three of these were fatal; one after the third operation (nephrectomy and two nephrotomies). The disadvantages of pyelotomy are the possibility of fistula formation (which is doubtful), and the inability to properly explore the kidney pelvis. The advantages are that the kidney substance is not harmed and the simplicity of the operation. The relative gravity of nephrotomy, and the benignity of nephrectomy is shown from the sixteen nephrotomies with five deaths, and eighteen nephrectomies with no death. The reasons for this are that nephrotomy is more difficult and complicated; infection is much more apt to take place; exposed parts of the kidney may necrose; there may be primary or secondary hemorrhage; and it is graver, because it is used in the most cases. In two nephrotomies the fistula persisted, and in one the calculus recurred; in two cases a secondary nephrotomy was performed.

7. **Ureter Prolapse.**—Bazy says a ureteral calculus may cause prolapse of the ureter into the bladder, but when there is no calculus it is hard to explain the cause. The most plausible explanation is the narrowing of the ureteral meatus, but such narrowing is not necessary. The principal point in the etiology is the disproportion between the effort made by the ureter to evacuate its contents, and the facility with which these contents can pass through the ureteral orifice. If the ureter excretes liquid, even if there is polyuria, there is little chance of protracted ureteral prolapse. If it excretes solid, e. g., blood clots, and above all calculi, this prolapse is more apt to occur. The author describes a number of cases, in one of which a calculus was caught in the ureteral orifice.

Proceedings of Societies

THE PUBLIC HEALTH EDUCATION COMMITTEE OF THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting Held at the New York Academy of Medicine, February 7, 1912.

The President of the Society, Dr. WILLIAM M. POLK, in the Chair.

(Concluded from page 672.)

Attitude toward Marital Relations.—Many women, moreover, were unduly impressed with the importance of maternity, and its love and instincts, really arrogating to themselves the major part, if not quite the whole, of parental instinct. This was also unspeakably wrong, because the average man had instincts toward fatherhood, home, and children just as strong as the average woman. Our women should be taught this fact also, as it would tend to broaden their view, and make them feel that a man's sexual activities were not founded on mere idle appetite, but on an instinct which was secondary only to self preservation in its intensity, insistence, and constancy, namely, the instinct of procreation, in other words, parenthood.

When women in general had been convinced of these things, many an unhappy home would be pacified and hallowed, and many a husband now tempted or deliberately driven out of doors to marital infidelity, would be held true to his wife. Women who had false ideas about these matters scarcely realized how largely they contributed to the whole evil of prostitution in exactly this way. A woman, who in married life, deliberately contributed to her husband's infidelity by these false ideas was in the final analysis just as guilty as he, and in many respects more so, because her attitude was one of cold blooded deliberation, whereas his was due to incidental temptation, made possible only by the false relations at home.

Doctor Pedersen believed that the one viewpoint toward sexual matters that young men and young women should be taught was that if sexual intercourse might be called a privilege, it was such only in a mutual sense, and never in a limited personal sense, that was to say, it was just as much the privilege of the woman as the privilege of the man and no more, and that, like all the other relations of married life, it was resident equally in both husband and wife, as to its demands and exercise and no more. This doctrine was substantiated by the fact in embryology that the male and female elements in conception were equal in value and activity; the only difference was that the female of the higher species harbored and protected the growing offspring while it matured within her own body up to its independent existence after birth.

In closing, Doctor Pedersen said that such frank, high minded teaching of pubescent youth as had been presented during the meeting, should contribute, when widely disseminated, toward a great amelioration of present day conditions in the social evil, and thus prove a great and inestimable blessing to the community.

Who Should Educate the Child in Sexual Knowledge?—The Reverend Hugh Birckhead, rector of St. George's Church, said that he had listened in despair to the proposition that parents should educate their children in the facts of sex life and sex hygiene, because he came from the East Side and the parents there were unfortunately not the proper persons for this task. Though he knew that ideally the parent undoubtedly was the person to educate the child in sex hygiene, there were thousands of parents who were incapable of giving this education. That should be recognized by the authorities and sex hygiene should be a regular part of the public school curriculum. The rector emphasized the importance of premarital continence as the basis for a happy marriage, saying that when marriage came to a pure man it was one of God's greatest gifts, but no one wife could give to a man who had been constantly dissipating before marriage the sort of satisfaction he had had before marriage, and no wife should. You could not satisfy a man who had artificial tastes. When women came to him and asked him whether they should divorce a husband who had been unfaithful, he asked them whether they knew when they married the sort of lives those men lived before marriage, and if they did he said they had no right to ask for a divorce.

Principal William McAndrews, of the Washington High School for Girls, expressed the opinion that personal delicacy was a serious obstacle to the informing of the child by the parent. The boy would make immediate personal reference as to what had happened between his own father and his own mother, and delicacy about this would prevent anybody telling their children. He doubted the efficacy of preaching about the terrible effects of venereal disease, for similar portrayals of the ravages of alcohol had had no effect. And besides, if we spoke so much of the invasion of married life by gonorrhea, the young would draw the deduction that one ran the risk even if one got married. Therefore what seemed to him more important than all was the fact of a wrong view of the relations of the sexes, and he thought that the members of the medical profession were as much to blame for the continuance of this ignorance as any one else, because they wrote on these subjects only in medical journals, which the public did not see, and in technical language which the public could not understand. He complained that when he wished to purchase Havelock Ellis's works on *The Psychology of Sex* he could not buy them because he was not a physician, and he had been told that the doctors were responsible for that law. In the same stores where he was refused the works of Havelock Ellis he saw on the shelves books of Maupassant and Balzac and Bocaccio, in which vice was pictured in the most attractive way. When he came to the Academy of Medicine to get works on the sex question he found a woman librarian and could not ask her for them.

Mr. Oliver F. Cutts, a worker in the Y. M. C. A., said he had found it was not sufficient to educate college boys on these questions, but that it was necessary to go, not only to high school boys, but to still younger boys and warn them of the venereal peril. The sexual need, he said, was a temptation of the mind, not of the body; it came when a man got to thinking, and the first necessity was to keep the mind free from impure thoughts.

Replying to Principal McAndrews, Doctor Egbert said there was good reason why the general public should not be permitted to read Havelock Ellis. Some physicians even could not read those books without being not sexually but psychologically impressed, and while they should not be withheld from educators such as Principal McAndrews, if the general public could read those books it might do them as much harm as Maupassant and Balzac. Good informing works on sex, published in Philadelphia and Cincinnati, had been ruled out of the mails and could be had only by express, although he saw no reason why these particular books should not be allowed in the mails.

Commenting on opinions expressed by those who had taken part in the discussion, Doctor Wile said that because the foreigners on the East Side could not speak the English language was no reason why they were not competent to instruct their children in matters of sex; they were fully competent to do so in their own language. It was necessary for the parents to inform their children on these subjects instead of waiting for it to be done in school, for only 4.5 per cent. of the children ever got to high school, and sixty per cent. of children never got above the sixth grade in our public schools. The

wide difference in the ages of the children also formed an obstacle to special instruction of this sort. Then again, boys learned about these things on the street at the age of ten years, in a way that created a barrier of shame and gave the double problem of washing the child's mind before he could be taught about these matters in a spirit of innocence and purity. Therefore it was necessary to begin the child's sexual education very early. The most promising feature of the agitation for sex education was that the women were beginning to get interested and the sentiment in favor of a law requiring certificates of health before marriage was growing, because women were beginning to realize that to enter matrimony under present conditions was as dangerous as going into war.

Miscellaneous Questions by the Audience.—A member of the audience who asked for a speaker to discuss this subject in labor unions, and who complained that his union could get no lecturer on this subject without paying, was referred to the Society for Sanitary and Moral Prophylaxis with the assurance that he would be supplied with a lecturer free of charge.

In reply to a question about Stall's book, *What A Boy Ought to Know,* Doctor WILE said that he did not approve of it because it contained much that it was not necessary for a boy to know.

A member of the audience who contracted gonorrhea some years ago and after treatment was pronounced cured, and who was now contemplating matrimony, asked if it was all right for him to marry, and was advised to first undergo a thorough examination by a genitourinary specialist.

Another asked if the segregation of prostitutes would not accomplish more than the preaching of continence, which latter he thought impracticable, as the temptation was too great to be withstood. In reply to this, Dr. EGBERT declared that the satisfaction of the sexual instinct was not necessary to health, and said that although warnings might sometimes seem ineffective, if we kept hammering away long enough the boys would develop the will power to resist.

In reply to a questioner who asked whether it was the united opinion of physicians that continence was not injurious to health, Doctor EGBERT said that it was not a unanimous opinion, but that it was the opinion of the majority.

The next questioner asked about venereal prophylaxis and whether, in view of the difficulty of abstinence and the ineffectiveness of warnings and moral exhortations, it would not be better to teach the facts about preventives of infection. The chairman, Dr. WILLIAM M. POLK, replied that venereal prophylaxis was now being taught in many medical colleges. The popularizing of such knowledge, he said, would at present be open to misunderstanding, but he did not doubt that in the end that would be the result.

Dr. WILLIAM J. ROBINSON stated that it was far from being the consensus of the medical profession that absolute sexual continence had no injurious effects; on the contrary very many physicians and psychologists who had made a special, unbiased study of the subject, had reached the conclusion that abstinence in the adult male and female was capable of producing decidedly injurious effects, particularly of a psychic character. He pointed to Professor Freud, of Vienna, and his school, who had shown conclusively that many of the obsessions, phobias, hysterias, anxiety neuroses, etc., had their origin in repression of the sexual instinct. The preaching of continence had been going on for thousands of years, he said, but the results had been insignificant. He asked, in view of the fact that the use of venereal prophylactics was so instrumental in reducing the venereal morbidity, as shown by the decrease of these diseases in the German army, whether it would not be a better and more humane method to teach the young men of the country the use of venereal prophylactics, instead of preaching to them and frightening them by exaggerated accounts of the dangers of venereal infection. He also very decidedly questioned the sincerity and the wisdom of those who, under our present social economic conditions, when men were getting married at a later and later date, advised absolute continence for men of thirty-five years or over.

In reply to Doctor Robinson, Doctor WILE said that if it was admitted to be right to gratify our instincts, the same principle would apply to women, and if this liberty was allowed to them as well it would simply be prostituting the country and destroying our civilization. The individual must repress his desires in the interest of the community. Continence, he declared, was not incompatible with perfect health, as was proved by the fact that Catholic churchmen who led a celibate life for a long period of years nevertheless did not become impotent. A man who had not shed tears for years did not lose the power to weep, and the same was true of the organs of sex as was true of the tear glands.

Letters to the Editor.

AN ASSERTION OF WRONGFUL CREDIT.

ELMIRA, N. Y., *March 28, 1912.*

To the Editor:

We cannot all be famous nor can we all be right, for in either case there would be no authorities. But we obscure youngsters do like to flit across the limelight occasionally when nobody's looking, just to see how it feels.

In your issue of March 16th, the good Doctor Jacobi—it is a pleasure to mention the name—gives 8,000 words of excellent and entertaining advice upon the perennial subject of "colds," though it pains me to see the title unclothed in the conventional and apologetic quotation marks. This apparent antiComstockian oversight is, however, amply compensated for in the meaty heart of the article, where quotation marks are distributed with gratuitous abandon.

About a column of the good doctor's article is devoted to a tortuous dissection of a certain *pièce de résistance* which is attributed to "one of these prophets" who ventured to express his views upon the delusion of "catching cold" in the *Medical Record* "within a year" (to be precise, September 10, 1910). Doctor Jacobi's quotations from the "prophet's" article would have made the writer of this letter positively proud of himself, but, alas!—the good doctor encloses the prophet's name in dashes "—no reason to mention his name—" just

like that. Perhaps the prophet's obstreperously Hibernian cognomen would not sound well in the New York Academy of Medicine rooms; or possibly the good doctor wished to spare the feelings of the grilled prophet. However that may be, the good men do lives after their articles are published; the "prophet's" feeble voice has roused the Father of American medicine to action—I mean words.

I would, for Osler's sake, suggest that the doctor made a fearful error in quoting that rich man; Osler, much as I admire him, does not go to the length Doctor Jacobi makes him go in the third paragraph, on page 525 of the doctor's article. If the writer of this letter is not sadly mistaken, that entire paragraph (excepting the last two lines) was removed in its pristine elegance from the aforementioned article in the *Medical Record* for September 10, 1910, and fitted into Doctor Jacobi's discourse with Osler's illustrious name attached. Now, this is not fair. Osler has won his laurels—he's past forty-five—while we are still youthful and hungry for fame—to-day we celebrate our thirty-second year of usefulness to humanity. So, for Osler's sake, if he won't for mine, I hope Doctor Jacobi will hasten to correct the error and punish the printer for his carelessness,

William Brady, M. D.

A PROTEST AGAINST EXCESSIVE "MEATOTOMIES."

New York, *April 2, 1912.*

To the Editor:

Dr. William J. Robinson, in a correspondence published in the latest issue of your esteemed journal, protests, quite rightly, against unjustifiable mutilation, excessive cutting of the meatus urethræ, and I, in my turn, beg to protest against the barbarous word *meatotomy*. A. Rose, M. D.

Book Reviews.

[*We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.*]

A Guide to the Series of Pathological Specimens Illustrating Injuries and Diseases of the Organs of Generation in the Female, Including Such as Are Incidental to Gestation and Parturition, in the Museum of the Royal College of Surgeons of England. By Alban H. G. Doran, Fellow of the College. Issued by Order of the Council of the College. London: Printed for the College by Taylor & Francis, 1912. Pp. 52. (Price, 6d.)

This guide has been compiled by Doctor Doran for the purpose of assisting visitors to the museum of the Royal College of Surgeons of England, who wish to make use of the series of pathological specimens, illustrating the diseases and injuries of the female generative organs. The catalogue is devoted largely to analytical descriptions of individual specimens showing their relation to general pathological conditions, while the guide consists of a summary of those conditions, i. e., inflammation, new growths, etc., and indicates how they are illustrated by the individual specimens. Many hundred brief descriptive references of pathological conditions of the uterus, tubes, ovum, and external genital organs are given, including also, such pathological conditions as are incidental to gestation and parturition. Apart from the great value of this book, as a guide in studying the specimens in the museum, it is most interesting and instructive as a handbook, by reason of the illustrations, which are photographic reproductions of the actual specimens, i. e., fibroma of the ovary, papilloma of the Fallopian tube, chorionepithelioma malignum, tubal mole in process of expulsion, obstructed labor by fibroma of the gravid uterus, etc. For one who contemplates visiting the museum, much time may be saved and the knowledge enhanced by possessing a copy of this guide.

Die Krankheiten des Mundes. Von weil. J. von Mikulicz und W. Kümmel. Dritte Auflage, neu bearbeitet, von Werner Kümmel, Direktor der Universitäts-Klinik für Ohren-, Nasen- und Kehlkopfkranke in Heidelberg. Mit Beiträgen von Prof. A. Czerny, Direktor der Universitats-kinderklinik in Strassburg i. e., und Prof. J. Schäffer in Breslau. Mit 79 zum teil farbigen Abbildungen im Text. Jena: Gustav Fischer, 1912. Pp. vii-320.

The third edition of this most valuable work on diseases of the mouth has been brought thoroughly up to date by the surviving author. It is regrettable that, containing as it does so much really important material, this book has not been translated and made accessible to the English speaking profession. The conciseness of the style and freedom from unnecessary repetitions and elaborations, are somewhat unusual and very attractive features.

The pathology, symptomatology, and course of each disease are completely and adequately considered. The descriptions are clear and accurate; the appropriate treatment is indicated, but space has not been wasted in describing already familiar methods. The bibliography is apparently given in full. The illustrations are unusually fine and supplement the text very effectively.

This work will be of great assistance to those who can read German and acquaint themselves with its many excellent features.

Ἰωάννου Γ. Θεωφιλοπούλου, Ὑπνωτισμός (John G. Theophilopoulos, Hypnotismus). New York: Published by the Author, 1912. Pp. 110.

Scientific publications in America by modern Greek authors are rare. This attractive little book is first of all noteworthy on account of its beautiful language, its admirable Attic, which gives us the illusion of having before us a textbook of an ancient Greek writer, so striking is the similarity of the modern Greek to the language we studied in college. Here we have conclusive evidence of the absurdity of those who assert that the classical Greek language is a dead one. Any one who has a fairly good knowledge of ancient Greek must admit that the Greek language of to-day is so similar to the ancient, both in grammatical construction and as to the meaning of the words, that the Athenians of the times of Pericles and Socrates would be able to talk to, and be understood by the Greeks of to-day. The subject is treated in a serious and scholarly way, and may be read profitably by physicians. The author shows that hypnotism has been elevated from the obscure abode of superstition to a scientific conception, and that there are possibilities of its application for therapeutical purposes; he has taken pains to present all the phases of hypnotism, from the most ancient times to the present day, and has laid special stress on the exposition of suggestive therapeutics practised in the askleplia or sanatoria of old. In the closing pages there is a chapter entitled Religion, Science, and Miracle, which discloses great clearness of understanding of the question On the whole, the book is interesting and elegantly written.

Miscellany.

As to Doctor Wiley's Successor.—The delay in the appointment of a successor to Dr. Harvey W. Wiley, says the *New York Herald* for April 1, 1912, can only mean that the President and his advisers realize all the importance of the position of chief of the chemistry bureau of the department of agriculture and the necessity for its occupation by a man not only of high ability but of sterling character. It would be perfectly possible

to appoint a man thoroughly fitted intellectually who would be an utter failure in the post.

Some doubt has been expressed whether an absolutely reliable man can be obtained without a change in the conditions in the department of agriculture during Doctor Wiley's latter years in office. Certainly the man who accepts the position under these conditions must expect not only to lead a life of effort against organized attempts to make easy money from the public by food adulteration, but also must exhibit much more than ordinary perspicacity and firmness in having his decisions carried out by the department.

The public knows the situation that has developed in the struggle for pure food and is deeply interested in the outcome. President Taft has no more important task on his hands than the appointment of Doctor Wiley's successor.

Interest Manifested in Geriatrics.—Below we reproduce the first examination paper ever set in the subject of geriatrics; of the students at Fordham University who underwent this examination, thirty in number, twenty-six passed with the creditable marking of over ninety per cent. Professor I. L. Nascher has been invited to give a course of lectures in this specialty at the College of Physicians and Surgeons at Boston, and also at Bennett Medical College, of Chicago.

FORDHAM UNIVERSITY SCHOOL OF MEDICINE.

TERM EXAMINATION IN GERIATRICS.

March 22, 1912, 5 to 6 p. m.

1. State briefly the principal theories of aging.
2. Give the rule for doses in old age.
3. Symptoms and treatment of senile (atrophic) bronchitis.
4. Difference between pseudoinsomnia and true insomnia, and treatment of the latter in the aged.
5. Treatment of senile gastritis with dilatation.
6. Rule for feeding in old age and reasons.
7. Arthrosclerosis senilis (senile rheumatism): how do you distinguish it from chronic rheumatism?
8. Causes for dribbling of urine.

Anticanteen Meeting at the Hotel Astor.—On Monday afternoon, March 25th, a meeting was held, under the auspices of the W. C. T. U., in one of the ballrooms of the Hotel Astor, to discuss the objections to the restoration of the sale of beer and wine in the army post exchange or canteen. The speakers were military men who have seen both sides of the question, General Miles, and Colonel Maus, chief surgeon and medical inspector of the Central Division, U. S. Army. General Miles spoke of the desertions of the men in the anticanteen period, and showed from the army reports that desertions have been gradually lessening, 1911 showing the smallest percentage of desertions since the Civil War. He said beer is as injurious to soldiers as regards efficiency as it is to men in other lines of life.

Colonel Maus said that the increase in venereal diseases reported can be accounted for in two ways: First, there was not compulsory inspection until within the last decade; and, second, the personnel of the army has changed. The army now is made up of younger men who are naturally more passionate than the mature men who formerly served as soldiers. The strongest point made by Colonel Maus was that the young soldiers now in the army do not remain in service more than a few years, and they know that if they learn to drink in the army it will hinder them from obtaining good positions in the business world when they return to civil life. So, many of them, he said, do not want the temptation of the beer canteen. He said he had permission from the Secretary of War to be present, that he had come 1,000 miles to make this address, and he would gladly go ten times the distance to save the soldier boys from the army saloon.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending March 29, 1912:

CHOLERA—FOREIGN: *India,* Jan. 26-Feb. 17, 78 cases, 124 deaths; (Rangoon), Dec. 1-31, 56 cases, 49 deaths; *Indo-China,* Jan. 26-Feb. 12, 75 cases, 57 deaths; *Straits Settlements,* Jan. 27-Feb. 3, 1 case, 1 death; *Turkey* (Aleppo), Feb. 25-March 2, 1 case, 1 death.

YELLOW FEVER—FOREIGN: *Brazil* (Manaos), Feb. 11-24, 9 deaths; *Ecuador,* Feb. 1-29, 125 cases, 57 deaths.

PLAGUE—FOREIGN: *China* (Hongkong), Feb. 4-10, 4 cases, 4 deaths; *Ecuador,* Feb. 1-29, 23 cases, 10 deaths; *India,* Jan. 28-Feb. 17, 25 cases, 45 deaths; (Rangoon), Dec. 1-31, 12 cases, 11 deaths; *Indo-China,* Jan. 26-Feb. 12, 4 cases; *Java,* Feb. 4-10, 5 cases, 4 deaths; *Mauritius,* Dec. 22-Jan. 11, 8 cases; *Persia,* Feb. 4-24, 13 cases, 4 deaths; *South Africa* (Durban), Jan. 20-Feb. 11, 3 cases, 2 deaths; *Straits Settlements,* Jan. 25-Feb. 3, 1 case, 1 death.

SMALLPOX—UNITED STATES: *Indiana,* Feb. 1-29, 181 cases, 2 deaths; *Louisiana* (New Orleans), March 10-16, 12 cases; *Maine,* Dec. 1-31, 56 *cases;* Jan. 1-31, 74 cases; *Minnesota,* Feb. 1-26, 224 cases; *Oklahoma,* Jan. 1-31, 184 cases; *Oregon,* Jan. 1-31, 74 cases; *South Carolina* (Charleston), Feb. 1-29, 2 cases; *Tennessee* (Knoxville), March 10-16, 1 case; *Virginia,* Feb. 1-29, 72 cases.

SMALLPOX—FOREIGN: *Arabia* (Aden), Jan. 23-Feb. 26, 11 cases, 4 deaths; *Austria-Hungary* (Galicia), Feb. 18-24, 1 case; *Canada,* March 4-16, 20 cases; *Ceylon,* Feb. 4-10, 1 case; *Chile,* Jan. 14-20, 1 case, 1 death; *China,* Feb. 4-18, 47 cases, 38 deaths; *Egypt* (Cairo), Feb. 5-11, 1 case; *France* (Paris), Feb. 18-24, 8 cases; *Germany,* Feb. 28-March 9, 6 cases; *Great Britain* (Southampton), March 3-9, 1 case; *India,* Feb. 11-17, 15 cases, 2 deaths; (Rangoon), Dec. 1-31, 32 cases, 8 deaths; *Indo-China,* Jan. 26-Feb. 12, 3 cases; *Italy,* Feb. 18-March 2, 172 cases, 67 deaths; *Japan* (Nagasaki), Feb. 12-18, 1 case; *Java,* Feb. 4-10, 5 cases, 4 deaths; *Mexico,* March 3-12, 15 cases, 2 deaths; *Portugal* (Lisbon), Jan. 26-March 2, 7 cases; *Russia* (Moscow), Feb. 4-10, 4 cases; *Spain,* Feb. 1-March 2, 22 cases, 3 deaths; *Straits Settlements,* Jan. 8-Feb. 3, 1 case, 1 death; *Turkey* (Constantinople), Feb. 26-March 3, 7 deaths.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the Public Health and Marine Hospital Service for the fourteen days ending March 27, 1912:

Cobb, J. O., Surgeon. Detailed to represent the Service at the meeting of the Medical Society of the Missouri Valley, to be held at Colfax, Iowa, March 21 and 22, 1912. **Collins,** G. L., Passed Assistant Surgeon. Granted one month's leave of absence from March 15, 1912. **Corput,** G. M., Passed Assistant Surgeon. Authorized to visit New Orleans, La., on business connected with the station twice each month during the period April 1 to June 30, 1912. **Francis,** Edward, Passed Assistant Surgeon. Detailed to inspect the Slee Laboratories at Swiftwater, Pa., with a view to granting licenses for the sale of their products. **Frost,** W. H., Passed Assistant Surgeon. Directed to proceed to Baltimore, Md., for conference with health authorities and investigation of outbreak of so called septic sore throat. **Gassaway,** J. M., Surgeon. Relieved from duty at the Marine Hospital, San Francisco, Cal., and directed to proceed to Cairo, Ill., and assume command of the Service. **Gill,** S. G., Acting Assistant Surgeon. Directed to proceed to Savannah, Ga., and assume temporary charge of the quarantine station during the absence on official business of Assistant Surgeon C. M. Fauntleroy. **Grimm,** R. M., Assistant Surgeon. Detailed to make epidemiological studies of pellagra in Georgia and South Carolina. **Krulish,** E., Passed As-

sistant Surgeon. Relieved from temporary duty in Washington, D. C., and directed to proceed to Juneau, Alaska, for duty under this Service with additional duties to be performed under the direction of the Bureau of Education, Department of the Interior. **Lumsden,** L. L., Passed Assistant Surgeon. Detailed to represent the Service at the meeting of the health officers of Tennessee to be held at Nashville, Tenn., April 2 to 4, 1912. **Nydegger,** J. A., Surgeon. Granted one month's leave of absence, on account of sickness, from April 1, 1912. **Porter,** J. Y., Quarantine Inspector. Directed to proceed to Mayport, Fla., to inspect the operations of the quarantine service at that port. **Smith,** L. C., Pharmacist. Relieved from duty at Savannah Quarantine station and directed to proceed to Savannah, Ga., and report to the medical officer in command at the Marine Hospital for duty. **Tappen,** J. W., Acting Assistant Surgeon. Directed to proceed to Douglas, Naco, Nogales, and Tucson, Ariz., to inspect the conduct of the medical examination of arriving aliens at these ports. **Wickes,** H. W., Surgeon. Relieved from duty at Cairo, Ill., and directed to proceed to Boston, Mass., and report to the medical officer in command for duty and assignment to quarters. **Woodward,** R. M., Surgeon. Relieved from duty at Detroit, Mich., and directed to proceed to San Francisco, Cal., and assume command of the Marine Hospital at that port.

Boards Convened.

Board of medical officers convened to meet at the Bureau, Tuesday, March 26, 1912, at 10 o'clock a. m., for the examination of Assistant Surgeons Harry J. Warner and Charles M. Fauntleroy to determine their fitness for promotion to the grade of Passed Assistant Surgeon. Detail for the board: Assistant Surgeon General W. J. Pettus, chairman; Assistant Surgeon General J. W. Trask; Passed Assistant Surgeon A. M. Stimson, recorder.

Board of medical officers convened to meet at the Bureau, Monday, April 8, 1912, at 10 o'clock a. m., for the examination of candidates for admission to the Service. Detail for the board: Surgeon C. P. Wertenbaker, chairman; Surgeon W. G. Stimpson; Passed Assistant Surgeon Jos. Goldberger, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending March 30, 1912:

Bayly, Rozier C., Lieutenant, Medical Corps. Relieved from temporary duty with troops at Nogales, Ariz., and ordered to return to his proper station. **Brooks,** William H., Major, Medical Corps. Granted six months' leave of absence, on surgeon's certificate of disability. **Brown,** Ira C., First Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Lawton, Wash., and ordered to Schofield Barracks, H. T., for duty. **Bushnell,** George E., Colonel, Medical Corps. Granted three months' leave of absence. **Dear,** William R., Lieutenant, Medical Corps. Granted twenty days' leave of absence. **Johnstone,** James F., Lieutenant, Medical Corps. Detailed for duty with Troop B, First Cavalry, en route to and at the Sequoia National Park, during the coming season. **Kendall,** William P., Lieutenant Colonel, Medical corps. Leave of absence extended twenty days. **Macy,** Frederick S., Captain, Medical Corps. Granted three months' leave of absence. **Peterson,** James J., First Lieutenant, Medical Reserve Corps. Resignation accepted, to take effect March 26, 1912. **Slater,** Ernest F., First Lieutenant, Medical Reserve Corps. Ordered to return from Washington, D. C., to his proper station, Fort St. Philip, La. **Stephenson,** William, Lieutenant Colonel, Medical Corps. In addition to his other duties will report to the commanding general, Eastern Division, for duty as chief surgeon of that division upon the retirement from active service of Colonel John Van R. Hoff, Medical Corps. **Van Poole,** G. McD., Major, Medical Corps. Granted two months' leave of absence. **Wilson,** Elsworth, First Lieutenant, Medical Reserve Corps. Ordered to proceed from Fort Huachuca, Ariz., to Nogales, Ariz., for temporary duty with the troops at that point.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy, for the week ending March 30, 1912:

Duhigg, J. T., Assistant Surgeon. Directed to await orders when discharged from treatment at the Naval Hospital, Washington. **Dunn,** H. A., Surgeon. Detached from the *Florida* and ordered to the *Utah.* **Elliott,** M. S., Surgeon. Detached from the *Utah* and ordered to the *Florida.* **Phelps,** J. R., Passed Assistant Surgeon. Detached from the *Solace* and ordered home to await orders. **Sheldon,** L. L., Assistant Surgeon. Orders of March 23d revoked; detached from the Naval Medical School and ordered to the *Solace.* **Treilby,** C. E., Acting Assistant Surgeon. Ordered to the Naval Recruiting Station, Baltimore, Md. **Wheeler,** W. M., Surgeon. Ordered to duty at Marine Barracks and Marine recruiting duty, Norfolk, Va. The following named medical officers have been detached from the Naval Medical School, Washington, D. C., and ordered to the Asiatic Station: Assistant Surgeons P. B. Ledbetter, C. L. Beeching, R. H. Lanning, and R. F. Jones.

Births, Marriages, and Deaths.

Born.

Pollard.—In Des Moines, Iowa, on Sunday, March 17th, to Assistant Surgeon J. B. Pollard, United States Navy, and Mrs. Pollard, a daughter.

Married.

Bagot—Wood.—In San Francisco, Cal., on Wednesday, March 20th, Dr. William S. Bagot, of Denver, Colo., and Miss A. K. Wood.

Died.

Barcroft.—In Coshocton, Ohio, on Saturday, March 23d, Dr. William H. Barcroft. **Bowen.**—In Elizabethtown, Ky., on Saturday, March 16th, Dr. D. C. Bowen. **Coleman.**—In Richmond, Va., on Sunday, March 17th, Dr. Daniel J. Coleman, aged forty-six years. **Coon.**—In St. Paul, Minn., on Wednesday, March 20th, Dr. George Morton Coon, aged fifty-one years. **Eddy.**—In Des Moines, Iowa, on Thursday, March 21st, Dr. Willard Eddy, of Waterloo, Iowa, aged seventy-seven years. **Fish.**—In Pittsford, N. Y., on Sunday, March 24th, Dr. Everett W. Fish, aged sixty-six years. **Garceau.**—In San Francisco, Cal., on Thursday, March 14th, Dr. Alexander E. Garceau, aged fifty-six years. **Gifford.**—In Indian Beach, Fla., on Thursday, March 21st, Dr. Joseph C. Gifford, of Brazil, Ind. **Hewitt.**—In Memphis, Tenn., on Thursday, March 21st, Dr. William O. Hewitt, aged ninety-one years. **Hill.**—In Dexter, Mo., on Sunday, March 24th, Dr. Alonzo D. Hill, aged seventy-five years. **McNary.**—In San José, Cal., on Monday, March 25th, Dr. William T. McNary, of Madisonville, Ky., aged sixty-eight years. **Martin.**—In Howard City, Mich., on Tuesday, March 19th, Dr. Adelbert W. Martin, aged thirty-eight years. **Mitchell.**—In Griffin, Ga., on Thursday, March 14th, Dr. T. J. Mitchell, aged seventy-five years. **Murdock.**—In Pittsburgh, on Sunday, March 24th, Dr. Frank Hall Murdock. **Neff.**—In Charlottesville, Va., on Monday, March 18th, Dr. John H. Neff, aged sixty-eight years. **Payne.**—In Dayton, Va., on Tuesday, March 19th, Dr. W. F. Payne, aged fifty years. **Plummer.**—In Rochester, Minn., on Thursday, March 21st, Dr. Albert Plummer, aged seventy-two years. **Rhoads.**—In Springfield, Mass., on Friday, March 29th, Dr. George Rhoads, aged fifty-six years. **Salinger.**—In Philadelphia, on Monday, March 25th, Dr. Julius Lincoln Salinger, aged forty-six years. **Schroeter.**—In Capri, Italy, on Monday, March 18th, Dr. Ludwig Schroeter, of Buffalo, N. Y., aged fifty-two years. **Sternberg.**—In Waterloo, N. Y., on Tuesday, March 26th, Dr. James H. Sternberg, aged seventy-nine years. **Stewart.**—In Auburn, Neb., on Friday, March 15th, Dr. Charles F. Stewart, aged seventy-nine years. **Tremaine.**—In Willard, N. Y., on Monday, March 25th, Dr. Annie M. Tremaine, aged forty-six years.

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Original Communications.

AN ANALYSIS OF THE RESULTS OF DORSAL ROOT SECTION IN THE TREATMENT OF THE SPASTIC STATE OF CEREBRAL DIPLEGIA.*

BY L. PIERCE CLARK, M. D.,
AND ALFRED S. TAYLOR, M. D.,
New York.

The general text of this article is written by Doctor Clark, but embraces the opinions and the cooperation of the two authors in this special field of neurological surgery. The study is based upon the analysis of forty-one cases including five original cases, from the inception of the operation as performed by Foerster (1908) to the present. Other cases such as multiple sclerosis with spastic paraplegia, hemiplegia, tuberculous cervical spondylitis, etc., have been treated by dorsal root section, but they are omitted from this paper as they are not germane to the title of the essay.

The literature of our subject is in danger of being hopelessly confused, inasmuch as dorsal root section is being urged for the relief of at least three quite distinct conditions, namely, for pain, athetosis, and spasticity. The operation of radiculotomy *per se* is one thing, and radiculotomy for spasticity in Little's disease is another. The two or three subjects must, therefore, be kept apart, which is at present difficult, as many writers report indiscriminately upon the two conditions at the same time. In a few instances the two states coincide in the same case, as in one of our cases (Taylor's) of painful spasticity in a hemiplegic arm.

The entire subject of radiculectomy[1] is very much older than some would have us believe. Thus Chipault did it some years ago for tabetic crises. Probably the operation as now generally applied for the treatment of pain received no small impetus from its anatomicophysiological homologue of so called physiological extirpation of the Gasserian ganglion by section of the sensory root of the fifth nerve dorsad to the ganglion (Keen and Frazier). However ancient radiculotomy may be as a surgical procedure for the relief of pain, undoubtedly the operation for the relief of spasticity dates from Foerster's first operation on the spasticity of cerebral palsy in 1908.

The theory upon which the operation for the relief of spasticity is based, is brought out in understanding the nature of the spasticity of Little's disease. It is most important for us to recognize that there is a twofold motor disturbance in the extremities as a result of damage or destruction of the superior pyramidal tracts, namely, contraction and weakness of various muscles. The character and completeness of the injury of the pyramidal tracts gives us the peculiar type of contraction and paresis of the different muscles. Complete hemiplegia, the result of total destruction of all the pyramidal tract of the opposite side, is rare. As a rule, hemiplegia undergoes some degree of spontaneous cure, but whole series of movements can be performed only with incompleteness and difficulty.

When the pathway of excitability of muscles from the cortex by way of the pyramidal tracts is destroyed or severely damaged, the irritability of the muscles from the periphery, as the result of sensory impressions, is not only preserved, but is more or less increased. The pyramidal path not only transmits impulses originating in the cortex, but also in-

*Abstract read before American Neurological Association, Baltimore, May 12, 1911.

[1]The various types of neuralgia, especially of stump neuralgia, have been so refractory to treatment in many instances that the most radical procedures have been suggested and employed for their relief. Chief among these is section of the posterior spinal roots inside the dura, which naturally necessitates the operation of laminectomy.

The first man, apparently, to do this operation was Bennett, of London, in 1888. He operated for intractable neuralgia—sciatica—by dividing the posterior roots of the four dorsal and first sacral nerves. The aim of the operation was attained, apparently. The death of the patient soon afterward was not connected with the operation. Bennett employed Horsley's laminectomy technique.

Only a few days after Bennett operated, Abbe, of New York, performed an analogous intervention on the roots of the nerves which form the brachial plexus, for brachial neuralgia due to ascending neuritis. The man was a patient of Dr. C. L. Dana, who, some weeks before, had devised the operation and named it rhizotomy. Abbe, therefore, asserts priority over Bennett, and styles the operation by Dana's name.

In a paper published, 1890, on surgery of the central nervous system, it appears that Horsley operated twice between 1887 and 1890 in the same fashion—once dividing two (eighth and ninth) dorsal roots for spasm and pain, and once operating on the roots of the brachial plexus. The results were quite satisfactory. The impression prevails in some quarters that Horsley was really responsible for this operation. His omission of dates—although nearly every other case reported has the date of operation fixed—suggests that he had no memoranda to determine the exact time.

The next operator in chronological sequence was Chipault, who reported cases in 1895 and 1897 and digested the entire subject in his great work on *The Actual Condition of Surgery of the Nervous System*, 1902-3. He awarded credit to Bennett and Horsley, but was not aware of Abbe's work. He had operated four times up to 1896 and once afterward—the case being reported in 1897. Of his five patients one died from the operation, two recovered, and two sustained relapses.

An Italian, Parona, operated on the dorsal roots for intercostal neuralgia, reporting the case in May, 1896. The result was a success.

In 1896 Abbe reported all his material—three cases to date. Since his first operation in 1888 he had performed two others, in 1889 and 1894 respectively. The conditions and operation were similar. He also cited a case of McCosh's in which the fifth and sixth dorsal roots were divided for intercostal neuralgia.

In 1899 Faure reported a case of division of posterior roots for pain of uterine cancer. The operation was a success. It appears, therefore, that this operation was done at least fifteen times before 1900. During that year Giordano operated once with success for sciatica and Mingarzini suggested, but did not execute division of the posterior roots for the gastric pains of tabes.

Chipault, in 1902-3, had not added any cases subsequent to the preceding, but in 1901 Prince reported a case in which the brachial roots were divided for neuritis, Brown-Sequard paralysis developed.

Munro, who operated for Prince, also had a similar case with the same sequel. He reported both cases in 1894.

The preceding cases do not exhaust the number of rhizotomies done before Foerster's time. A few others are known to exist, one having been reported in connection with a trauma of the spine.

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hibits the lower spinal reflex, and, in the lessened control, permits an insubordinate activity of the lower spinal centres. The objective evidence of the enhanced reflex irritability in the lower arc is shown in the spastic syndrome of increased knee jerk, ankle clonus, Babinski reflex, etc. If the pyramidal tracts of both sides are diseased, the spastic syndrome is highly apparent and characteristic. Often by merely stroking the sole of the foot we may produce violent tonic contraction of the flexors of both legs, spreading to the muscles of the trunk, arms, and head (defensive flexor reflex). As a rule the greater the absence of voluntary motion, the greater the reflex activity. Aside from the involuntary associated movements in the diplegics, itself an evidence of the increased activity of lower reflex centres in the cord, we have a more or less late—but permanent—muscular contraction which does not disappear under ether narcosis. The latter phenomenon is a complex one and not easily understood, but nevertheless one to be reckoned with in curing the spasticity of cerebral diplegics. It is not to be explained as a severer form of spasticity, as the two may be coincident in adjacent muscle groups.

Spastic muscle contractures prevent motor functions by offering more or less resistance to extension; they slow the movement, and the movement once performed has a tendency to persist beyond voluntary desire. A sort of physiological myotonus obtains as a result of the approximation of the two points of muscular insertion.

The inhibiting function of the pyramidal tracts is independent throughout of the function producing spasticity, for numerous cases are in evidence in which the first function is not damaged while the latter is severely affected. The reverse also holds true, but much more rarely. This fact may be explained upon the grounds that the inhibitory function is almost always attacked earlier and more severely, while the pyramidal tracts sustain a gradually increasing injury. The muscle tonus function, which is largely of peripheral origin, is increased later and more slowly. Thus, when the seat of entry of the posterior or sensory roots is diseased, as in tabes, the reflexes are abolished. If the insertion points of the muscles are approximated in the last mentioned disease, there is no active stress on the muscles as in diplegias, nor is there counter-extension when they are stretched. In health the cortical inhibition checks the spinal reflex by holding in check the influx of sensory impulse. As is well known, in pyramidal tract disease a supervening tabes abolishes all reflex symptoms. In tabes, furthermore, the supervention of disease of the lateral tracts, internal capsule, etc., does not increase the reflexes, and the spastic syndrome does not develop.

Many surgical procedures have been undertaken to restore the normal balance in the spinal reflex arc in diplegics. Early operation on the pyramidal tracts, even at their inception in the cortex, has left much to be desired. The majority of attempts to ameliorate the lot of the spasticities in diplegias have been devoted to correcting the abnormal reflex arc in the spinal cord. The sensory part of the reflex arc is anterior in point of physiological time to that part of the motor mechanism which directly induces the spasticities. This and similar reasons induced Foerster, of Breslau, to come to the same conclusion which we have here stated.

It is freely admitted that the degree of muscle tone in an extremity is determined by the sensory impression from the parts, and especially from the muscles. Tonic spasm may therefore be regarded as an augmented degree of this state, due to various causes. The impulses arising in the periphery arc are collected from the muscle spindles.

The motor part of the reflex arc is obviously beyond attack, for while the contraction would be temporarily relieved, a complete palsy of the muscles involved would result. Neurectomy in the peripheral nerves proper could not be employed, as these consist alike of sensory and motor nerves. Hence the posterior sensory roots near the cord, dorsal to the individual ganglion, is the point of operation if one seeks to attack the sensory side of the arc. Even though ataxia and loss of reflex irritability should supervene in the operation, this state is much to be preferred to the spastic condition which it relieves. However, sufficient data are now at hand to show that neither mishap obtains in the new operation.

Just what part and how much of the sensory stimuli may be removed to gain the desired amount of flaccidity is even yet not quite clear. It is reasonable to suppose that the sensory supply of the spastic muscles is approximately from those nerves which also originate from the zonal areas of the skin immediately overlying the muscles involved. Sufficient data are at hand now to show the operation is of little or no use in any spastic state where sensory defect exists. We may thus exclude all the forms of myelitis and in fact all cord affections *per se*. The reason for this is not difficult to understand. The sensory defect added by operation is already in evidence in the disease itself before operation.

The indications for the operation lie in those cases of pure pyramidal disease of cortical or subcortical origin. Little's disease is the disorder to which the operation in future must be largely limited. Even cases of infantile hemiplegia seem to offer less prospect of betterment than in diplegia as shown in Foerster's, Gottstein's, and in our own cases. On theoretical grounds it would seem as though removing a part of the inflow of sensory impulses to the hemiplegic cortex might lessen or remove much of the cortical instability, and thus make the operation of use to better the condition of hemiplegic epilepsy, but, as yet, data corroborating this view are not at hand. One of our own patients showed temporary improvement in this regard, but has since relapsed and is now quite as badly off as regards the severity and frequency of epileptic attacks as before operation.

All diplegics showing painful and ineradicable spastic flexures, exhibit good indications for this operation, inasmuch as their spastic state may be easily converted into flaccid palsies of normal anatomical rest. Unfortunately, most of such cases present such a degree of mental impairment that the important after care and training is of little use.

However, in diplegics of *moderate* intelligence

with "scissors" gait or even "crossed leg progression," the operation is of the greatest value. The value of the operation does not stop at a better gait for the little patient. The hope of further mental development in the diplegic and feeble minded patient is in no small degree bound up in the freedom of movements of the extremities, which is made possible after such an operation as here proposed. The increased opportunity of use of the extremities after operation carries with it all the sanction which warrants industrial and manual training at the hands of medicopedagogists. Two of our patients have shown what this line of betterment promises.

It must be borne in mind that in Little's disease all the spinal segments are spastic and not the extremities alone, and, as Fränkel has pointed out, the whole trunk is employed not a little in normal walking. Hence the importance of not confining the after training to a use of the legs and arms alone.

In nearly all the cases of Little's disease selected for dorsal root sections, so far, the patients have been too old to show the best results from the operation. In the ideal conditions the operation should be done between the fourth and seventh year of age, as soon as the balancing and walking principles are well inculcated in the child. Then, too, thus early we may avoid the trophic and deformity defects of later life.

Having determined more or less definitely that pure lesions of the pyramidal tracts such as that of cerebral diplegia is the lesion *par excellence* for the operation, we may consider to what extent resection may be undertaken. The extremities showing the greatest spasticities should be first considered. As a general principle one should determine whether the spasticity is simple or complicated by permanent shortening of muscles, by placing the patient under ether narcosis before the operation. A few manipulations of the spastic state is thus possible and the trophic alterations in muscles, joints, and bones may then be exactly studied. It is still a much mooted question whether orthopedic corrections by tenotomies on the irreducible contractures should be undertaken before or after dorsal root section. However the matter may be decided, it would seem that the fullest cooperation of the surgeon and orthopedist is absolutely necessary if permanent benefit is to follow any surgical interference to restore lost functions in these diplegics. Foerster has carefully worked out the following table for determining the roots to be resected in any given state in the extremities.

Table showing which roots should be resected for the correction of muscle spasticity in the muscles of the lower extremity:[2] *Flexors of the thigh:* Psoas iliacus, $L_1L_2L_3L_4L_5S_1$; gastorius, $L_1L_2L_3$; gracilis, $L_2L_3L_4$; tensor fasciæ, $(L_4)\ L_5S_1$. *Extensors of the thigh:* Glutæus maximus, $L_5S_1S_2$.

From a review of all the cases it may be said that in operating upon the lower extremity, the posterior roots of all five lumbar and the first two sacral enter into consideration. In a general way it suffices in spastic palsy of the leg to resect the second, third, and fifth lumbar, and second sacral in mild cases; or the third and fifth lumbar and second sacral if the spasticity is attended by adductor spasm largely, or the third and fifth lumbar, and first sacral, if one desires to limit the completeness of the relief for any cause. In very severe cases, however, where there is extreme flexion of the knee, the second, third, and fifth lumbar and first sacral or the first, second, third, and fifth lumbar and the first and second sacral should be resected. In brachial spasticities perhaps the best and completest results follow resection of the fourth, fifth, seventh, eighth cervical, and first dorsal roots. It should be borne in mind that a part of the spastic conditions should be left as a physiological brace for the paretic muscles.

Immediately after operation, and for some weeks after, patients complain of pains and muscle soreness and cause not a little resistance to passive motion, stretching, etc. This is due to tenderness alone and has no connection with spasticity *per se*. The tenderness is, moreover, due to irritation caused by severing the root and putting the parts through long disused movements. In the course of five or six weeks it disappears; it tends to vanish closely as passive motion is continued. The position of the legs, originally the abnormal rest position, rapidly becomes normal. Occasionally some trophic disturbances follow in muscle and skin; however, these are usually slight and transitory and the renewed power of voluntary motion makes up in stimulus to the parts which may have been lost through radiculotomy. If Sherrington's law is observed of not more than three consecutive roots to be divided, anesthesias and trophic disturbances should not occur. In almost all cases some ataxy results, but it is speedily discounted as physical training progresses. In a few cases the condition has persisted in a small degree. At all events the ataxy should be accepted as a trivial disorder as compared to the spasticity which it replaces. In individual cases (Foerster's) some temporary urinary retention has been noted immediately after operation. We have noted it in none of our series. In one of Foerster's cases urinary retention persisted for several weeks, due to unintentional injury to the lower sacral roots. Later it entirely disappeared. In some of the cases reported abroad erections were noted after operation. An associated injury of the lowermost sacral roots can hardly be responsible for this mishap, as it still persists three years after the radiculotomy. Probably the loss of part of the roots of the sacral plexus, more particularly the second sacral, induces an increased irritability of the lowermost sacral nuclei. Foerster even suggests that dorsal root section of the second sacral might be undertaken for deficient erections. After operation the hand or foot can usually be bent in any direction without involuntary flexion of the forearm or leg. The practical benefit

[2] Foerster, Ueber die Behandlung spastischer Lähmungen mittels Resektion hinterer Rückenmarkswurzeln. *Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, xx, p. 511, 1900.

Adductors of the thigh.....$L_2L_3L_4(L_5)$
Abductors of the thigh.....$L_5S_1S_2$
Glutæus medius et minimus.
External rotators of the thigh.....$L_5S_1S_2$
Internal rotators of the thigh.....$L_3L_4L_5S_1S_2$
Adductor magnus, pars inferior.....L_4L_5
Tensor fasciæ.....$(L_4)\ L_5S_1$
Glutæus medius et minimus.....$L_4L_5S_1$
Extensor of the leg.....$L_2L_3L_4$
Quadriceps.
Flexors of the leg.....$L_5S_1S_2$
Biceps, semitendinosus, semimembranosus.
Dorsal flexors of the foot.....L_4L_5
Tibialis anticus, extensor d. c. l., extensor hallucis longus.
Plantar flexors of the foot.....L_5S_1
Gastrocnemius, peroneus longus, flexor digitorum c. l.

accruing in most cases from return of power to execute isolated movements is best seen in the patient's gait. They can usually flex the foot both ways to full amplitude, flex and extend the legs normally, raise the limbs high up, abduct and adduct and rotate in and outwardly. The apparent gain in power after operation; is but the releasing of the corticogenic excitability of certain muscles bound down previously by spasticity. It hardly seems probable, as Foerster contends, that some voluntary motion is added, for the first time, after operation. With the removal of contractures and restoration of an approximately normal breadth of excursion of movements of limb segments, and the elimination of the very perturbing defensive flexor reflex, and removal of associated movements (associated with voluntary efforts), and, finally, last but not least, with the return of voluntary motion, we have a basis for developing *standing* and *walking* in our diplegic patients. Even at this point the child must go through a very elaborate education in using the extremities. At first it collapses. It first must acquire the act of holding the knees extended, and second, of raising the pelvis and trunk on the legs. First the patients stand with bilateral, then unilateral support, then they learn to walk with a cane, and finally to go alone.

The after care treatment must be prolonged. There can be no doubt that the after care and training of cases treated by dorsal root section is the most important part of the whole procedure as far as the enduring results go, once the root section is made. At the risk of laying down trite and commonplace rules I shall detail at length some general rules which I have practically deduced in the last three years of observations on the after care of these spastic cases, assisted by the faithful efforts of Miss Baker.

Even while the little patients are in bed, the first few days after operation, diligent daily exercises of the legs should be given. These exercises should be undertaken even though some of the pain on movement still remains. The painful soreness is aided by the treatment too. The exercises should be undertaken several times daily. If the limbs do not return to the normal rest position after the operation, removable plaster sheaths should be applied. This treatment should gain the maximum extension abduction and external rotation in the hip joint, maximum extension of the knees, dorsal flexion or medium position of the foot, etc. In slighter grade of postoperative deformity sand bags may be used. All this apparatus should be used while the patient is bedridden and while he is not undergoing active treatment in exercises, and especially during the night. Foerster considers these sheaths or external corrections of abnormal positions necessary during several years. He recommends in extreme flexure contractions at the hip, that a cushion be slipped underneath the sacrum of the recumbent patient.

The form of passive exercises in detail for the patient during the bedridden period may be said to consist in having the patient make, 1, resistive hip extension and flexion and passive stretching of hip extensors; 2, resistive hip abduction and passive stretching of hip abductors; 3, resistive outward hip rotation; 4, passive flexion and extension of the foot and resistive movement in the same manner; 5, resistive foot inversion; 6, with bent knees resistive knee separation; 7, sitting hip and knee flexion and extension; 8, coordination of standing by placing foot forward and sideways on command; 9, hands on hips and practising rising and sitting on command; 10, sitting with feet on floor and practising foot in dorsal flexion, each foot separately. In brief, the foregoing may be considered as some of the literal and specific trainings these cases may follow through.

A tendency to reproduction of the original flexion contracture asserts itself especially in the presence of any pathological sensory irritation at the legs, such as wounds, bed sores, subsequent operative interventions on muscles or tendons, accidental traumatism such as articular contusions, etc. Maintenance of the extension is especially important under these conditions, to prevent a renewal of the tension on the part of the flexor muscles. In case another muscle group shows a tendency toward contracture, after the operation, the position must be modified accordingly. In a given case, the position should therefore be governed by the spastic tendencies of muscle groups, which call for permanent control by counter position.

The evolution of active motility should be furthered by systematic gymnastic exercises, and the power of locomotion be acquired. For the first few days after the operation, the work is limited to some passive movements in the individual joints, possibly with those attempts at voluntary motility. But as soon as possible, the patient should be made to perform systematic active movements in all joints, laying special stress, from the very start, upon the isolated movements of each individual leg, and the individual segments of the leg. What cannot be done actively at first, is to be supplemented by passive motion. These bed exercises are preferably made several times daily; immediately afterward, the legs are replaced in the plaster sheaths, in the prescribed position. Further strengthening of the muscles, by massage and faradaization, may be indicated. Later on, medicomechanical exercises are well adapted to this purpose. Some weeks after the operation, it is time to begin with exercises in sitting up or down, lying down, and turning over. In sitting and rising, it must be seen to that the back is well straightened out, that the legs do not curve in, or fly into the air. In lying down, the legs have a tendency to rise, and the patient must be made to press them firmly against the support. After a few more weeks, when the spine is expected to be firm enough, standing and walking exercises should be begun and be repeated several times daily, if possible; first in a perambulator running on casters, later on held by the two hands, then one hand and a stick, then two sticks, one stick, and at last free, if possible.

In the locomotion exercises, the marked disturbance of the equilibrium is at first very striking. The legs often refuse altogether to support the body, in the first attempts at standing; the trouble being due to a genuine disturbance of coordination. In the first place, the children must be made to

understand that the knee should be extended; this is usually accomplished without trouble, and later on comes to be done involuntarily. In the second place, an endeavor must be made to straighten the pelvis, and with it the upper half of the body, upon the legs. The proper lateral fixation in the hipjoint must be attended to at the same time. It is common for one hip to be deviated, the other half of the body hanging over on the opposite side. After the individual body segments have come to be properly adjusted in a general way, the finer equilibrium must be practised, and this is done by progressively diminishing the external assistance, as stated above.

Analogous considerations apply to the walking exercises. Suitable gymnastic exercises must be kept up for years, in order to obtain and maintain good locomotion. How absolutely indispensable they are for a functionally useful outcome is well illustrated by the case of Little's disease, in a girl operated on by Tietze, and previously reported by Foerster. The child was taken away by the parents, before the standing and walking exercises could be started, and is now absolutely unable to walk or stand, although the spasms are permanently controlled and there is excellent voluntary motility of the legs (three and one half years after the operation). The patient failed to learn locomotion of her own accord. In two cases of Little's disease, operated in by Kuettner, the exercises were not begun until six and nine months later, respectively, with very good practical results. The value of systematic exercises was recently pointed out, especially by us, showing that the prognosis in congenital spastic paralysis, or Little's disease, is worse for the reason that the children have never learned how to walk or stand.

Any existing atrophy contractures of individual muscles should be subsequently relieved by plastic operations. The root resection is, naturally, unable to remove the secondary contractures, due to atrophy of the muscular connective tissue of the tendons and ligaments. Whenever these are found, after the removal of the spastic contractures, it is necessary to proceed to the elongation, division, or plastic operation of the tendons or muscles themselves.

The root resection is thus seen to require later supplementing, in several respects. It is merely the basis for further procedures, but that it is possible to obtain very satisfactory practical results upon this basis, even in grave cases, under appropriate after treatment, is illustrated in our opinion, by the entire series of cases operated in in the past.

A summary of the results obtained in most of the operations of dorsal root section is as follows:

1. Relief of spastic contractures, 2, normal defense flexion reflex, 3, diminution of the increased tendon reflexes, and, 4, improved spontaneous motility.

We believe the operation in future should be largely confined to Little's disease and that it should be looked upon, not as a cure, but as one of the best therapeutic procedures for the betterment of the cerebral spasticities brought forward in recent years.

We will now consider some of the results of dorsal root section in detail.

Spasticity is more or less completely removed at once by the operation in all cases of Little's disease. The degree of flaccidity that succeeds, depends upon the extent and completeness of resection. In not a few cases a partial return of spasticity has undoubtedly taken place. The anatomicophysiological mechanism by which such relapse occurs is hard to understand. The relapse was particularly noted in Klapp's and Göbell's cases. It is urged that the excessive flaccidity immediately after operation is only apparent and not real, and is due to local shock, from nerve irritation or even from general shock of loss of blood and spinal fluid and the anesthetic. This explanation would hardly seem justified in that the return of spasticity is noted in only a few cases, and even then in many of those of the less severe operations. It may be just possible that the establishment of new reflex paths from the remaining sensory roots may gradually recharge the adjacent centres in the gray matter, especially in the absence of cortical inhibition. It hardly seems possible that any actual regeneration in the roots really takes place, in view of the general acceptance of the experimental fact that a section of a spinal nerve root dorsad to its ganglion has never been known to be followed by regeneration. Some definite investigations of this whole problem of regeneration after section of dorsal roots needs to be made under control by more modern technique than that employed by Lugaro and Raimann several years ago.

Anesthesia: In none of the operations in which Sherrington's law has been observed, namely, not more than two consecutive roots are cut, has there been any anesthesia. It must be left an open question, at present, whether or not certain sensory disturbances are to be invariably anticipated after more extensive resection. Two of our original cases are contributions to the fact that it may not be greatly disturbed though a more extensive resection be undertaken.

Ataxia: In almost all cases some degree of ataxia succeeds extensive resection of dorsal roots in the lumbar region. The ataxia, however, is not great or lasting, as the heightened reflexes from a pyramidal disease supplies an element wanting in the somewhat analogous ataxia of the disease of tabes. Moreover, as Foerster justly remarks, an ataxic gait is decidedly to be preferred to inability to stand or walk.

Atrophy: In none of the cases has this mishap befallen the operation. According to experimental data at hand, atrophy would not be expected to occur as the peripheral nerve has its trophic centre, the ganglion, intact. (See Raymond's Experiments, *Revue de l'Académie de Médecine*, p. 374, 1890.) The slight modification of lessened muscular tonus ought not to be of great moment in inducing atrophy, as disuse of the muscular parts are not produced by the operation. Again, the *increased* tonus in the diplegias rarely produces an hypertrophy. Even though mild atrophy should ultimately show itself, the advantages of the operation should outweigh this mishap.

Reflexes: 1. Ankle clonus is usually abolished at once, permanently in all cases. Foerster believes that either S_1 or S_2 can maintain the ankle clonus

as in the very few cases where ankle clonus has persisted, one or the other of these roots was not resected.

2. Patellar reflexes were abolished in all cases of Foerster, but not in others, notably our own and those of Göbell's.

3. Babinski's reflex persists in all reported cases except in one reported by Kotzenberg.

4. Oppenheim's tibial reflex persists in some cases and disappears in others.

5. The Achilles reflex is lost or markedly diminished in all the typical resections, that is, L_2 L_3 L_5 and S_2. In two cases in which ankle clonus persisted the Achilles reflex was also present. The effect, however, of radiculotomy is of theoretical rather than of practical interest.

The abolition, or at least marked reduction, of the defensive flexion reflex in all cases, is absolutely necessary and has been obtained in nearly all cases. Its marked continuance indicates a failure in the operation. A pathological increase of this reflex causes the irrepressible flexor cramps in diplegics. They are extremely annoying and often painful to the little patients. If no other causes were in evidence, this one alone would prevent walking and standing in the vast majority of cases.

The associated movements disappear entirely, or are diminished to such an extent that children can raise themselves from the recumbent position to the sitting posture without help.

Varying degrees of *voluntary movements* are reestablished in all cases. Unfortunately no one can tell just how much of the paretic element is present in a given case until the spastic element is removed by operation. In those cases retaining the most corticospinal fibres the greatest motility is restored. The ideal case is one in which normal locomotion is present before the development of the disease. In congenital cases—those usually encountered—other central nerve lesions are more often in evidence than those of the pyramidal tracts, especially those of cerebellar or frontal injuries, and in such we encounter ataxias at the start. A longer and more painstaking after training is necessary. The striking advantages of the withdrawal of the associated movements by dorsal root section is at once obvious. The ultimate results in all cases operated upon will rest in no small degree upon whether the muscular contractions are due to the direct influence of trophic changes in the muscles and increased reflexes and the *persistence of the after training*. Decided trophic changes in muscles, joints, and bones make for a poor prognosis even with the most intensive form of training. In other words, the ideal case for radiculotomy is one without contractures and atrophies in early life (five to eight years of age), without much mental deficit, and one in which the paretic component is at a minimum. It is precisely in mild types of Little's disease that these conditions are fulfilled. A digest of the literature of the subject, combining short abstracts of cases operated in, is here appended and is the more warranted as the operation is still on trial and is but a few years old.

(*To be concluded.*)

PHYSICIAN AND MASSEUR.*

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Chronic disorders are proverbially puzzling, however simplified the textbook writers make them appear. When the disease is located, classified, and ticketed, the trouble only begins. It too often does not end till the patient's patience is exhausted and the clinician's resources are drained dry, and the principals have parted company. Nowadays there is such an exuberant host of mental healers, backbone experts, and others, willing to promise all that the most unreasonable can demand, the scientific healer is threatened with the junk heap.

Now this state of affairs, like Boston, is not a concrete fact, but a *state of mind,* an evidence of prevailing psychosis. Two things will happen. First, even the gullible American will soon or late wake up to the true resources and efficient state of medical science, and, second, the clinician will learn to make better use of his ample heritage of well attested, reliable, common sense therapeutic resources. Then there will be no place for uneducated pretenders.

A brief summary is offered of personal experiences in one line of healing and will begin by outlining the scope, possibilities, and bearings of hand treatment.

One of the best curative agencies the clinician can secure is the cooperation of a trustworthy masseur. Why is he not more generally and confidently employed?

Among the reasons why he is not used are these. When massage first came to our attention, experts who offered themselves were mostly Swedes and Germans, who were, and are well trained, but in a rather narrow line. They were used where trained only under the direction of physicians themselves skilled in the principles of hand treatment and able to direct efficiently. In America, not only is the physician not so instructed, but scarcely one in hundreds has any clear or competent conception of the scope and applicability of these measures. I make this assertion without fear of contradiction, being in a position to know and prove it. Among the grounds for this statement are the following.

My attention was early directed to the efficiency of massage and the whole subject of passive and active movements, when, beginning in the early eighties, I lectured for fifteen years to the classes in massage at the Philadelphia Infirmary for Nervous Disease. These and other pupils of mine come to me and report their experience with physicians to whom they offer their services, here and elsewhere. Many experts also come to me, both domestic and foreign products. Also, my known interest in this subject brings to me much divergent information from physicians who consult, or enter into controversies with me. The absence of knowledge which some display would be ludicrous were

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[1]See papers by the author: The Hand as a Therapeutic Agent, New York Medical Journal, February 8, 1908; What Is the Attitude of the Medical Profession toward Osteopathy? *Monthly Cyclopedia and Medical Bulletin,* February, 1911.

it not so grave an evidence of mental blindness to important curative measures. Not only so, but when I challenge the knowledge of these gentlemen they exhibit a bland confidence that they do know quite enough for their needs. As a matter of fact they know little, and that little is too often erroneous.

Suffice it to say that physicians, by their amazing ignorance of a most valuable remedial agency, invite and get a degree of discredit in the management of a group of perfectly relievable and often curable conditions, which makes for their disadvantage. They lose business, become discredited, their unrelieved patients go to irresponsible pretenders and are often cured.

Briefly, what can manual treatment accomplish? The books on massage do not give information on an especially important subject, viz., manual treatment, nerve pressures, producing vasomotor reactions, whereby much good can be accomplished attainable in no other way, in both acute and subacute states. As far as they go, the authors establish the subject on a sound scientific basis from ample facts and from experience. They point out certain limitations which are often erroneous. The books written by those of the ultraassertive cults falsely claim omnipotence, almightiness, power to cure each and every form and degree of human ailment. The truth lies somewhere between, and will soon or late become known and formulated.

As an auxiliary measure, manual treatment, applied by a well educated, experienced physician, equipped with keen motor intelligence, can often accomplish extraordinary and unexpected results not otherwise obtainable. He can and should apply some part of this treatment himself, and in the more laborious cases himself direct the masseur.

The tendency is for one wholly unaware of the facts, the underlying physiological principles and methods of securing vasomotor control, serenely to deny and condemn. I have myself performed on some of these skeptical physicians feats of relief and cure which went far to convince them at the time, but impressions thus made are liable to fade away. Elsewhere I have related some incidents and shall put many more on my record. Enough now to mention a few generalizations.

In acute disease, where there is local congestion, the hypertension in the vessels can often be relaxed, bringing about prompt relief to pathological processes which, if unrelieved, would progress to protracted or deep seated disorders. This forms not a cure of an infection or a toxemia, but a mitigation of local manifestations, and is in best accord with Nature. A crude but graphic illustration is a nose stopped up by acute congestion from coryza. Distributed finger pressures on the second, third, and fourth dorsal vertebræ on either side will open up the nasal passage on the corresponding side. Febrile headaches, or congestion of the head or sense organs, are readily relieved by slow, distributed pressures on the posterior occipital nerves, along with those previously described at the second, third, and fourth dorsal vertebræ. Colicky pains due to spasm of the pylorus can be promptly relieved by distributed pressures along the fourth, fifth, sixth, and seventh dorsal vertebræ (e. g., babies with colic). Acute fevers accompanied by phenomena of congestion, dry skin, vascular hypertension, and swollen veins and lymph vessels, are readily relieved by gentle pressures along the erector spinæ muscles and ligaments of the backbone, bringing about prompt diaphoresis and easement of sensory and other phenomena. So also of vascular hypertension when atheroma is not far advanced. Tension can be lowered and the relief thus obtained holds better than that from drugs.[2]

So much for an idea of what can be accomplished by nerve pressures in acute states.

I have taken pains to acquaint myself with the methods of the *extramural* cults doing business under various awe inspiring names, and all claiming to produce marvelous effects on diseased states by use of their hands alone. The principles utilized are practically the same in each; variations in method are negligible.[3]

At the Temple University I teach my classes in auxiliary therapeutics these facts in about two lectures. To obtain individual skill demonstrations and experience are, naturally, required.

Any physician of deftness and delicate sense of touch, of conformation and accurate movement, ought to be able to apply many of these himself. Those capable of relieving acute distresses he assuredly should learn and use; those for cure are rather more laborious, but few occupy more than ten or fifteen minutes. Full massage occupies from forty-five to fifty minutes, and here the service of a trained masseur is needed. Passive movements, inducing elasticity in contractured states, is of vast efficacy, but may daunt one not strong.

Already the physician has been taught the physiological determinants; he is familiar with the natural history and phenomena of disease. Certain specific applications of these principles are not generally known, but are easily acquired.

Let me formulate inquiries in two directions and give a sketch of conditions for reply:

1. How much can hand treatment do to modify or control acute febrile processes? and:

2. How much can manual therapy do toward the repair of subacute, chronic states and the phenomena of disintegration?

The answer to our first question is conditional upon the power of response residing in the vasomotor mechanism to mechanical stimuli; inducing an opening and shutting of the blood paths and all that such action and reaction can do for the enhancement or retardation of the blood stream, both generally and locally; also the power of local nerve pressure to check excessive sensory responses.

The skin must be reckoned with, being the area of largest vascular manifestation. Well known and accepted measures are used to accomplish these ends, viz.: heat, cold, pressures on the great vessels, along with suction (Bier's hyperemia) hydrotherapy, balneotherapy, mud packs, poultices, etc.

Effects wrought by these latter agents are much more general and less readily controlled; they can-

[2] I have elsewhere stated the physiological reasons whereby these facts can be explained (*British Journal of Diseases of Children*, January, 1905); also What Is the Attitude of the Profession toward Osteopathy *opere citato*.

[3] See valuable book full of information, *Spondylotherapy*, by Albert Abrams, A.M., M.D., F.R.M.S. San Francisco, Cal., 1910.

not be applied so easily at any time and place; they require a certain amount of bulky equipment. If the physician uses them or their modifications in the home they consume much time. To get the best results he should personally supervise their application, or employ expert nurses or others to do so.

Now, with the hand only a few moments is required to achieve equal and far more accurate and permanent results.

In short, the mechanical problem is like that of any other manual procedure, such as applications to throat and nose, minor surgical measures, strapping, bandaging, etc., all of which are better and more profitably done by the medical adviser himself.

Certain sensory features are commonly met, e. g., headache, local pains in parts or organs, pleura, nose, throat, along the nerve trunks or sensory terminals, periosteum, fibrositis, neuralgia, neuritis, spasm in pylorus, colon, uterus, ovaries, etc., vague forms of distress due to local vascular spasms, stasis, etc.,

Most of these conditions are amenable to almost instantaneous relief by altering the degree of stasis or rate of blood flow. Other painful or tender states respond to deft pressures, relaxing spasms in the muscular masses, e. g., colic, by pressure on the fourth to seventh dorsal, which contain mechanisms controlling the sphincter pylorus; uterine colic, by pressure on the tenth, eleventh, and twelfth dorsal, first and second lumbar, and the sacral outlets. The whole domain of fibrositis, myalgia, etc., is a fertile field of painful states remediable by hand treatment.

Other pains are relievable by pressure on the continuity of a nerve affected, e. g., sciatic, crural, pudic, facial, posterior occipital, supraorbital, supradental and infradental, etc. The distressing phenomena of many forms of fever are amenable to relief by mechanically stimulating the vasodilators from the first dorsal to the second lumbar. It is quite possible thus to induce free diaphoresis by lowering vascular tension.

Headaches, especially those accompanying toxic febrile states, are usually relievable by inducing vasorelaxation by slow downward stroking of the posterior occipital nerves. Insomnia can be mitigated, blood pressure is thus equalized, oxygenation obviously and steadily enhanced, elimination favored, and the selfprotective forces encouraged in many directions.

General massage may, often does aggravate many of these sensory phenomena.

In protracted and chronic states the pathological processes usually exhibit slowing of local circulation in varying degrees, accumulations of detritus, cadaveric toxines, disintegrated cells, and vitiated fluids in tubular mechanisms, including the nerve sheaths. Some of these pathological changes lead to shrinkage in the denser structures, causing compression of sensory nerve terminals, hence local pains and tendernesses. Some of these sensory manifestations may not rise above the threshold of consciousness, yet often exert serious reflex effects upon both body and mind.

To be brief, it is evident that to act the part of healer, of reliever, of restorer, it is desirable to view the ailing organism as a whole; to achieve a fuller viewpoint, a wider horizon, especially a sense of compensation, a balance in vital forces and the amazing latent dynamics so seldom rendered available, or adequately disencumbered of inhibitions, effects of damaging by products, and the like.

There are many ways of doing this. Those described above may seem crude, simple, even primitive. They have been employed with more or less skill and success since the dawn of history. They offer so much brilliant promise that, with anything like the same amount of research bestowed on them which is given to other and more elaborate agencies, it may be possible to achieve the seeming impossibilities claimed by the apostles of those healing cults upon whose assertions to-day it is fashionable to look with deprecation and denial.

1504 Pine Street.

TREATMENT OF PHYMATIASIS BY MEANS OF THE CONTINUOUS BATH.

By A. Rose, M. D.,
New York.

In numerous communications, the most recent of which, Some New Ideas Concerning Phymatiasis, appeared in the New York Medical Journal for February 3, 1912, I suggested to employ the continuous warm bath in the treatment of phymatiasis, as this seemed to me the most rational of all remedies in this disease. I had already published a case in the *St. Louis Medical Review* for April 10, 1910, quoted in the previously mentioned article, in which case a patient suffering from general phymatiasis, especially, however, phymatiasis of the spinal column, had been cured by remaining in the bath without interruption for four weeks. As a preliminary communication I desire now to give the history of one week's treatment by this method in a case still under observation. The principal features in this instance appear to me of such far reaching importance, not as regards the therapy of phymatiasis only, but of all infectious diseases, for example, cerebrospinal meningitis, puerperal fever, typhus, etc.

Case. Mrs. J. B. D., of Brooklyn, known to me these forty years, of a healthy, long lived family on both sides, mother and grandmother of healthy children, took sick about six months ago and had been treated by a homeopathic physician, who lives in her neighborhood, until March 13, 1912, the day on which I was called to attend the case. From the history given I learned that she must have had hectic fever; the temperature, however, had never been taken. There was painful cough with expectoration, and enormous edema of the whole left lower extremity, the foot included, very painful all the time. At my first visit the temperature in the axilla was 101° F. I mentioned to the husband that I suspected phymatiasis, calling it for his understanding hasty consumption, but that I preferred to abstain from prescribing until I was positive about the diagnosis. To the patient I spoke of infection or accidental blood poisoning of unknown origin.

I sent a specimen of the urine and some sputa to Doctor von Oefele's laboratory and received, concerning the latter, the following report: "The sputum is mostly sticky, clearly translucent, there are very few slightly milky islands of small size; no odor. In the microscope are seen many tubercle bacilli, mostly in the neighborhood of the milky parts. According to the urine analysis it seems to be an acute miliary phthisical infection of the lungs."

I wish to reserve the very minute urine analysis for a more complete description of the case which I intend to present later on, and shall confine myself at present to the treatment.

The diagnosis having been made, I suggested the continuous bath, explaining all what I had said about its physiological action in my book, *Carbonic Acid in Medicine,* and my additional writings on the subject, and my suggestion was accepted, notwithstanding the decided objections of friends of the family to trying something of which they had never heard before.

I selected a bath tub of the kind specially constructed for the continuous bath and used in the Manhattan State Hospital and other phrenocomeia, but there was some delay on account of intervening menstruation, and it was only on March 20th at 4 p. m. that the patient could be placed in the water. Her temperature, measured in the axilla, was at that time 99.6° F., the temperature of the water was 98°, but in the course of time the patient preferred a lower temperature, about 96°. According to the report of the nurse, the patient passed a comfortable night, and slept well; her temperature was 99° at 11.15 and 97° at midnight. From the time she was in the water she felt well in every way, except for some discomfort due to the imperfect arrangements for support by a hammock, which was remedied the next day. Her appetite was excellent, much better than it had been before. All functions were in perfect order, bowels quite regular, urine voided in very large quantities, as is regularly the case, and as can be explained physiologically. The temperature during the first days varied from 98° to 99°F.; on March 30th and 31st and April 1st, it was normal. The swelling of the lower extremity disappeared entirely.

On March 30th I took the designer of the bath tub with me to see if he might suggest some improvement in the arrangement of the couch in the bath and the mode of securing constantly running water from the kitchen range. His suggestions were to be followed on March 31st, but when I made my visit on that day I saw no room for improvement in the condition of the patient. She felt, as she remarked, as well as ever in the best days of her life. I permitted her, therefore, to leave the bath.

Thus far, April 5th, she continues in excellent state of health. The sputum from March 30th is free from tubercle bacilli.

173 Lexington Avenue.

THE PHYSICIAN AS A BUSINESS MAN.*

By Sigmund Epstein, M. D.,
New York.
Clinical Assistant, Vanderbilt Clinic and German Polyclinic.

Literally speaking, every physician is a business man, for he follows a particular calling of great economic importance, and gives his time and attention to relieve distress and suffering. Broadly considered, however, the title of this paper is a paradox; the average practitioner is a failure as a man of affairs, his very training and professional instincts have disqualified him as a worker for profit. His altruism overshadows his commercial side: his victories are those he has won against death and disease rather than those fought in the arena against his fellows. The giant intellects in science are mere babies financially. Exceptions can be cited; for instance, the medicolegalist, whom no one would accuse of artlessness; the insurance medical director, usually the shrewdest and most foresighted of handlers of men. Then one must note the advertising practitioners and quacks.

It is perfectly natural for men and women practising the scientific art of healing to become narrow. The observation and study of such abstruse and fascinating phenomena limit their horizon, exclude them from that sort of wisdom that is gained by experience in the world.

As a factor in business, however, the medical man is occasionally an indispensable cog in the machine of transactions, accomplishing in the truest sense that function of "trusteeship" that President Hadley has designated the highest ideal of the American man of business. The public reads with bated breath the bulletins from the bedside of a stricken ruler of men, and prays for the success of his ministrations. The community looks to one man alone, stationed at our gates, to protect us from invasion of disease raging in far off lands. The names of our medical martyrs in the cause of preventive medicine are known to every high school boy. A highly specialized branch of our government has proved its efficiency when great pestilence walks abroad, and has replaced silly shot gun quarantine by isolation and wire screens, and panic has given way to confidence.

The business side of hospital management, even so far as dietetics, is being taught in our larger universities; a great step in progress, deserving of much encouragement.

The merchant of to-day is the antithesis of the merchant of a decade ago, thanks to the introduction of electricity, the improvement of machinery, travel, and communication. The direction of large bodies of men by one guiding hand has been made more feasible. Schools of business turn out carefully trained men and women to assist in systematizing and running his affairs.

The striking advances made in medical science, methods, and research, need no repetition here. The business side of daily practice shows signs of gradual change, good or otherwise, due to changes in our environment that are so rapid. The impossible is wrought before we have finished saying that it could not be done. Concrete examples of business methods that can materially advance our calling are not easily pointed out. Custom prevents the application of some, precedent renders others impossible, some we have adopted almost unconsciously.

It has been found by some of the great railroads of the West that great victories can be won by cooperation with, and education of farmers and business men, regularly organized in campaigns. An analogy may be seen in the efforts at education of the masses in larger cities by public lectures, exhibitions, and demonstrations. The true spirit of cooperation among physicians, however, is far from

*Read at a meeting of the Manhattan Medical Society, New York, February [illegible], 1911.

being the rule. In medical meetings, with the exception of certain minor differences of technical details, all is harmony. Yet in every day life is there not a disgraceful outcropping of petty bickering, jealous rivalry, thoughtless acrimony, and spiteful attack? A little more faithful adherence to the Golden Rule is recommended as a businesslike remedy. Competition should be met by offering better wares, not by belittling the other man's product. True cooperation and its wonderful results shine in the splendid work that has made a small town in Minnesota a Mecca for medical pilgrims. In a New England city there are four specialists in the same line, all of national renown, working in one suite of offices, in perfect harmony of cooperation. If one member is too busy to read a paper, his associate goes on the errand, which reflects prestige on both. If one is too busy to witness the working of a new method, his fellow worker travels to some distant point, to return with his reports and comments. In another New England city a specialist has a well trained staff of mechanics in his office, who make his appliances and apparatus —a most valuable aid do they prove when they develop, at a moment's notice, any new idea of the master. This division of labor, scientifically applied, must inevitably produce profitable results. A writer to the daily press laments the advent of the nurse anesthetist in western cities, and complains that the surgeons who hire them are not molested by the medical societies of which they are members. In some of the large hospitals here, a finely trained corps of nurses is competing with the house surgeons in rendering service in the administration of ether. This is business!

An office attendant, when circumstances permit, has lessened many of the trivial details of office and visiting practice; a trained nurse who combines tact and skill, with a familiarity with bookkeeping and typewriting, is a businesslike adjunct to a well kept office.

The average practitioner, busy all day, finds it hard to systematize his work. Disinclination and fatigue preclude the keeping of records that can be used handily at a moment's notice. The advantages of a card index or loose leaf ledger cannot be overestimated in treatment, while notes that may have a legal bearing are very much better considered when they have been originally systematized. An orderly system of bookkeeping is a vast improvement over the archaic and chaotic accounts of the rural worker in our field. Stationery is a large item in the conduct of commercial affairs, and, almost as much as personal cleanliness, a progressive physician is expected to conduct his correspondence on neat letterheads. So few of us understand the importance of contracts that I may be pardoned for presenting a form for a stipulation card reading: "In order that there be no misunderstanding, it is agreed that the operation on Mr. Blank, to be performed by Doctor Dash, will cost ..... dollars, to be paid at the time of operation. Later visits, to be made by an assistant, to be computed at ..... dollars. Other charges will be made in case of visits out of the city, or in case of visits by Doctor Dash."

Keen foresight spells success, if we believe most of the men who have achieved big results in the world of buying and selling. We may compare, if we choose, the buyer of a large wholesale firm with a careful, discriminating surgeon. The buyer sees goods of various manufacturers spread before him, and on the choice that he makes depend the profits or losses of the season's business. His knowledge of demand, and of the conditions that create it, enables him to discriminate between what will sell and what will spell failure to his firm. So with the conservative surgeon. A new process or operation is hailed everywhere with great acclaim: *his* fine sixth sense will direct him in the selection of cases for the procedure, or warn him to wait in applying the treatment until it has proved its value. He separates the chaff of an enthusiast's praise from the wheat of solid worth,—the foundation of things that are to endure.

The four great leaders of thought to-day—the Church, the school, the press, and the drama—they all advertise, all take pains, in a businesslike way, to bring their wares before the public. The army and navy are using ingenious methods to attract the attention of young men to the wonders of a soldier's life. Shall the physician advertise? This question seems to have all kinds of answers.

The disappointed aspirant for dispensary or hospital appointment, with a desire to oppose the present order of things, answers: "Our code of ethics is all wrong; let us issue circulars, and place classified lists of specialists residing in the surrounding district, in each drugstore and police station." Our socialistic friend, who has received his early education in some European centre, answers: "I will advertise in the newspapers in my own way, be it American or foreign, and let the medical societies get along without me." The newspapers answer: "A small advertisement in our columns, announcing your name, address, specialty, and hours, will surely be ethical—can do no harm. Some day you shall all come to this sort of thing. Glory and fortune await you if you modestly announce your qualifications."

Our medical societies show the tendency to modern calls to attention. They vie with each other in presenting scientific and gastronomic menus of high order. They invite reporters to chronicle a weakly censored account of proceedings and papers, and organize committees to hustle, in true business fashion, for new members, their numerical support, and their dollars. All of which is thoroughly in accord with the spirit of the times, for it is a good method of cooperating. More of this should be done, with judicious restrictions.

A lawyer with a good press agent, and a victory before an indulgent jury, is assured a bright future. A physician who has a press agent should stifle him. I believe in the publication of newly discovered truths, whose dissemination will be of universal benefit to intelligent readers. Just how the line is to be drawn, between the beneficial and the sensational, must be decided by wiser heads than mine, and calls to mind the highly reputable medical subeditors that have recently been appointed by several of our New York daily papers.

The ways in which a family physician can increase his clientele and his income, have furnished

material for many dissertations and inaugural addresses. A few light touches on the subject, may be considered in order here. One might admonish the fledgeling medical graduate, not to be an advertiser; let his wife assume that function for him. Let his friends spread his fame, let his clothes, his office, his servants, or his automobile proclaim it. Let him create, as it were, a demand for his work, the quality of which shall be the very best he can turn out, whether paid for it or praised for it by the charity patient. Let him hope to be judged by all, as he is judged by those whom he serves. When he is older, and has succeeded, advice is superfluous, for everybody loves a winner.

Business men fight the quacks and charlatans in their respective lines, and insist that laws be passed to restrict or crush them. The substituter, the food adulterator, and the dishonest advertiser have been checked by Federal control. In that most important branch of human activity, medical science, legislators have failed in affording the protection, which, in the name of common sense, we have petitioned for. To be sure, before we cast the first stone, it behooves us to see whether we also, are without sin,—in the matter of diagnoses for gain, and operations for surgical glory.

It has been said of business men of all classes that we expect a certain number of lies to be told; these we accept with discount, depending upon whether we are sophisticated or gullible. One that avoids the usual degree of exaggeration is either no business man or he is bankrupt. In this respect the doctor from time immemorial has held the respect of the community. Let us hope that in another fifty years he will still hold the dignified place in our midst where the traditions of centuries have kept him: with no trace of the taint or tarnish that clings to the word business of the present day.

Medical institutions and ideals in America are young, flourishing, and alive to new developments. A bright business outlook is predicted for them.

591 Lexington Avenue.

THE DIAGNOSIS OF TUMORS OF THE FEMALE BREAST.

By George Barrie, M. D.,
New York.

The diagnosis of tumors of the breast is made: From the historical facts obtained from the patient; from the clinical examination; from the gross pathological picture; and from the microscopic study of the tissue. The clinical picture, presented by the history and examination, may be sufficient to give ample justification for making a diagnosis, and indeed in a majority of the cases we see to-day, it should be a correct one; according to Rodman, in seventy-five per cent.

There is no doubt that with our advanced knowledge regarding tumor growth, and the keener interest and fear of delay manifested by the laity in these cases, that the large percentage in which a positive diagnosis can now be made, owing to the advanced state of the growth, from the clinical evidence alone will in future be greatly reduced.

The earlier the tumor is seen, the more difficult it is to make a positive diagnosis from the clinical facts. If, owing to the early stage of the growth, or unusual features in the history and examination, the clinical picture does not clarify the situation, section of the tumor mass and its appearance in the gross should practically always do so.

The occasion should be *rare* when one is dependent upon the microscope to make the diagnosis. The microscopic picture, given by the frozen section for immediate diagnosis, is sometimes confusing to any but the expert cellular pathologist, and, outside of institutions, such methods of making diagnoses are not feasible.

The discovery of a mass in the breast usually presents no difficulty and is practically always made by the patient, but the ability correctly to diagnosticate the character and type of a growth, particularly in its early stages, requires special knowledge and training. It is, then, in doubtful clinical cases, that on section the gross pathological appearance of a tumor should clear up a diagnosis.

Tumors of the breast, clinically benign, sometimes show a gross pathological picture of malignancy; occasionally a clinically doubtful tumor will show a gross pathological benign lesion, but much more often a malignant one. It is, therefore, essential to combine the clinical with the pathological picture to reach positive conclusions in the diagnosis of tumors.

Having obtained the clinical picture, one should study the pathological appearance of the removed tissues. Failure to obtain the clinical facts, and lack of ability to recognize what the gross specimen shows, will lead to wrong conclusions if reliance is placed on the picture obtained from the microscopic section.

In this connection, I shall quote from part of an editorial in the *Journal of the American Medical Association* for January 14, 1911: "The chief conclusion to be reached is, that surgeons should appreciate, as well as the best pathologists do, the limits of our ability to decide positively from the microscopic appearance alone the malignant or nonmalignant character of each and every growth."

I quote also a portion of an article of Bloodgood, read at the June meeting, 1909, who stated in part as follows: "In my experience, after one has had a sufficient training, the diagnosis from the gross appearance is easier, quicker, and in many cases more certain, than from a rapid frozen section."

In the *Fourth Report of the Imperial Cancer Research Fund*, published in August, 1911, 'Bashford, who has studied growths in 200,000 mice, stated as follows: "Propagation has revealed that biological behavior is neither always indicated by, nor parallel with histological structure and is often independent of it."

In obtaining the clinical record in breast tumors, the two points of most value to ascertain are the age of the patient and the age of the tumor. Malignant tumors of the breast are very infrequent under thirty years of age. Cases are recorded of malignant growths appearing at the age of twenty years or less, but they are unique. In recording the age, the apparent as well as the given age should be noted.

In practically all cases of tumors of the breast

in women under twenty-five years, where lactation has not occurred, the neoplasms found are the intracanicular myxoma, the adenofibroma, cystic adenoma, or tuberculosis, occurring in frequency in the order named.

The multiple tumors found in the breasts of young women are usually myxomata; in older women, occurring at about the time of the menopause, simple cysts.

After thirty years of age any tumor is possible—the benign tumors, however, excepting the simple cysts, are rarely observed to begin after thirty years.

Various statistics state that seventy-five to eighty per cent. of all breast tumors are malignant, and that ninety per cent. seen during the so called cancer period are malignant.

A tumor that has been observed for a few weeks, or even months, may not give much information for diagnostic purposes, but when a tumor has been growing for two years or more, and still remains a freely movable encapsulated mass, without change in nipple, subcutaneous fat, or skin, a tentative diagnosis of benign growth may be made; it may be malignant, but if so it is in its earliest stages. Benign growths may remain stationary for *many* years, then suddenly assume malignant changes.

Malignant tumors usually assume quickly certain characteristics denoting their type, such as rapid progressive growth, irregularity in outline, nonencapsulation, changes in subcutaneous fat, retraction of nipple, dimpling or infiltration of skin, enlargement and hardening of axillary glands. Within a year of onset of a malignant tumor, many or all of these changes may be observed.

It is also of importance as an aid in diagnosis to ascertain what was the symptom of onset. Whether the patient first felt the tumor, or whether it was pain that drew her attention first to it, whether it was discharge from the nipple, retraction of the nipple, or dimpling of the skin. It is also of some value to find out the relation of the tumor to menstruation, lactation, and the menopause.

It is a notable fact that in the great majority of solid malignant tumors of the breast, the symptom of onset is the appearance of the neoplasm. In the small, hard adenofibromata, pain is frequently the symptom of onset. Pain also is often the symptom of onset in the simple cysts.

Discharge from the nipple is not a sign of malignancy. A retracted nipple may be considered a positive sign of cancer, provided that its appearance is associated with that of the tumor. It may be congenital or due to a previous mastitis. Dimpling of the skin without signs of acute inflammation may be considered a fairly positive sign of cancer.

THE CLINICAL EXAMINATION INCLUDES INSPECTION AND PALPATION.

Inspection shows deviation from normal in the appearance of nipple and skin and size and contour of the affected breast.

Palpation should be made with the patient in both the upright and recumbent positions. The normal breast tissue gives the same sensation to the palpating fingers in all its parts; beneath the skin and subcutaneous fat is felt a loose tissue of firm consistence which can be picked up with the fingers and moved separately or as a whole, in all directions, between the skin and pectoral fascia. The nipple and skin of the areola are uniformly movable in any direction.

The particular quadrant, zone, or area occupied by tumors does not seem of much value in relation to grade of malignancy. Carcinoma is more frequently observed in the upper and outer quadrant, as is also the intracanicular myxoma.

Bloodgood's classification of tumors of the breast seems most complete. He divides all breast diseases into six groups, as follows:

1. Anomalies;
2. Symptomatic lesions;
3. Hypertrophies;
4. Inflammations;
5. Benign tumors;
6. Malignant tumors.

I shall confine my paper to a discussion of the clinical examination and pathology of the *more important* neoplasms under groups 6 and 5, to a few remarks on group 4, and to one growth in group 3, the latter described by Bloodgood as senile parenchymatous hypertrophy, with and without cyst formation.

GROUP 3. HYPERTROPHIES:

This disease, the most important in group 3 (the hypertrophies), is the growth first described by Billroth as chronic cystic mastitis—various names have since been given to this neoplasm. It is described by Schimmelbush as cyst adenoma; by Reclus as intraacinous cystic epithelioma; by Warren as abnormal involution; by Wood as diffuse fibroadenoma; by Bryant as cystic disease of breast; by Whitney as fibrous and glandular hyperplasia with retention cysts.

It will be seen from the numerous titles given, that the disease must give a varying clinical and pathological picture.

To Bloodgood belongs the credit of having worked out the pathological pictures of the different stages to which the growth is subject, in whole or in part, macroscopically and microscopically.

Rodman believes the disease is more likely to occur in maiden women, married women who are sterile, or in mothers who have not nursed their children.

Bloodgood thinks previous attacks of mastitis are a predisposing cause of this disease. Clinical symptoms are not usually developed before the stage of cyst formation has occurred. The growth is most frequently found at the period of the menopause. In a simple senile parenchymatous hypertrophy, there is no atrophy of fat, retraction of nipple, or dimpling of skin; there may or may not be a discharge from the nipple.

The tumor gives to the sense of touch the effect of an indurated mass, perhaps embracing an area from one half inch to practically the whole breast; the growth usually feels nodular, irregular, and hard. It is in these cases, presenting areas of irregular induration without other signs of malignancy, or history of inflammation, that it is impos-

sible clinically to make the diagnosis. The tumor, therefore, clinically at least, must be regarded as doubtful or malignant.

GROUP 4. INFLAMMATIONS:

Of the inflammations of the breast, group 4, the pyogenic and tuberculous processes are sometimes of interest to the surgeon. The history and course pursued by these lesions is usually sufficient upon which to base a correct diagnosis.

Unresolved areas of chronic inflammation, persisting for months or longer, should be regarded with suspicion. Tuberculous disease of the breast, first described by Sir Astley Cooper, is an uncommon condition, most frequently seen in colored women. The local inflammatory signs are milder than those of pyogenic infection. The mass is felt as an area of induration, which is prone to rupture on the skin surface, and leave discharging sinuses.

GROUP 5. BENIGN TUMORS:

Fibrocpithclial; (a) fibrous type.—The intracanicular myxoma and adenofibroma are usually easily diagnosticated by their form and consistence. The smaller the tumor, and the thicker the zone of surrounding tissue, the more difficult it is to get the characteristic sensation imparted by the growth.

In palpating an intracanicular myxoma, the mass is usually felt beneath the breast tissues as a somewhat spherical lobulated body. It feels distinctly encapsulated, is freely movable and rather elastic, giving to the sense of touch, in this latter respect, the effect of a ripe plum, or cherry. It is not a painful tumor, unless it attains great size. In fifteen to twenty per cent. of cases examined, they are multiple growths.

The adenofibroma is usually oval in shape, smooth in outline, smaller than the myxoma, is nonelastic and hard in consistence. It is frequently a tender and painful tumor. The old adenofibromata sometimes undergo calcification, and, in other cases, areas of fatty degeneration are found in the old neoplasms.

Fibroepithelial; (b) epithelial type.—To the epithelial type belong the cysts and adenomata.

If a cyst is large and not greatly distended with fluid, it may give a sense of fluctuation; if distended with fluid, it may feel hard as a stone. They are always spherical in shape, and, when not malignant, freely movable. They may be the most rapidly growing tumors. A discharge from the nipple is usually positive evidence of papillomatous ingrowth.

Regarding the so called benign simple adenomata of the breast, I endorse the position taken by Cullen with similar growths in the uterus. His views are that these neoplasms in the uterus must be considered as adenocarcinomata.

The clinical diagnosis of benign tumors of the breast rests upon the information gained, regarding the age of the patient and the age of the tumor, its method of growth, its consistence, size, movability, encapsulation, the symptom of onset, its relation to menstruation, lactation, and the menopause, and the dissociation of the neoplasm to surrounding tissue or structures.

GROUP 6. MALIGNANT TUMORS:

The chief aids to the *clinical diagnoses of malignant tumors* of the breast are palpation of the mass and observation of changes from the normal in the surrounding breast, subcutaneous fat, skin, and nipple.

When these changes are not observed, it is difficult to make a positive diagnosis. Some malignant tumors of the breast, in their very early growth, have fairly definite encapsulation or inflammatory boundary zones, as is illustrated in medullary carcinoma, cancer cysts, cystic and comedoadenocarcinoma, and circumscribed scirrhus.

When the neoplasm has been located it should be determined from the examination whether it is an area of induration, with or without outline, or whether there is apparent encapsulation, the consistence and tenderness of the tumor, its movability, and the nature of its attachments.

The first change, usually observed in malignant breast growths, is atrophy of the subcutaneous fat over the tumor area. Pinching the skin at this site will demonstrate its absence. Dimpling of the skin is practically a positive sign of cancer. This is due to infiltration of tumor cells along the bands of connective tissue, extending between the breast and skin. Definite adhesion between skin and tumor, due to direct infiltration, produces the so called pig skin picture. Dilatation of veins and ulceration of the skin are other diagnostic signs of cancer.

In cases of mastitis, the history and inflammatory symptoms, if present, usually allow of a differential diagnosis. A retracted nipple is a suspicious sign. It may, however, be congenital, or due to a previous mastitis. Enlarged axillary glands are observed in other diseases.

The clinical diagnosis of malignant tumors is based upon the history one obtains of the picture presented by the tumor, by the infiltration of surrounding tissues and changes in skin, subcutaneous fat, and nipple. This knowledge, if correctly interpreted, in a majority of instances will permit of a positive diagnosis.

It is, however, just as essential for the surgeon to be as familiar with the naked eye appearance of pathological lesions, as with the clinical picture, because in practically all cases operation of some degree is indicated.

GROSS PATHOLOGICAL DIAGNOSIS OF TUMORS OF THE BREAST:

In cutting into, and sectioning the normal breast, the structure presents the naked eye appearance of a slightly opaque, nonvascular, somewhat fibrous, pearly looking tissue.

On section, the naked eye appearance of senile parenchymatous hypertrophy, is at first difficult to differentiate from early carcinoma. The dilated ducts may contain fluid easily expressed, or the contents may be more solid and be expressed as comedones. Groups of grayish dots and minute cysts are seen in the preserved lobular arrangement of the breast in these cases.

The naked eye diagnosis is based upon the appearance of the parenchyma. In the nonmalignant parenchyma, a definite and characteristic architectural arrangement is preserved; the lobule is enlarged. In carcinoma, this architectural picture of definite arrangement is lost.

If the tumor cut down upon is an intracanicular myxoma, or an adenofibroma, a definite capsule is

reached surrounding the neoplasm. The cut surface of an intracanicular myxoma exhibits a tissue grayish white in color, of smooth myxomatous appearance, more or less lobulated, ringed, and glistening, presenting the so called cauliflower arrangement of the mass, within its dense and thick capsular wall.

On section, the adenofibroma usually appears as a rather dense fibrous mass; the younger the tumor, the more cellular it is found to be. In the older neoplasms the structure sometimes simulates rubber in its density; the old growths also may undergo calcification or exhibit areas of fatty degeneration. They are of very slow growth and are surrounded by a fairly thick capsule.

The naked eye appearance of both the intracanicular myxoma and the adenofibroma is typical. The simple cyst is also easy to recognize; the contents are never hemorrhagic, but are usually serous, cloudy, or mucoid in character.

Thick, grumous, hemorrhagic, or granular contents indicate malignancy. The granular character of the fluid, both in the cysts and in the dilated ducts, is due to degenerated epithelial cellular débris. The macroscopic appearance of scirrhous cancer is very easy of recognition; section into the mass imparts a peculiar sensation, like cutting wet leather. The cut surface has the appearance of grayish gristle; darker grayish pin point dots may be seen throughout the mass, or nodules. It is very hard in consistence. It is roughly estimated that over two thirds of a scirrhous tumor is composed of fibrous tissue.

Halsted believes that the scirrhous cancers we see represent only a part of what has previously existed. The struggle against the cancer cells is represented by fibrous tissue production. He thinks scirrhous disease may be active and metastasis present, long before the palpable or visible tumor has developed, and for this reason considers some of these infiltrating scirrhous tumors to be the most malignant of all cancers.

Medullary carcinoma (which, in its earlier stages, may be encapsulated) on section usually shows marked invasion in all directions. It grows very rapidly. Some forms of medullary carcinoma simulate in appearance the very cellular round cell sarcomas. It is roughly estimated that over two thirds of the mass is cellular. Squeezing the tumor produces the so called cancer juice. According to the Warren school medullary carcinoma is the most malignant form of cancer.

Adenocarcinoma, cystic, and comedo. These tumors, on section, frequently exhibit circumscribed zones of inflammatory tissue surrounding the neoplasms. Pressure on the noncystic mass will cause wormlike comedones to project from the alveoli. In the cystic form, cysts of various size, containing fluid, sometimes blood and papillomatous ingrowths, are observed, these ingrowths showing infiltration changes. Cancer cysts usually show hemorrhagic contents. Portions of the walls are thickened, roughened, and nodular.

Paget's disease is a very rare affection.

Sarcoma, now known to be a very rare disease of the breast, usually arises from degenerative processes, occurring in the very large intracanicular myxomata; on section they give the naked eye a picture of cystic degeneration, with myxomatous areas of no architectural uniformity.

The microscopic picture of tumor tissue given by the frozen section, or more carefully prepared slide, ratifies a diagnosis already made or suspected from the clinical and gross pathological picture. In tumors belonging to the benign group, the cellular structure of the mass, as seen by the microscope, is generally uniform, without atypical cellular change. Whereas, in malignant growths, architectural irregularity, cellular change, degeneration, and invasion are observed.

601 West One Hundred and Tenth Street.

SYMPTOMS AND DIAGNOSIS OF THE BODY AND TAIL OF THE PANCREAS SUGGESTIVE SIGN, WITH REPORT OF A CASE.*

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Primary cancers of the pancreas, especially of the body and tail, are rarely diagnosticated. That such should be the case is rather surprising, as carcinomatous growths of this organ, on account of the disturbance of pancreatic function, give rise to a symptom complex that is peculiarly characteristic. The symptoms of cancer of the body and tail will not depend, as in the cases of Bard and Pie, upon compression of the bile duct, but are due to alterations of the pancreatic tissue, and to involvement of the solar plexus. A single observer, with his limited experience, has but little opportunity to study symptoms of importance in their first appearance, and, since they vary with each individual case, a classification as to their relative prominence would be certainly out of order. So, therefore, I am to be pardoned, if the enumeration does not agree with the order of some more prominent author.

1. Pain, one of the earliest symptoms of pancreatic disease, is either constant or paroxysmal, and is probably more intense in pancreatic tumor than in any other tumor of the upper abdomen. It is characterized, usually, by the feeling of distress and prostration with which it is accompanied. It is not aggravated by food, and radiates, if the body and tail of the organ only are involved, toward the left as far as the shoulder blade. It is often localized in the lower splenic region.

The pains are probably due to pressure on, or involvement of the great sympathetic ganglia (solar plexus) or the invasion of the neighboring viscera by the carcinoma. By *deep palpation*, tenderness can be elicited in these cases, to the left of the rectus, above and near the umbilicus, a point, I may say, midway between the umbilicus and the free border of the left ribs. I have found this zone of tenderness constant in two cases where the diagnosis was made by autopsy, and also in the case I am

*Read before Clinical Society of New York Polyclinic, November, 1911. Case reported to Eastern Medical Society, April, 1911.

now reporting.[1] Although individual sensitiveness may vary, and cannot be recorded, yet the pain is peculiarly intense and prostrating, and the tenderness in the region I have described so exquisite, that pancreatic disease can certainly be strongly suspected.

2. Tumor mass can be palpated only in a very small percentage of cases. Mirallie found that the tumor was palpable in one quarter to one fifth of 113 cases, which he collected. If the patient is thin, or perhaps has a marked gastroptosis or a diastasis of the recti, an indefinite mass, not freely movable, nor connected with the stomach or other viscera, may be felt. That it is the pancreas is always doubtful, as cancer of the duodenum, lymph gland tumors, or other abnormities may give rise to confusion. It can be differentiated from the stomach and intestines usually by inflating the latter organs; causing a pancreatic tumor to disappear and a gastrointestinal tumor to become more evident. Pancreatic tumor, because of its position over the aorta, will in all probability be pulsating in character, but it can easily be differentiated from an aneurysm by its nonexpansile character. Furthermore, no bruit will be heard, and the peripheral arteries in the legs will be equal in volume, and in time.

3. The gallbladder, as a rule, is dilated in cancer of the pancreas. Bard and Pie, in their studies, considered this to be a cardinal sign of cancer.[2] Hanot explains this relation of the gallbladder, in differentiating cancer from biliary calculi, which usually cause shrinkage by the entrance into the latter condition (i. e., calculi) of microorganisms. These microorganisms cause a cholecystitis with the concomitant formation of fibrous tissue. In pancreatic cancer it is rather rare to have an infection, and therefore the mechanical distention of the gallbladder is not prevented.

This condition has been confirmed by most authorities, and it certainly should receive due prominence in differentiating pancreatic disease from biliary calculi.

The liver, as a rule, remains small, or enlarges very slightly. In my case, it was easily felt, because of the patient's general splanchnoptosis. It was hard, but no nodules were felt. It is even stated that the neoplasmata of pancreatic cancer in the liver are small, not elevated above the surface, differing materially from the neoplasmata of cancers of the digestive tract, which are large and elevated above the surface of the liver, so that they necessarily increase the size and volume of this organ.

4. Fever is usually absent. In fact, the temperature is rather subnormal, even to the time of death.

5. Ascites, due to pressure on the portal vein, may be well marked in rapidly growing tumors, with metastasis, but in the slow growing form, it is not found until very late in the disease.

6. Hemorrhages may be seen in the skin, mucous membranes, and subcutaneous tissue. Cases have been reported with bloody stools, but this is rather an exception to the rule.

7. Jaundice, one of the cardinal signs of carcinoma of the head, is not found in primary cancers of the body and tail. In a fair percentage of cases of cancers of the head, it is absent. For in thirty-eight per cent. of bodies, the common duct passes behind the pancreas. If the common duct lies in a deep groove, or is imbedded in the head of the gland, inflammatory enlargement or tumefactions must compress the bile duct and lead to jaundice. When jaundice does occur, it is chronic, and develops gradually until death.

8. Gastric disturbances, such as lack of appetite, nausea, discomfort after eating, may occur, as in any other abdominal disease. Hydrochloric acid is either diminished or absent. This clinical test points strongly to cancer of some part of the body, as shown by Kelly, Moore, Alexander, and Roof. In itself, this clinical fact is of profound importance, as this finding in the examination of the stomach contents after a test meal is strongly corroborative of cancer in some part of the body, whether it be the stomach, duodenum, pancreas, breast, tongue, or uterus.

9. Emaciation and cachexia progress rapidly as a rule in pancreatic cancers; but that they are necessarily rapid, as asserted by Bard and Pie, is not correct. As in carcinoma of other organs, death may occur within a period of two months, or more rarely, four years, after the onset of symptoms.

Clinical tests of the urine and of the stools, for estimating pancreatic efficiency, are most important. Without the confirmation of the loss of pancreatic functions, our diagnosis cannot be made with absolute certainty.

The association of glycosuria with pancreatic disease has been known clinically for a long time. That it is not frequently found, has been stated a number of times. But if one will only examine the urine thrice daily, i. e., morning, afternoon, and night specimens, rather than one twenty-four hour specimen, the percentage of positive findings will be materially increased. Probably in one of these specimens, a trace may be found. This trace, in a twenty-four hour specimen, would be reduced to an infinitesimal amount. As the twenty-four hour specimen is absolutely worthless for urea examination, unless we know the amount of purin bodies ingested, the three daily specimens have certainly great advantages. In the case now being reported, one quarter only of the examinations revealed sugar. When sugar was found in the night specimen, 100 grammes of glucose was added to the meal, which raised the twenty-four hour specimen, which was previously doubtful, to two per cent.

Oxaluria, it seems, is always associated with chronic pancreatitis. Robson and Cammidge were struck with this peculiar fact, and, even when sugar was not found, the crystals of calcium oxylate were abundant. The Cammidge reaction is not as trustworthy as a diagnostic sign, as the author would wish us to believe. It has been found present in diseases other than pancreatic lesions, and it was persistently negative in my own case. The orcin test for pentose was also negative.[3]

[1] This point or zone of tenderness has been shown by me to several physicians in cases of diabetes, especially in the young, wherein pancreatic involvement was most strongly to be suspected.

[2] Osler's article in Nothnagel's *Encyclopædia*, p. 160.

[3] Underhill, [illegible] iodobilin. Iodobilinic acid is a complicated compound of iodine and is split into its component parts only in the body by pancreatic juice, so that the appearance of iodine in the urine and the amount excreted present a conclusive deduction as to the functional activity of the pancreas.

Sahli's test, which consists of giving the patient a gelatin capsule, hardened with formaldehyde solution, containing methylene blue, was negative on four different occasions in my case.

The stools, as in pancreatic insufficiency, are bulky, and may be oily and greasy. Patients often state that, considering the amount of food they have taken, their stools are certainly large. This is due to the fact that a large part of the food remains undigested, and should call the physician's attention to pancreatic disturbances. Free fat is an exceptional symptom; but more important than free fat is the quantitative estimation of the split fats. If there is pancreatic insufficiency, split fats are diminished. This quantitative estimate is easily made. About ten grammes of feces are dried on a water bath, with and without phosphoric acid, and both are subjected to ether extraction at least twenty-four hours.

1. Without phosphoric acid, equals total fat;

2. With phosphoric acid, equals fat and fatty acids;

The difference equals fatty acids.

This necessitates two separate ether extractors.

The normal proportion of split fats to total fats is from seventy to eighty-four per cent.

Schmidt's nucleus test, of giving the patient a cube of meat tied up in gauze, and examining the same for the digestion of the nuclei, is valuable, but it is an extremely difficult task to find the cube. In my opinion, examining the stools for undigested muscular fibres is easier and simpler.[1]

In summing up the evidence in favor of cancer of the body and tail of the pancreas, one must never lose sight of pain, with its characteristic distress and prostration. The celiac neuralgia, together with the zone of tenderness, which I have discussed, to my mind is certainly suggestive.

If a tumor mass is felt, its fixation, and its disappearance when the stomach and colon are distended, will distinguish it from new growths of the gastrointestinal canal. It is well to remember that cancer in any part of the body will cause an absence of hydrochloric acid secretion by the stomach. If the tumor did pulsate, it would not be of an expansile character. In pancreatic cancer, if jaundice is present, the gallbladder as a rule will be distended, differing from the contracted bladder of biliary calculi.

The subnormal temperature and the emaciation will also help in reaching the diagnosis. In the clinical examination of the urine, it is always well to examine a number of specimens. In all there is likely to be a marked oxaluria, in some a trace of sugar. The stools will be bulky, containing undigested meat fibres, and sometimes free fat. Microscopically, the nuclei of the muscle fibres will be undisturbed, and chemically, there will be little split fats and casein will remain undigested.

Case. Mrs A. I.; housewife, fifty-seven years old, was referred to me November 8, 1910, and gave the following history.

With the exception of childbirths, which numbered ten, she was perfectly well until the present illness. There was no trace of cancer or tuberculosis in the family, and all information pertaining to syphilis was negative. Ten months ago she began to suffer from attacks of epigastric pain, which was at first general, and then would radiate to the left and become somewhat localized about the upper splenic region. These pains, which at first came in distinct attacks, were now gradually becoming constant, and were relieved only by opiates. There was never any nausea or vomiting, and the pains were not in relation to meals. During this time, her body weight diminished about fifteen pounds. Her appetite was poor. Bowels were constipated, but micturition, pulse, and temperature were normal.

Physical examination showed the following: Conjunctivæ of normal color; sclera normal; but tongue, although clean, was smooth and velvety, showing atrophy of the normal papillæ. No enlarged glands could be felt in cervical axillary, epitrochlear, or inguinal regions. Lungs were normal, and with the exception of the second aortic accentuation, the heart was sound. The liver extended about four centimetres below the ribs, and the free border could be felt over the entire epigastric region, as far as the splenic territory. No nodules were discovered.

The greater curvature of the stomach reached as far as the umbilicus, but no tumor or resistance could be elicited. The spleen was normal as to size, and could not be palpated. Although the gallbladder was enlarged, there was no tenderness. Both kidneys were distinctly palpable. The abdomen was relaxed, and diastasis of the recti, with an umbilical hernia, was present. There was a zone of tenderness in the left epigastric region, near the spleen, about the size of a silver dollar. No tumor could be felt at this time through the relaxed abdomen The dorsalis pedis pulse was soft, regular, and of the same volume on both sides.

The examination of the stomach contents after an Ewald meal showed the absence of free hydrochloric acid and the presence of lactic acid. After a Boas meal, that is after oatmeal and water, there was also absence of free hydrochloric acid, but no lactic acid.

Blood examination showed hemoglobin, 62; red blood cells, 4,000,000; leucocytes, 7,500. The Wassermann reaction was negative. After repeated examination of the urine, a trace of sugar was found, but no other abnormity. No free fat was found in the stools, but split fats could not be demonstrated. Cammidge reaction was negative. Blood pressure, Riva Rocci, 110.

From the facts disclosed above, with the physical and clinical findings, the diagnosis of carcinoma of the body of the pancreas, plus a gastroenteroptosis, was made. The head of the pancreas was excluded on account of the apparent slow growth, together with the absence of jaundice.

An exploratory operation was performed, November 29, 1910, by Dr. John A. Wyeth, and adenocarcinoma of the body and tail of the pancreas was found. No other abnormities were discovered. The patient gradually became worse, and made her exodus, April 5, 1911. The autopsy showed an adenocarcinoma of the pancreas, with secondary cancer of the stomach.

203 West Seventy-ninth Street.

[1] The Gross-Fuld test for casein, although simple, gives promise of really testing the functional powers of the pancreas.

LEUCOPLAKIA BUCCALIS.*

With Report of Three Cases.

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The following three cases have been recently observed:

Case I. Samuel T., aged sixty-two years, was admitted to the Philadelphia General Hospital, October 1, 1911, with a case of stomatitis. The diagnosis was changed later to leucoplakia. The patient denied syphilitic infection, or excessive use of alcohol or tobacco. He noticed nothing particularly wrong with his mouth until just before admission, when eating became painful. Examination showed an extensive grayish white area on the buccal

*Read before the Pathological Society of Philadelphia, December 8, 1911.

mucous membrane on the left side, from the angle of the mouth to the molar region. This area also extended over the lower alveolar ridge, which was devoid of teeth. The surface was rough, indurated, presented many fissures, and had here and there a warty appearance. There were also evidences of beginning ulceration. The tongue was not affected. The Wassermann reaction was negative. In November, 1911, the affected mucous membrane and some of the deeper tissue along the alveolar ridge were removed by Dr. W. J. Roe. Microscopic examination of a section made from the surface of the mucous membrane shows all stages of leucoplakia, including a thinning of the epidermis which was covered by a narrow layer of cornified epithelium, thickening and irregularity of this layer, formation of plugs of squamous cells dipping down into the submucosa, and finally frank appearance of cell nests and epithelial pearls detached from the surface layer. Throughout the submucosa was an excessive round cell infiltration. A section from the deeper tissue over the alveolar ridge showed a typical epitheliomatous condition.

Case II. August P., aged fifty years, was admitted to the Philadelphia General Hospital, August 8, 1911, under the diagnosis of secondary syphilis. He absolutely denied syphilitic infection, and had no evidence of syphilitic lesions elsewhere in the body. He used alcohol and chewed tobacco to excess. Seven weeks before admission he had two teeth extracted from the right side of the lower jaw. He knew of nothing abnormal about his mouth before that time, but the soreness had persisted since. September 2, 1911, he had a papilloma removed from the lower lip, and also an area of leucoplakia along the lower alveolar ridge on the right side. When examined, October 15, 1911, the patient presented rough white patches at the posterior extremity of the lower alveolar process on each side, about the size of a ten cent piece. The condition was more marked on the right side, and there was slight ulceration at this point. On the upper alveolar ridge, which was without teeth, in the region normally occupied by the right canine tooth, he had a small, smooth, superficial patch, looking exactly like a carbolic acid burn. There were several other similar patches scattered over the mucous membrane of the mouth. The tongue was not involved. The Wassermann reaction was negative. Smears made from the affected area, and stained with eosin blue, repeatedly showed Vincent's spirillum and fusiform bacillus. December 9th, Doctor Cryer curetted the affected area on the right side near the angle of the jaw. A piece of tissue examined contained none of the surface epithelium, but showed a typical epitheliomatous process of the deeper structures.

Case III. This case was of a man who had been under observation by Dr. M. H. Cryer for about fifteen years, and is chiefly mentioned as one in which the tongue was not involved. The leucomatous process affected the inner surface of the left side of the cheek, with a few small patches at the back of the hard palate. The patient denied syphilitc infection, and had no other lesions suggestive of syphilis. I have not had an opportunity to carry out a Wassermann reaction or to examine any tissue from this case. Two years ago this man fell into the hands of a so called cancer specialist, who evidently applied arsenic to the affected region, causing a perforation of the cheek about the size of a half dollar. This is suggestive that the process was becoming epitheliomatous.

There is nothing unusual about any of the three cases recorded above, and leucoplakia is by no means a rare disease. But there are three points common to them, which are worthy of attention: 1. Absence of any history or clinical evidence whatever of syphilitic infection; 2, noninvolvement of the tongue; 3, tendency to epitheliomatous degeneration.

The condition under consideration has received various names, among which may be mentioned smoker's patch, psoriasis, ichthyosis, leucokeratosis, leucoma, and leucoplakia.

Most writers on the subject give the impression that leucoplakia is *par excellence* a disease of the tongue, and that other portions of the oral mucous membrane are rarely affected. The tongue was not involved in any of the three cases described above, and I think that other parts of the mouth are just as often affected.

There is considerable variation in the appearance of the lesions in different cases, these variations being but stages of the same disease. The earliest recognizable stage is the appearance of a bluish white area of varying size on the mucous membrane. This area may be diffuse, or consist of a small single patch, or of multiple well defined patches. Where the tongue is affected, the papillæ are absent. The patch may be likened with great aptness to the appearance produced by the application of carbolic acid to the mucous membrane. It is neither raised nor depressed, and shows no surrounding reddened inflammatory area. In the next stage the patch is slightly raised above the level of the mucous membrane, due to a thickening of the epidermis, and the edges are irregular. This is followed by the appearance of fissures. Next the surface becomes nodular—the papillomatous stage—and there may be induration. Finally, ulceration may occur, with widespread induration, indicating that the disease has spread beyond the normal limits of the mucous membrane, and has begun to take on an epitheliomatous nature. The subsequent course is purely that of epithelioma.

The course of the disease may cover a long period of years, and may remain stationary in the earlier stages. It is possible for all stages to be found in the same mouth, as in Case I.

Microscopic appearances. As long ago as 1881, Mr. F. S. Eve drew attention to the succession of changes taking place in a tongue which was the seat of leucoplakia (*British Medical Journal,* i, 1881). In the earliest stages, microscopic examination shows the mucosa devoid of papillæ, and covered by a thin layer of cornified epithelium, thinner than normal. Later, this cornified layer becomes thicker in places, and dips down into the submucosa in the form of plugs. Eve remarks upon the similarity of the appearance at this time to that of a corn. In the submucosa, during all stages, he notes round cell infiltration, showing that the process is essentially of a chronic inflammatory nature. Finally, in the last stages, cell nests appear in the submucosa, detached from the surface epithelium, and the process becomes definitely epitheliomatous. All of these changes can sometimes be studied in one specimen of a late stage of the disease, one passing imperceptibly into the other, as seen in Case I, though the early alterations are overshadowed as a rule by the later epitheliomatous change.

The most important fact about leucoplakia, at least from the standpoint of prognosis and treatment, is its tendency to undergo malignant change if the irritative factors operative in its development are kept up for a long time. Epithelioma follows a large percentage of cases in which the irritation is not withdrawn. Fournier (*Gazette hebdomadaire de médecine et de chirurgie,* Paris, xlvii, 1081, 1900) states that cancer develops in thirty per cent. of cases of buccal leucoplakia. This appears to be rather a low estimate. Two of the present cases showed positive, and one presumptive evidence of epitheliomatous development.

Etiology. The etiology of leucoplakia is obscure, the condition having been ascribed to syphilis, gout, excessive use of alcohol, and tobacco, either by chewing or smoking. The great majority of cases occur in men. Fournier (*loco citato*) reports 324 cases of buccal leucoplakia in men and thirty-one in women. It is also seen oftenest in late middle life, at any rate the patients do not present themselves for treatment before this period because the lesions are not noticed by them until then, though examination usually gives the impression of their having existed for some time. None of the above mentioned diseases and habits can be put down as direct etiological factors, because leucoplakia is seen in people who have had neither syphilis nor gout, who have used neither alcohol nor tobacco to excess, though many are seen in whom these conditions undoubtedly tend to aggravate the disease. For instance, a patch will often start where a pipe stem habitually impinges. It is interesting to note the almost universal attribution of leucoplakia to syphilis by writers on the subject. Thus Housgains (*Interstate Medical Journal,* xvi, pp. 294-296, 1909), quoting Gaucher and Sergent, says that leucoplakia is always syphilitic in origin, and that its occurrence in the absence of other signs makes it a veritable index of unsuspected syphilitic infection. He bases this assertion on statistics of leucoplakia cases showing other lesions of syphilis or having a syphilitic history. This and similar statements by eminent authors have led the writer to carefully look for any evidence of syphilis past or present in the few cases now under observation, by going into the history, by physical examination, and by laboratory tests. The conclusions drawn from these cases are against the syphilitic nature of leucoplakia, for the following reasons:

1. The large proportion of cases in which the patches occur without signs of any syphilitic lesion past or present, elsewhere in the body, and in patients denying syphilitic infection. The statements of patients on this point cannot as a rule be accepted without reserve. The cases reported negative syphilitic infection, nor do they present any lesions suggestive of past or present syphilis elsewhere in the body.

2. Failure of the lesions to respond to any form of antisyphilitic treatment. Indeed Housgains (*loco citato*), a strong believer in the syphilitic origin of leucoplakia, admits that potassium iodide aggravates the condition, and tends to hasten the onset of epithelioma.

3. While it would be going too far to draw definite conclusions from so few cases, yet the negative Wassermann reaction in two, in which the lesions were so marked, is fairly strong evidence that they had not a syphilitic origin. The Wassermann reaction is positive in a very large proportion of cases of all stages of syphilis, and also in parasyphilitic lesions; so that whether leucoplakia is to be regarded as syphilitic or parasyphilitic, the great majority of cases should give a positive Wassermann reaction. Negative reactions indicate very strongly that syphilis had nothing to do with the causation of these particular cases at least, and that at any rate all cases of leucoplakia are not due to syphilis, as is so often stated. The performance of this test on a large series would throw a great deal of light on the relation of syphilis to leucoplakia if any really exists.

It is probable that there is some as yet unrecognized factor making the oral mucous membrane of these cases more susceptible to irritation than others. The irritation, be it smoking or chewing tobacco, overindulgence in alcohol or hot or spicy foods, tends to aggravate the condition. We do know that withdrawal of these irritating factors will often keep the disease at a standstill.

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HOMO.

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This simple inscription over the main entrance of the pavilion containing in many subdivisions the entire human life from the embryonic beginning throughout the different periods of childhood, adolescence, manhood, old age, and death, described and depicted in such a way and manner that a layman could understand, was only one of the many attractions of the last hygienic exhibition in Dresden which has been preserved in its entirety, and will be kept by the city of Dresden as a permanent exhibit. Those who failed to avail themselves of the opportunity to visit and study this most comprehensive exhibit, will be well rewarded if travelling abroad, they visit this most instructive museum. The present visitor will not be confused by the multiplication of the different exhibits in thirty odd buildings, but will have the benefit of a descriptive catalogue, which was the only missing necessity. At the Pavilion of Man the enormous quantity of statistics and figures were compiled only at the end of July, 1911, and were not distributed until the middle of August, thereby depriving the early visitors of the benefit of an official guide.

In this pavilion we could see the organism beginning with the impregnation of the human ovum, its growth, subdivision, and formation of tissue and organs, all these under a large number of comfortably placed binocular microscopes, accessible, and comprehensible to a layman. The organism forming systems have been reproduced in such a natural way as to make it anatomically and physiologically perfect. A large number of preparations, models, and apparatus have shown, for instance, the action of the heart, circulation of blood, the organs of the digestive tract, elimination, respiration, the nervous system, etc.

Very interesting, and carefully reproduced is the chemical analysis of nutrition. In this exhibit, the quantity, and price of a unit (one kilogramme), has been reproduced in a row of glass tubes, containing water, albumin, sugar, fat, salt, etc., each separately, showing the chemical composition of each, and in front of these exhibits on a little plate is a quantity of coal, showing the caloric quality of each.

Almost everybody stopped in astonishment in front of a pyramid of immense glass vessels containing 600 kilogrammes of water, 250 litres of milk, 250 kilogrammes of grain, 175 kilogrammes of po-

tatoes, 25 kilogrammes of fat, 30 kilogrammes of beans, 20 kilogrammes of sugar, 7.5 kilogrammes of kitchen salt. This pyramid represents the yearly consumption of an average man of modest appetite. This reminds us of the high prices of food of to-day, and why it is necessary for many to go back to cultivate the soil.

Next to the nutritious substances there is a large assortment of spices, appetizers, and adjuvants coming into the economy of preparing food, such as are the different herbs, seeds, roots of spices; also coffee, cocoa, tea, liquors, wines, beers, and even opium, showing their growth, cultivation, preparation, advantages, and harmful qualities. Here is also shown in an unmistakable way, the different adulterations and substitutes of foods and drinks; for instance, the making of wine without the grapes, the making of raspberry and strawberry syrups without the berries, the ordinary brick dust mixed in cinnamon, the common kaolin clay mixed in flour, etc., so that the housewife and the sanitary inspector can both profit by close inspection. With the most scrupulous and painstaking care the different preparations, manikins, and models have been so arranged that any one can see, not only the composition of the human economy, but the nutrition, the health, the different diseases of the tropics, of the animal parasites, the diseases of early childhood and the scholastic period, diseases of adolescence, diseases acquired from habits and accidents, and those due to old age. A man in his different vocations is subject to many conditions which have a direct bearing on his health and physical development. His different occupations, which are to-day attracting attention of insurance companies, legislatures, and health departments of different States, are exemplified there, represented by such immense statistical data, that it would require weeks of close study to form a proper conception.

The different kinds of dust, dry poisons, gases, intense heat, light, cold, have been so arranged that the source, transmission, and effect on the human system could be plainly traced in different apparatus and manikins, also methods of prevention in mines and factories.

There are plans for canalization of big cities, water supply, systems of heating, and lighting, of ventilation, and street and house cleaning, the arrangement of institutions, asylums, and public buildings. Here is also an exhibit showing the different influences of head coverings and its effects, also the influence of corset wearing, of supporters and garters, high collars and narrow shoes. In another group we find represented the most common diseases of childhood, the common infectious diseases, and the common causes of death in different periods of life. In another group we find the great care which has been taken of the baby from time of parturition. Here is shown the feeding, natural and artificial, with the proper analysis of the nutritive value of milk preparations and food stuffs, the different diseases and the causes, the proper clothing, the bedding, and the rooms for infants.

After the period of infancy, we see in another group the different diseases beautifully illustrated by charts, pictures, manikins, etc., showing the influence of school life on childhood, and in another group the diseases of adolescence, including venereal diseases and their results. In another group we find the different ways and means of fortifying the human body against outside influences by physical exercise, sport, swimming, and life according to Nature, and in this exhibit there are the models of the public baths of Wannsee by Berlin, and Ganschaufel by Vienna. Here is also an exhibit of school children's jaws showing bad teeth, and the care of them.

The last pavilion has been assigned to old age with the very interesting changes which take place in the different tissues, bones, brain, eyes, and skin, together with pictures of active intelligent old gentlemen, especially scientific and active literary men. In this group have been carefully arranged the differences between a premature old age and active old age.

Among the other notable exhibits are the Holmes preparations of nervous cells, the way they change during rest, active work, and exhaustion, also studies on the communicability of cancer.

To sum up, it has been, and is to-day to my knowledge the best, most orderly, and, from a scientific point of view, the most instructive exhibit in existence, and it is to the credit of the city of Dresden to make it a permanent, educational museum, thereby adding a very valuable unit to its many attractions, and those who have time and interest in hygiene and sanitation will find the trip worth their while.

220 East Seventy-second Street.

A CONTRIBUTION TO THE STUDY OF THE PHYSIOLOGY AND PATHOLOGY OF THE SKELETON ON THE ORAL EXTREMITY OF THE THORAX (STETHOGRAPHIC METHOD).

By C. M. Desvernine, M. D.,
Havana, Cuba.

(*Continued from page 703.*)

In other individuals of the same category, the infraclavicular expansion was regular and permanent during flexion of the lower extremities, incomplete however during cephalic rotation. Under such conditions as these we thought of the existence of a pleural synechia, distensible only by the traction exercised by the expansion of the whole chest, necessarily by far stronger traction than the one exercised by the isolated action of the sternocleidomastoid muscle (Figs. 10, 11, 12, 13).

In other instances, with lungs free, clinically speaking, with a local and general uniform expansion of the chest, on the return of the head to symmetrical position, the infraclavicular region remained expanded for a long while, over half an hour in some cases.

This reaction belongs, it seems, to the order of phenomena described by Hering-Breuer, well studied by Head (consult the monograph, where the subject is discussed at some length).

It has previously been stated that the infraclavicular stethographic tracings, corresponding to the side of the inactive muscle, descends more or less

to occupy an expiratory position, while the head is steadily kept in lateral rotation. This expiratory excursion was extraordinary in four cases of advanced phthisis with unmistakable signs of large

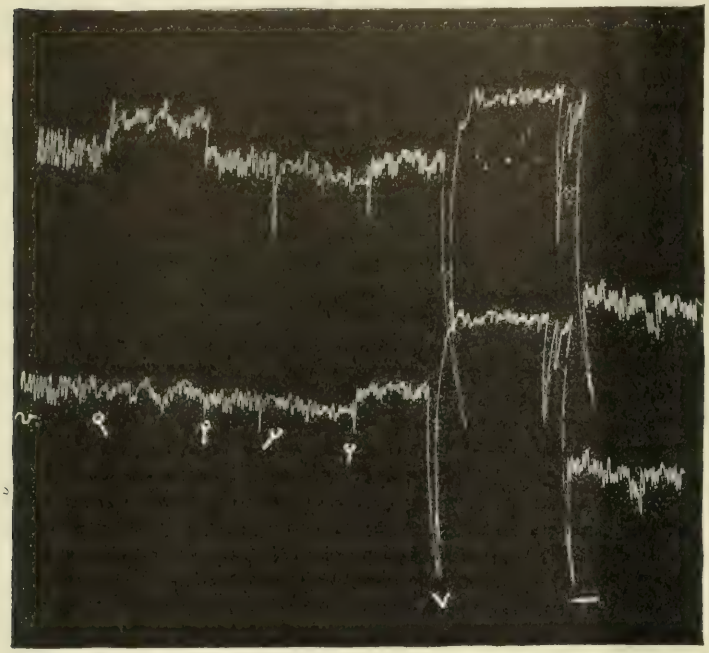


Fig. 10.—Rafael A.; thirty-three years; signs of bronchitis in both apices; well nourished; no bacilli in sputum. Tuberculin test positive. Left side entirely passive to cephalic rotation. Less so the right. Immobility of both sides overcome through flexion of lower extremities (*V*), after a deep expiration. Thorax remains in expiration after extension (—) of the lower extremities.

lung excavations, the descent of the tracing occurring on the side of the cavity (Figs. 14 and 15).

In a group of persons without any evidence whatsoever of infection, indifferent to the tuberculin tests, and also in cases of latent and incipient tuberculosis, it occurred that the thoracic upper segment *not acted upon by the muscular action, was expanded conjointly with the active side.*

Out of nine instances offering this peculiarity, in six the infraclavicular expansion was bilateral and reciprocal, and was unilateral in three instances. Of the latter, in two cases the right side was acted upon by the action of the left sternocleidomastoid, and in one the left side by the right muscle.

Two of these cases were weak subjects, negative to the tuberculin test. All the others were either in the latent or in the incipient stage of the malady, and all between nineteen and thirty-four years, one male and two females in the first group, and one female in the second.

At first it occurred to our mind that the peculiar motor phenomenon on the side of the passive sternocleidomastoid, was due to a contraction of the scalene and clavicular portion of the trapezius, synchronous with that of the active sternocleidomastoid, but the objections to this interpretation were so great that it had to be discarded.

In fact, why should such a muscular functional association occur in weak tuberculous individuals only? Why was it not present constantly under the circumstances, if in any way the general malnutrition or the toxic infection could possibly be one of the generating factors? Why was not the muscular functional association bilateral and reciprocal in all the cases?

Thus perplexed, and seeking in vain a satisfactory explanation of the facts, it happened that the motor association appeared anew, in such a peculiar way and form that it revealed the mechanism underlying its production, thus affording the key to unravel the less typical examples previously observed.

The tracings in question were furnished by a young man, twenty-four years old, with an extended family history of phthisis. The conformation of his chest was of a type called *habitus phthisicus,* and he was subject to frequent bronchial trouble. The expectoration was scant, without bacilli; pulse and temperature normal; negative physical signs and passive to the tuberculin test; short of breath at the least exertion; lateral movements of the manubrium practically absent.

In this case, during rotation of the head toward the left side, the ascent of the tracing corresponding to the right infraclavicular fossa (upper tracing Fig. 16), took place with two distinct strokes, an indication of the existence, on that side, of some hindrance to the uniform expansion of this region, and simultaneously, a singular occurrence took place on the left side, that is to say, that this side which should be depressed or remain passive (lower tracing) *reproduced exactly the tracing of the right side.*

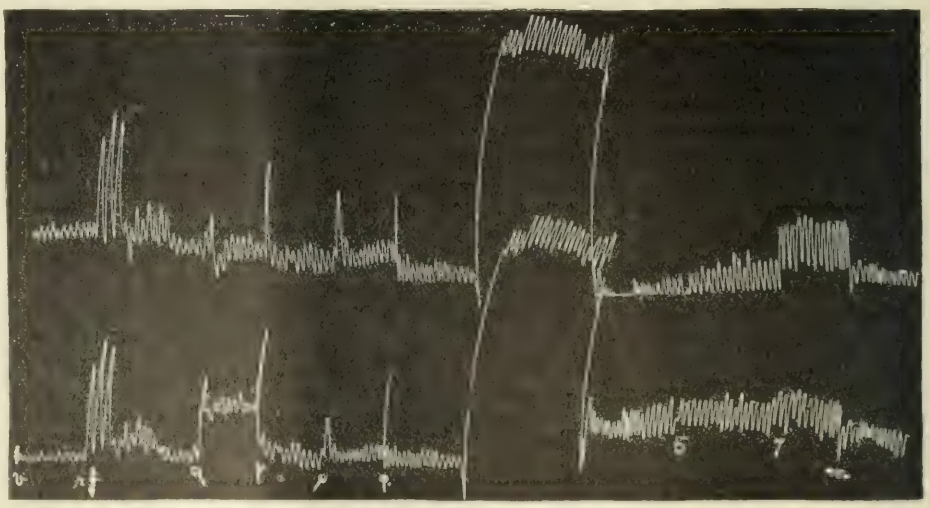


Fig. 11.—Esteban R., latent; fixity of both apices, more so the right, overcome by flexion of the lower extremities, and on the left side, lower tracing, by rotation of the head to the right. *5 K V,* negative on both sides. *7 K V,* weak on the right side.

During cephalic rotation to the right, still more unexpected results came under observation, viz., the resulting movements of the left infraclavicular fossa, previously irregular when under the influence of the movements of the right side, evolved this time with perfect physiological regularity, and, simultaneously, the right side gave rise to a tracing free from the anomalies existing when that side of the chest was acted upon directly by the sternocleidomastoid, reproducing the left side tracing in every detail. (Analogous cases are represented in Figs. 17 and 18.)

In the presence of such a behavior of the motility of the superior extremity of the chest, the idea of a muscular functional association being in operation, in this instance, could not be taken at all into consideration; since it would have been necessary to conceive it existing to a degree of precision and reciprocally associated, beyond reasonable belief. In fact, it would have been necessary to admit, in this case (Fig. 16), that the action of the right sternocleidomastoid imparted to the left scalene muscles its anomalous contractions and, *mutatis mutandis*, that the action of the left sternocleidomastoid (physiological side), imparted to the right scalene the necessary energies to overcome the resistance, of whatever nature it might be, on that side, as shown when it was acted upon directly.

Thinking over the matter, having in mind the effects of the action of the sternocleidomastoid on the upper segment of the skeleton of the chest, the reciprocal motorial solidity in question, existing, as in this case, between the two infraclavicular fossæ (normal and abnormal movements) was satisfactorily explained by a mechanical action of the costomanubrial skeleton, due to impairment or loss of the elasticity of the costal arches; elasticity on which depends the relative autonomy of the movements of their anterolateral segments.

At first we thought of the possible existence in this case of one of those pachypleural processes, with ankylotic effects, which are occasionally found

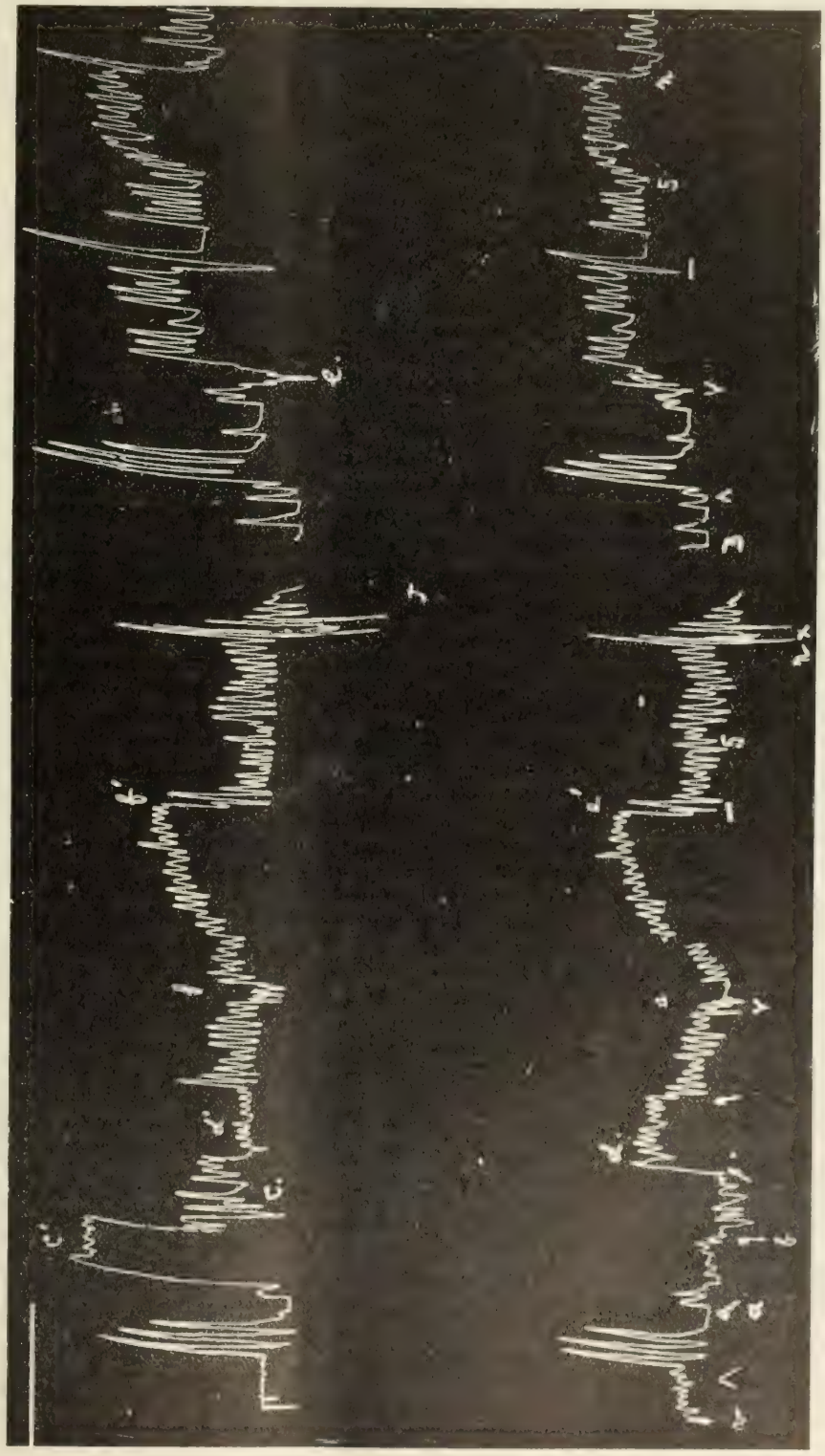


FIG. 16.—Hemiplegia. R., twenty years; slight condensation of the left apex; doubtful signs on the right. Through rotation of the head to the left (*a*) the right apex tracing (*a-b*) ascends. The left side does not descend (*a-b* lower tracing) nor the right (*d-b*) during rotation to the right. In this case the expansion of the left side (*d-b*) is reversed. During flexion of the lower extremities, slow uniform expansion of both sides (*c-c'*), preceded by a momentary expiratory position (*d*) 5 *K P*, as marked on the right side (*e*) 5 *K P*, slow and weak.

in the apices, but the patient being carefully re-examined no data could be detected pointing thereto. Excluding every other assignable cause and taking into due consideration the age of the subject, we were led to admit the presence of the only disturbance left capable of imparting to the upper ribs such a degree of rigidity, incompatible with their normal functions, coinciding frequently with the *habitus phthisicus*.

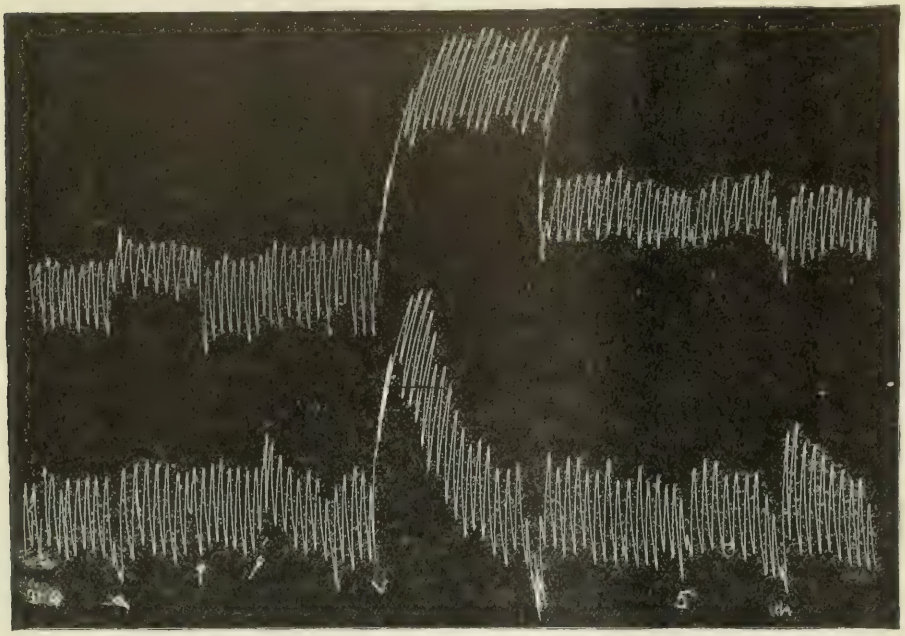


FIG. 13.—Ana S.; twenty-four years; latent; adhesion of both apices, the left being absolutely passive during cephalic rotation, to the right. Flexion of the lower extremities overcomes the resistance of the right side (upper tracing). *5 K V* negative on both sides without any modification of the respiratory excursions.

We allude, it is readily understood, to the malformation of the first costal arch described by Freund in 1858, discussed once more recently, in the medical circles of Berlin, on the occasion of a study by Freund in collaboration with Professor von Hansemann.

In the said malformation the initial generating factor of the structural modifications is the incomplete formative evolution, extrauterine, of the first rib, involving most frequently both cartilages of union with the sternum. As a consequence of such a condition of things, a whole series of pathological changes take place with highly detrimental effects on the development of the pulmonary apices, and on their respiratory ventilation and circulation as well.

The normal development of the upper chest skeleton on one or both sides once arrested, the immediate consequence is that the cervical aperture of the thorax does not assume the secondary configuration, with predominance of the transverse diameter, imparted to it in normal conditions by the erect posture of man and the development of the upper extremities.

The upper chest ring preserves permanently the infantile form, with a marked reduction of the superior costovertebral concavity, so necessary to the development and expansion of the contained segment of the lungs (symmetrical or asymmetrical stenosis, Hart).

Furthermore, the first rib, so deformed, constricts the adjacent apex of the lung at its base. (Schmorl's furrow), and the costal hypoplasia greatly reduces the rotatory elasticity of the costosternal cartilage, giving rise to histological changes which annihilate the remaining elasticity, to the detriment of the most important, *sui generis*, functions of the first and second ribs.

The primary effect of the dystrophy is loss in length of the costal cartilage, with diminution of its elasticity, and subsequent structural changes make it very brittle. Freund assigns to it an average normal length of thirty-eight millimetres in men of 160 centimetres in height, and thirty-one millimetres in women of 150 centimetres.

According to Hart's measurements, the lower physiological limit can be fixed at thirty millimetres. Wolff found it to vary between ten and forty-two millimetres. Hart considers a length of twenty millimetres an extreme one. The shortest cartilage that came under his observation was of nineteen millimetres length in a man of 164 centimetres in height.

The interconnection of the grave events that costal malformation brings with it, is briefly stated as follows: The first cartilage once reduced in length loses inevitably to a certain extent its elasticity of torsion, in which the respiratory function of the first rib participates.

As a consequence of the resistance thus originated, the antagonistic action of the scalene muscles is proportionally increased, and the resulting violent tractions give rise to irritative stimuli in the perichondrium originating its progressive ossification, in the form of a sheath inclosing the cartilage, more or less. This form of ossification was designated by Virchow "supercartilaginous," to distinguish it from the senile form which is "intracartilaginous." "When a similar cartilage comes under observation." we heard him say, "it is readily recognized that the osseous neoformation is situated outside of the cartilage, in a more or less stratified form."

In one of his learned demonstrations we had the opportunity of studying a typical example, in which the autochthonous perichondrial ossification was most evident. In conformity with Freund's original description, it could be plainly seen that the osteogenous process was independent of any pleu-

ritic neoformation, it having appeared first on the anterior surface and upper border of the cartilage, subsequently invading the internal surface and the lower border, as could be judged by the distribution of the osseous strata.

The exaggerated contractions of the posterior scalene muscles, exerting their action on the second rib, when the vicarious function of these ribs is not capable of correcting the functional incapacity of the first ribs, the result is a convergence of the forces in action on the ossified cartilage, fracturing it frequently in the line of least resistance, and, in the course of time, a pseudoarticulation is organized at the site of the solution of continuity, restoring to a certain extent the functions of the first costal arch, this being an interesting example of *protective autotomy* in man.

Obviously, when the shortness of the cartilage is excessive and it happens to be totally involved by the osseous sheath, the solution of continuity cannot take place.

The beneficial influence of the restoration of the mobility of the first rib on the tuberculous process is brought to full light by Freund's and Hart's statistics.

Out of 250 autopsies, in ninety-six the thorax was carefully examined by Freund, and he met with fifty instances of apical tuberculosis in different stages. In thirty of them a marked shortness of the first cartilage existed. In eight instances he found bilateral fracture with a well developed pseudoarticulation coinciding ("which is surprising," he justly remarks), with the extinction of the pulmonary process.

In only one instance a unilateral articulation existed in conjunction with active phthisis.

In the 120 autopsies of tuberculous subjects made by Hart, the results were as follows: Out of forty-five cases of unilateral pseudoarticulation, in thirty the tuberculous process had been cured or was nearly so. Normal apices, nine; active phthisis, six.

In fifty-two specimens presenting a double costal articulation, thirty-three had recovered from the lung trouble or were on the way to recovery.

In order to understand the order of succession of the functional derangements brought on by the total or partial rigidity of the first costosternal cartilage, conjointly with the resulting stenosis of the thoracic oral aperture, it is necessary to bear in mind the anatomical and physiological peculiarities of the first and second ribs, which distinguish them from all the rest, imparting to them a preeminent influence over the mechanism of the whole bony thorax.

The first rib is furnished with a very broad and short cartilage, without any reduction of its thickness at its sternal extremity, and is, by continuity, intimately incorporated with the manubrium. Thus, normally short in length, and its elasticity being exercised around the longitudinal axis, however little its length should be reduced, it happens that the spiral rotation is inevitably hindered. Its vertebral articulation is single, without an intraarticular ligament, and the capsular ligament is very lax. Due to this last peculiarity, it is of all the ribs the most movable posteriorly (Magendie), a condition of things conducing to reinforce its action on the strong spiral spring, represented by its sternal cartilage, and, through the latter, on the rigid articulation of the manubrium with the body of the sternum.

In fact, the constant effect of the elevation of the first rib, with the consequent torsion of its cartilage (inspiratory function), is to set in motion the manubrium, increasing thus the anteroposterior diameter of the cervical aperture of the thorax. The expiratory function is carried on exclusively by the spontaneous return of the costal cartilage to its primitive position, on the cessation of the muscular action.

The second rib is of all the ribs the least inclined downward (Henle) without forming an angle at the point of union with its cartilage.

The torsion curvature does not exist (Sappey). As is the case with the seventh rib, there is an articulation between its cartilage and the sternum, but in this instance it is by means of a double, permanent joint at the site of union of the manubrium with the body of the sternum (Gegenbauer).

These peculiarities show that its main function is not so much to raise the thoracic cage, or to influence directly the movements of the manubrium, these being attributes of the first rib, but to furnish a point of support at the site of the manubrial articulation with the gladiolus so as to act in the manner of a fulcrum (Rothschild), and thus to assist the first rib in displacing the upper extremity of the manubrium.

The functional disorders brought on by the malformation of the first costal arch and the

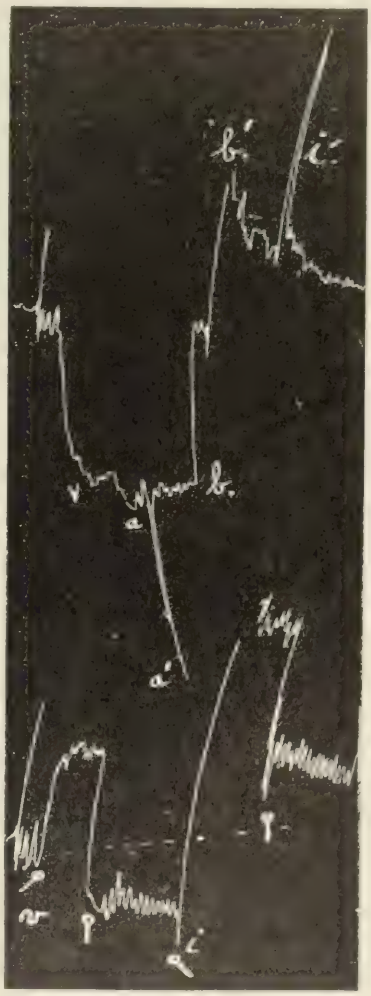


FIG. 14. Leonisio G.; thirty-eight years; advanced phthisis; cavitary signs on the right side, and of softening on the left. During cephalic rotation to the right, both infraclavicular regions react normally, that is to say the left tracing ascends, and the right descends, but the latter with an extremely exaggerated expiratory movement, down to *a*, remaining in that position after the return of the head to the symmetrical position, *a-b*, when a new deep expiration takes place, *a-a'*. On rotation of the head to the left (*i*), the right side tracing ascends with two strokes (*b-b*) imparting this movement to the left side (conjoint movement). On returning the head once more to the symmetrical position, the left tracing descends imperfectly, and the right describes a marked inspiratory movement (*i*), both sides persisting expanded.

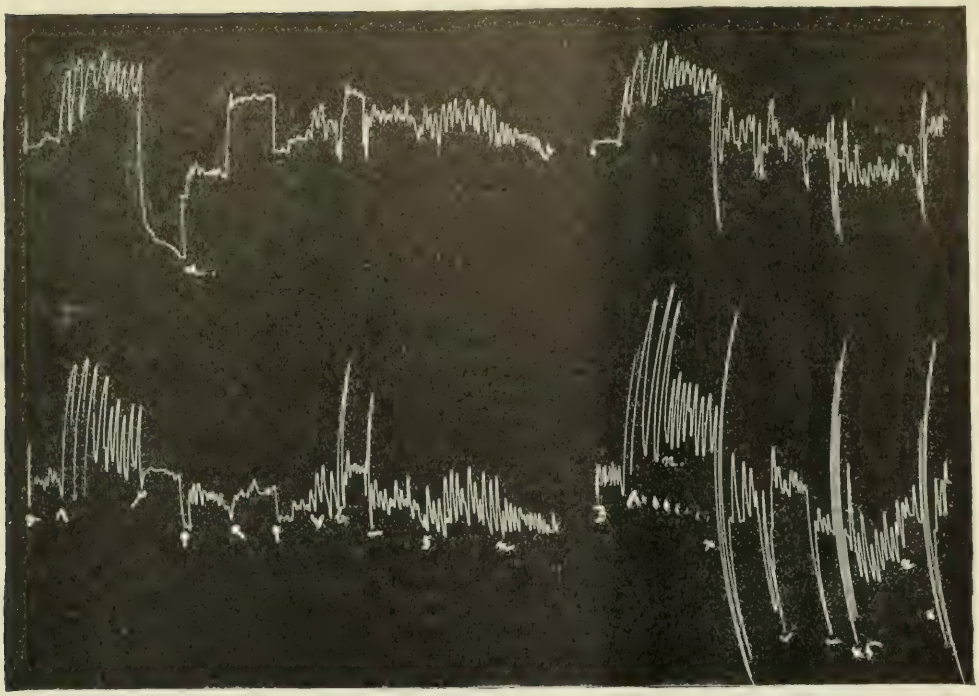


Fig. 15.—Antonio J.; forty-four years; advanced phthisis; cavity on the left side; signs of bilateral adhesions. During rotation of the head to the right, the left apex does not expand, and the right instead of expanding responds with a marked depression (*a*). During flexion of the lower extremities, the reactions are irregular on both sides. At the bases, this last reaction is negative momentarily in expiration. *5 K V*, reaction in expiration, right side and absent on the left.

compensatory action of the second rib, show distinctly that the first rib, in conjunction with the second and with the manubrium, constitute an inseparable physiological apparatus, the integrity of which is of paramount importance for the proper ventilation and the sanguineous and lymphatic circulation of the pulmonary apices.

The instructive data contained in Hart's valuable contribution, based on 400 autopsies of which 125 belonged to tuberculous cases, constitute a new and decisive confirmation of Freund's investigations and conclusions on this problem of pathological physiology.

As to whether a *habitus phthisicus*, so frequently associated with anatomical disorders of the first rib, is a predisposing cause or an effect of the tuberculous infection, there is no agreement among the authors. Möller's figures, for instance, are favorable to the second point of view, since in 356 consumptives in whom the malformation was to be observed, it coincided most frequently with the advanced periods of the disease, thus, 4.9 per cent. in the first stage, thirteen per cent. in the second, and thirty-four per cent. in the third.

In this connection it is worthy of note that in the prebacterial era, in which consumption was regarded as a constitutional disorder, pathologists of the eminence of Laënnec, Bayle, and Louis would have persistently denied the existence of any relation between the states.

Be that as it may, what cannot be brought under discussion, in the presence of the contributions of Freund, von Hansemann, Virchow, Birch-Hirschfeld, Schmorl, and Hart, is that, with or without a paralytic thorax, the suppression or the mere impairment of the functional attributes of the first costal arch intensifies *ad summum* the preexisting mechanical deficiencies which in the adult weigh so much on the pulmonary apices, responsible as they are for their nearly constant bacillization, greatly favoring the germination and prosperity of the microor-

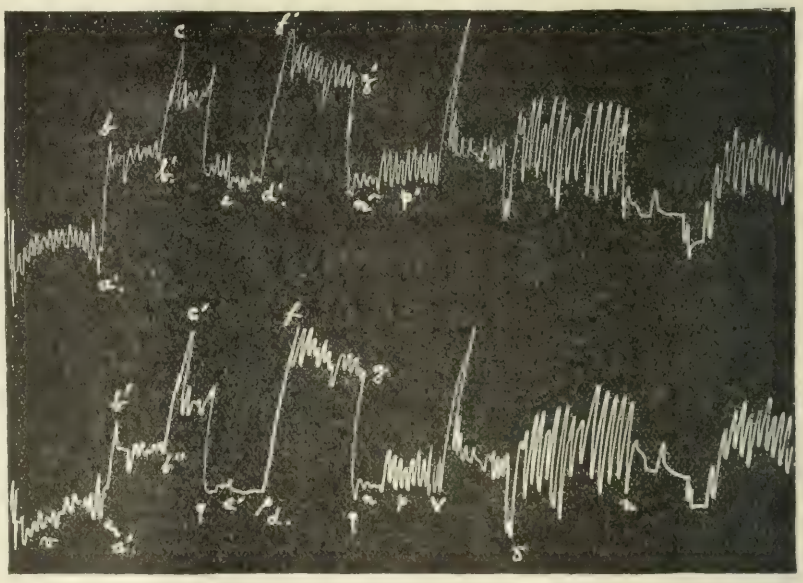


Fig. 16.—Typical example of infraclavicular conjoint movement, coequal and reciprocal. Rotation of the head to the left (*a'*) is followed by expansion of the right side with two successive movements: from *a* to *b*, and from *b'* to *c* (superior tracing), these movements being reproduced by the left side (lower tracing), from *a'* to *b'* and from *b''* to *c'*, instead of assuming the expiratory position or remaining *in situ*. On the return of the head to the symmetrical position, the thorax remains relatively expanded, *e e'*. Now, during cephalic rotation to the right (*d*), the left infraclavicular region (lower tracing) reacts physiologically (*d f g*), and the right side, the pathological one, reproduces the tracing of the left, exactly (*d' f' g'*). The reaction during flexion of the lower extremities is present at the first moment, declining rapidly. The immediate effect of the abdominal compression is an expiratory movement (*5*), followed by very ample respirations. Note the equality of both tracings in the whole extension. In *a a'* and in *n n'* posterior negative reaction followed by a positive reaction, *p p'* (Head's nomenclature).

ganism. Under those conditions the resulting deterioration of the *trophic stimulus of the function* intensifies and precipitates the biochemical degradation of the invaded lung tissue, and the *consortium* between the parasite and the organic structure ceases to be peaceful. That protective and regulating influence of the life of the organ being abolished or perverted, there is no possible biochemical equilibrium, much less any efficient defensive reactions, and physiological insolvency supervenes in obedience to the law, formulated by Lechatelier, according to which proper functional adaptations are only possible when the modifications produced by variations in any of the factors of the equilibrium of an organic system are of such a nature that they can effectively oppose the effects.

The struggle for life of the organ is extremely disadvantageous under the aforesaid conditions, and the organ, and with it the organism, succumb (*immedicable vulnus*).

The existing close relations between the *trophic stimulus* of the function and the life and defense of the organs, investigated by Wolff and by Roux in a masterly manner, are in no other instance so frequently destroyed as in the pulmonary apices of the adult, intensifying the *nosoparasitism* which constantly threatens them.

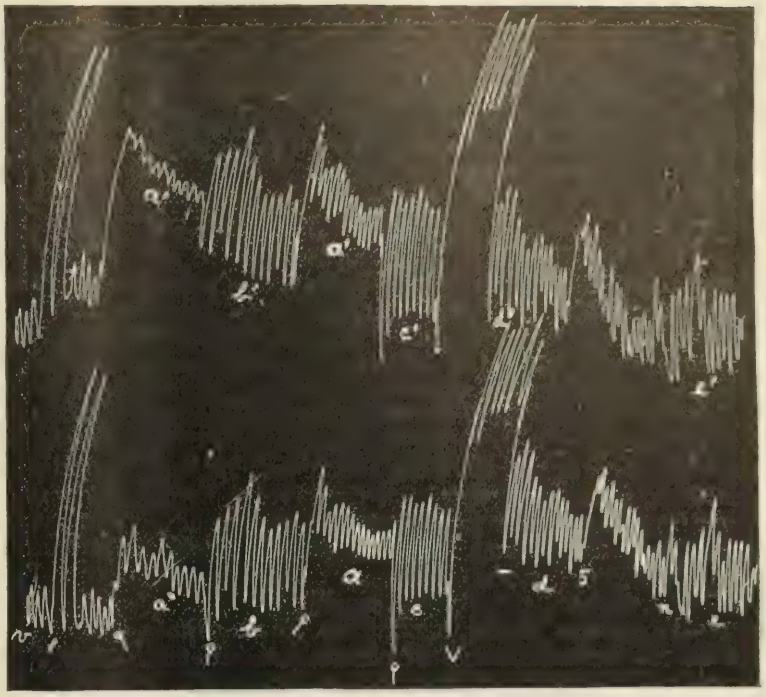


FIG. 17.—Octavio G.; twenty-eight years; healthy appearance; does not consent to the application of tuberculin test. Conjoint bilateral movement (*a a'*). Marked positive reaction (*b c b' c'*) after the restitution of the head ot its normal position. Good reaction by flexion of the lower extremities, absolutely alike on both sides; *5 K V*, weak and declining.

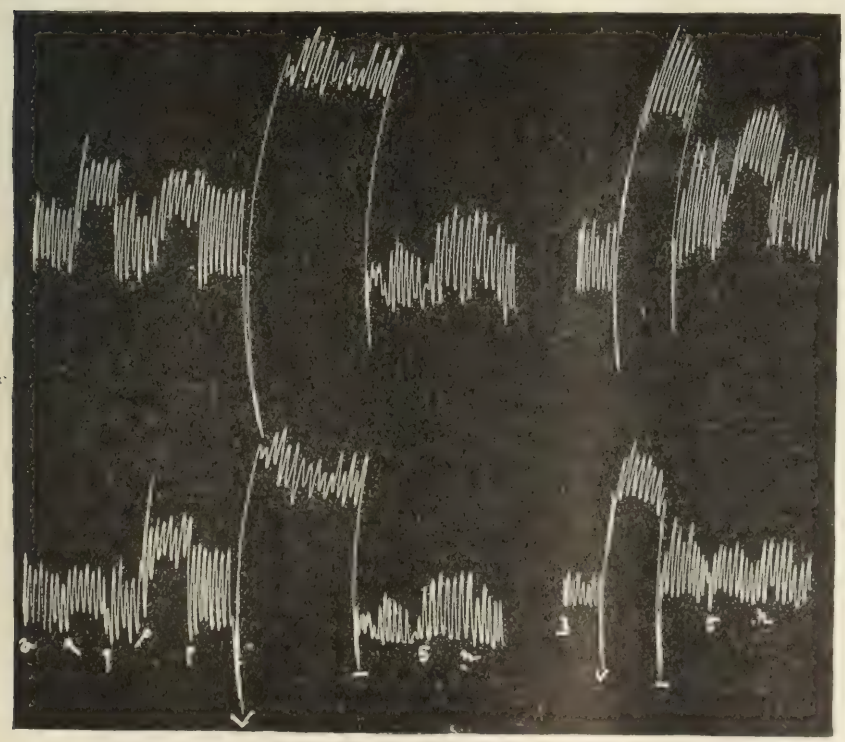


FIG. 18.—Miguel T.; thirty-one years; latent; fixity of both apices. Conjoint bilateral movement. Good expansion through flexion of the lower extremities, after a deep expiration; *5 K V* negative. At the bases, *5 K V* negative on the left side and positive on the right. The equality of the tracings of the infraclavicular region is here also remarkable.

The uncompromisingly rigid contagionists, overswayed by the great conquests of experimental microbiology, overlook, it seems, that Koch's bacillus like other bacteria does not possess in itself the means of creating the indispensable tissue modifications so that its potential infectiousness may become actual.

It is incontestable that in the human organism the evolution of certain infective processes is analogous to those created experimentally, due to the circumstance that their integration is little or not at all exacting in regard to the quality of the living *substratum;* processes in which the whole etiology can be conceived as inherent to the agent of external origin. But it is all contrary with regard to the initiation and progress of chronic pulmonary phthisis, since its pathogenic history reveals that, beside the indispensable microorganism, there are also endoorganic factors just as important, independent in their origin of the infectant concause.

(To be concluded.)

Correspondence.

LETTER FROM LONDON.

Report of the Royal Commission on Antivivisection.—Rupture of Intestine.—Value of X Rays in the Diagnosis of Hydronephrosis.

London, *March 29, 1912.*

The final report of the Royal Commission on Vivisection has just been issued in the form of a Government Blue Book of 139 pages. The commission began its work on September 17, 1906. It was appointed "to inquire into and report upon the practice of subjecting live animals to experiments whether by vivisection or otherwise, and also to inquire into the law relating to that practice and its administration, and to report whether any, and if so what changes are desirable." The commission held over seventy meetings and examined a large number of witnesses, representatives of the medical and scientific professions, antivivisectionists, clergymen, and humanitarians.

The recommendations of the commissioners are: 1. An increase in the inspectorate. 2. Further limitations as regards the use of curare. 3. Stricter provisions as to the definition and practice of pithing. 4. Additional restrictions relating to the painless destruction of animals which show signs of suffering after experiment. 5. A change in the method of selecting and in the constitution of the advisory body to the Secretary of State. 6. Special records by experimenters in certain cases.

The report is signed by Mr. A. J. Ram, K. C. (chairman), Sir William Church, Sir John McFadyean, Sir Mackenzie Chalmers, Dr. W. H. Gaskell, and, subject to certain reservations, by Colonel Lockwood, Sir William Collins, and Dr. George Wilson.

Dealing generally with the evidence of the antivivisectionist witnesses, the commissioners state that, after careful consideration of the cases cited by them, they have come to the concluion that these witnesses have either misapprehended or inaccurately described the facts of the experiments. They also state that as far as they can judge they believe that holders of licenses and certificates, with rare exceptions, have endeavored with loyalty and good faith to conform to the provisions of the law. They add that "the harrowing descriptions and illustrations of operations inflicted on animals, which are freely circulated by post, advertisement, or otherwise, are in many cases calculated to mislead the public, so far as they suggest that the animals in question were not under an anesthetic. To represent that animals subjected to experiments in this country are wantonly tortured would in our opinion be absolutely false." The report is on the whole a complete vindication of vivisection and leaves things very much as they are at present.

At a meeting of the clinical section of the Royal Society of Medicine, Mr. Wilfred Trotter read a paper on Ruptured Intestine, in which he said that there was some controversy about the mechanism of production of traumatic rupture of the intestine. He cited a case which he thought threw some light on this point. The patient, a youth aged eighteen years, was admitted to the University College Hospital during the evening of August 30, 1910. Some hours earlier, in the course of his work as a navvy, he was crushed between the buffers of two ballast wagons. The wagons being a good deal lower than ordinary railway trucks the buffers caught him over the lower half of the abdomen. He was held by them for a few moments under severe pressure. Operation was undertaken somewhat less than twenty-four hours after the accident. A median incision was made below the umbilicus. The intestinal coils in the lower half of the abdomen were found to be inflamed and somewhat matted together. Among them was turbid fluid mixed with a considerable quantity of feces. Separation of the coils revealed a segment of ileum lying to the left of the spine against the posterior abdominal wall, and showing an opening half an inch across which was discharging semisolid feces of a green color. Examination of the damaged loop showed at once that suture was not possible. Enterectomy was therefore done, and the bowel united end to end. For a distance of about two inches the peritoneum of the bowel had been torn through and had shrunk back. Through this opening the mucous membrane had protruded, after being torn away from the outer coats. In the most prominent part of the prolapsed mucous membrane was a round opening of the size of a sixpence. The appearances seemed to show that the lesion was produced by a true bursting of the intestine.

Traumatic rupture of the intestine had been attributed and no doubt was due to the action of one or other of three different mechanisms, viz., crushing, laceration, and bursting. There was no doubt that one or other of the two former caused the lesion of the bowel in many cases. Upon the third, however, a good deal of doubt had been thrown, and some authorities were inclined to question whether it was ever a cause of rupture. Experiments had shown that when the abdomen was compressed, the pressure within the bowel, as might have been expected, was not increased above the general intraabdominal pressure and that, therefore, there was no tendency toward bursting of the bowel; when, however, a loop of bowel was not supported by the general intraabdominal pressure, when, that is to say, it lay at a hernial opening, or within a hernial sac, rupture was likely to occur if the abdomen was violently compressed. It had been shown recently that the influence of a hernia in predisposing to the occurrence of rupture was an important one. While admitting this, he was not prepared to agree that bursting could occur only in presence of a hernia. None such was discoverable in his case. It seemed, however, that bursting might be brought about in another way. If a loop of bowel was caught between the compressing force and the spine, in such a way that both limbs of the loop were occluded, the contents of the latter might be put under such pressure that bursting occurred. Some such mechanism appeared to be the explanation of the state of affairs found in his case.

At a meeting of the Medical Society of London Mr. J. W. Thomson Walker read a paper entitled The Value of X Rays in the Diagnosis of Hydronephrosis. He said that hydronephrosis presented two clinical stages, the first in which symptoms

alone were present, and the second in which a swelling was found in the loin. The functional value of the kidney in the second stage was greatly impaired, and after relief of the obstruction the kidney did not return to its normal state. In the first stage there were two groups of cases. In one there was an obvious cause of hydronephrosis present (ureteric calculus, movable kidney), in the other no such cause could be demonstrated (hydronephrosis due to valves, stenosis, aberrant vessels). Exploratory operation was too serious a method for adoption in all cases. The x ray diagnosis consists in (a) finding an increase in the shadow thrown by the kidney. In early dilatation special measurements must be made in a fixed position in order to recognize the enlargement. (b) Pyelography, which consisted in filling the pelvis of the kidney with an innocuous fluid opaque to the x rays (collargol) and obtaining a radiogram. The dilated pelvis was less sensitive to distention than the normal pelvis. The position of the obstruction was shown by a stone shadow, a kink at the junction of the ureter and pelvis, or the shape of the collargol shadow.

Therapeutical Notes.

Postoperative Treatment of Cancer.—F. Hernaman-Johnson, in *The Practitioner* for February, 1912, states that the therapeutic agencies which have a recognized place in the prevention and treatment of recurrences are: 1. X rays; 2, radium; and, 3, thyroid and thymus extracts.

With regard to the first measure, it has been proposed at a recent meeting of the British Medical Association to scatter sterilized precipitated silver over the raw surface at operation, before stitching. The effect of subsequent x ray treatment is then the production of a secondary radiumlike radiation in the place where it is most needed. The author has shown, too, that it is possible, by utilizing the secondary rays from precipitated silver taken by the mouth, to produce a physiologically active radiation in the stomach, duodenum, or large bowel—a fact which will probably render the x rays available in malignant growths involving these deep organs. In any event, preventive x ray treatment should be begun as soon after the operation as the patient is able to attend for it. There should be at least one sitting a week for many months, and subsequent courses should be given at intervals for the rest of the patient's life. In cases where x ray treatment is refused by the patient until recurrence is manifest, the pain attending the latter can often be relieved, even at this late period of the disease. A dozen sittings, extending over a period of a month or six weeks, may result in complete cessation; and frequently the pain does not return, even though the disease ultimately kills the patient. Moreover, recurrent growths can often be held in check by the x rays and the skin preserved intact. Occasionally diminution or actual disappearance of the external tumor may occur.

Certain cases which the Röntgen rays have failed to benefit yield to radium. With the latter, the diseased tissues are subjected to an actual mechanical bombardment by the *beta* "rays" (in reality minute particles), which cannot be obtained from an x ray bulb. Again, a permanent source of radioactivity may be created in the interior of a tumor by injection of an insoluble radium salt; or, the radium ion may be introduced by cataphoresis. The author has found that the ill health and depression often accompanying recurrent cancer are greatly benefited by the internal administration of radium water.

Thyroid extract has been used, especially in mammary and laryngeal cancers. Woods recently reported the case of an almost moribund patient who recovered his health under thyroid treatment, while Jones tells of a "return tumor" in the axilla of an elderly woman which entirely disappeared in three months, the patient thereafter remaining quite well until the time of writing, a period of nearly ten years. Many other equally striking cases are to be found in the medical literature of the past decade.

Less used, but apparently valuable, is the extract of the thymus gland. In a series of forty-eight cases Rohdenburg, Bullock, and Johnson found that thymus, administered from three to five weeks, relieved pain and retarded tumor formation, the patients meanwhile increasing in weight. In some instances the improvement was lasting; in others, after a period of quiescence, the growth again became active. Gwyer likewise reported good results with thymus gland.

Treatment of Pellagra.—Deeks (*Medical Record*, March 23, 1912), believing that this disease is caused by the excessive use of starch food in conjunction with cane sugar, in a warm climate, where there is a lessened metabolic activity, advises the physiological treatment which has been almost uniformly successful in his hands. This treatment consists, 1, in limiting the nourishment absolutely to fresh fruit juice, preferably orange, meat broths, and milk, as long as there is nausea or vomiting, and the absolute avoidance of everything which contains sweet or starchy elements; 2, in the administration of fifteen to thirty drops of dilute nitric acid in three fourths of a tumbler of water three times daily on an empty stomach. When the stomach condition improves, generally in three or four days, a carbohydrate free diet is ordered. This consists, in addition to the foregoing, of eggs and meats of all kinds, fish, green vegetables, such as lettuce, celery, onions, tomatoes, beets, carrots, spinach, chayoti, vegetable marrow, okra, green peas, string beans, egg plant, etc., and fresh fruit of all kinds, there being no limitation. The nitric acid is continued three times daily before meals. Any other medication is but symptomatic, as indicated. The results obtained follow as quickly as do those from the treatment of gastric acidity in the same manner.

Agar as a Vehicle in Intestinal Therapeutics.—Max Einhorn, in the *American Journal of the Medical Sciences* for February, 1912, recalls the fact that Adolf Schmidt was the first to use agar-agar in order to increase the volume of the feces and thus relieve constipation. Einhorn, however, extends its use for intestinal therapy. While passing through the bowel it absorbs considerable fluid and is then excreted in larger bulk than the

original. This quality makes it useful in cases in which the feces appear in reduced quantity and are too dry. It is useful as a medicinal vehicle in intestinal disturbances, as an agar containing remedy will first absorb fluid and later slowly liberate the medicinal substance over a large area through osmosis.

In diarrhea, where the usual astringents and opiates act too strongly, they produce hardened scybala and constipation; the same remedies given in agar as a vehicle do not give rise to these conditions.

In neurotic disturbances of the intestine agar will carry a sedative and impart it to a large area of the bowel.

To prepare these remedies the medicinal agent is dissolved in a boiling agar watery solution, thoroughly mixed, then evaporated to the original dry agar volume. The impregnated agar is then ground up into flakes. Phenolphthalein, rhubarb, colombo, gambir, tannin, simaruba, myrtilla, ipecac, and sumbul have thus been prepared.

Extraanal Treatment of Hemorrhoids.—Boas (*Münchener medizinische Wochenschrift,* January 29, 1912) states that he has found it unnecessary always to replace prolapsed piles into the rectum. He has treated thirty cases by applying Bier cups about the size of a silver dollar over the prolapsed tumors, with successful results. The cups, according to his procedure, are allowed to remain one half to one hour, thus inducing a circumanal edema which, if it is sufficiently pronounced and persistent, leads to a cure of the condition in a few days. Where the result is to be successful, the nodules assume a blackish hue and become thrombosed in twenty-four hours, and a few days later are reduced to hard, shriveled masses. Any hemorrhage attending the application of the cups is easily checked by enemas of a five per cent. calcium chloride solution. A certain amount of pain is experienced by the patient during and after the cupping, but the use of analgetic drugs rarely becomes necessary. Already on the second or third day the discomfort is gone and defecation painless. The patient should remain in bed four or five days, lying on the side as much of the time as possible, and laxatives should be given if there is a tendency to constipation. Where the hemorrhoids have a broad base, the edema produced by the cupping is but temporary and the treatment ineffective. Some indication as to whether the result is to be a successful one or not, may be obtained when the cup is removed at the end of an hour; if the hemorrhoids return spontaneously to the rectum at this time the treatment will not prove efficacious. Where success is obtained by the method, however, subsequent recurrences are rare.

Treatment of Tetanus.—Simon J. Young (*Journal of the American Medical Association,* February 24, 1912) believes it possible that in the antitoxine treatment of tetanus we have erred in the matter of dose—that too small doses have been given. A boy, ten years of age, having convulsions every few minutes, and in a serious condition, received 5,000 units of tetanus antitoxine at once, and a like dose daily during the next few days, with smaller doses when temperature and pulse became normal, which occurred about the tenth day. In all he received 46,000 units. Recovery followed. In two other cases much larger doses were used. In a boy, 150,000 units were injected, and in a man 220,000 units. These cases all seemed hopeless, but all ended in recovery.

Treatment of Urticaria in Children.—The following summary of measures useful in urticaria is given in *Union médicale du Nord-Est* for February 29, 1912:

1. Have the child take one to two teaspoonfuls of the following mixture for two or three days:

℞ Magnesium oxide, ... } ... 15 grammes.
Washed sulphur, ... }
Cream of tartar, ... }
Clarified honey, ... }

2. Limit the diet to milk.

3. Administer baths of twenty to forty minutes' duration in water to which from 100 to 800 grammes of glycerin has been added.

Treatment of Plantar Hyperidrosis.—Thérault (*Gazette médicale belge,* January 25, 1912) states that he has had frequent occasion in the military service to observe the good results obtainable in this affection by means of the commercial formaldehyde solution, diluted one to ten. Where it is necessary to administer treatment about every two weeks he advises that the solution be applied even undiluted, by means of a brush. After allowing it to remain in contact for three minutes, it is washed off by dipping the foot in water. No pain should be caused by its application; if pain does occur the solution should at once be washed off. In twenty-four hours the plantar skin, previously swollen and red, becomes dry. If the solution is reapplied in a few days, further drying takes place and the superficial layer hardens so that walking becomes easy and painless; but in many instances one application suffices. The excessive secretory activity is checked, odor disappears, and the integument assumes a somewhat brownish color.

Sterilization of Catgut Ligatures.—Baldwin (*Interstate Medical Journal,* February, 1912) cuts the raw gut in five foot lengths, and after winding them into coils, immerses them in the following solution:

℞ Iodi, ... gr. lxxx;
Potassii iodidi, ... gr. cxx;
Alcoholis, U. S. P., ... ℥xvj.
M. Ft. solutio.

The gut is ready for use in three weeks, but can be left in this solution indefinitely, without deterioration. A new batch may be started every few days. Before operation the needed amount of gut is transferred to a small dish containing alcohol. Any left over is replaced in the iodine solution.

After the gut has been prepared as shown it may be chromicized by transferring to the following solution:

℞ Acidi chromici,
Acidi carbolici (phenol), ... āā gr. lxxvij;
Aquæ sterilisatæ, q. s. ... ℥iv.
M. Ft. solutio.

After six to twelve hours, depending on the size of the gut and the resistance to absorption desired, it is taken from this solution and replaced in the iodine solution until wanted.

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A NEW DEVELOPMENT IN ANTIRABIC TREATMENT.

In a paper entitled *Antirabic Immunization with Desiccated Virus,* read before the American Association of Pathologists and Bacteriologists, which held its meeting in Philadelphia last week, Dr. D. L. Harris, of St. Louis, gave the details of an elaboration of the Pasteur treatment which bids fair to be of considerable practical value. The point gained may be briefly summarized by the statement that while the serum now available possesses immunizing or therapeutical value lasting but a short time —a couple of weeks—the product described by Doctor Harris preserves its efficiency during a minimal period of 148 days. This is due to a special mode of preparation, the steps of which are: Desiccation of the brain of an inoculated rabbit; reduction to a fine powder and then to a thin paste with water; freezing to solidity. Thus frozen, the paste not only preserves its activity but it can be sent any distance, its period of efficiency permitting it to be transported over the entire world. On reaching its destination the paste is made ready for immediate use by reduction to powder and solution. This, obviously, represents only the main steps of the whole procedure, the full details of which will be duly published.

The experimental and therapeutical aspects of the new measure, though still limited to Doctor Harris's own labors, are such as to inspire confidence. In fact, he was unfortunate enough in the course of his investigations to inoculate himself, and thus to submit his product to a test in which loss of his own life would have been the penalty had it failed him—a rather unusual experience. Therapeutical tests were likewise made in numerous animals, including dogs, which, while in perfect health, were inoculated by the bites of other animals suffering from hydrophobia in its most virulent form. In all animals thus inoculated under unquestionable conditions and in which the new preparation was employed, rabies failed to develop, while in others, similarly inoculated but not treated, the disease developed. In the human subject, the measure has been tried in only twenty cases so far, some after bites from rabid animals, others during various stages of developed hydrophobia. Prompt recovery was obtained in all.

While experience limited to such a small number of cases cannot be said to place the new immunizing virus on a plane of absolute certainty as to its therapeutical value, the fact remains that the results so far attained are most encouraging and entitle their author to unstinted praise.

THE AUTOBIOGRAPHY OF AN ACROMEGALIC.

Acromegalic deformities were noted in the eighteenth century by Saucerotte (1772) and Noel (1779), and John Hunter was apparently hot foot upon the trail of the subject in his famous and expensive chase after the dead body of the Irish giant (1783). In the nineteenth century, similar notations were made by Alibert (1822), Chalk (1857), and Lombroso (1868); the late Sir Samuel Wilks wrote down a vivid description of acromegaly in 1869, but the seal of finality was set in the classical paper of Pierre Marie (1885-6), who gave the disease its name, differentiated it clearly from myxedema, osteitis deformans, and leontiasis ossea, and, in later papers, showed its correlation with lesions of the pituitary body and with gigantism. Meanwhile, the study of the correlation of the secretions inaugurated by the physiological work of Claude Bernard and Brown-Séquard and on the clinical side by Addison, advanced apace, the whole matter having been brought to a focus in Sajous's important work on the internal secretions. Four types of pituitary lesion now claim recognition, viz., the hyperpituitous forms of gigantism (type Lapnois) and acromegaly (type Marie), the hypopituitous or obese type of Fröhlich, and the mixed or transition forms (dyspituitarism) of Cushing. A striking example of the Marie type, described *in propria*

persona, is afforded in the autobiographical record just published by Dr. Leonard Portal Mark,[1] a well known London physician, who has had the rare courage and sincerity to give a minute diary of "the feelings, the thoughts, and the mode of life of one who is afflicted with this disease." For some fifteen or twenty years, Doctor Mark relates, he was totally unaware of the fact that an acromegalic was staring him in the face when he looked in the glass to brush or shave, and, as the onset of the disease had been noted long before by many of his medical intimates and friends, it was a veritable *secret de Polichinelle,* the only one not in the secret being "poor Polichinelle himself, with his heavy jowl, his pot belly, his big hands and feet." With splendid pluck and the delicate humor of a highly cultivated mind, Doctor Mark goes on to tell of the headaches, faceaches, lethargies, insomnias, asthenopias, fatigues, and nerve storms to which he was subject, the whole making an impressive clinical contribution which its author likened to the full score of a symphony "led by the relentless bâton of a little demon, which in my dreams I seem to see astride of my sella turcica, turning my cranium into a temple of discord." Chaffed as a boy for his large head, Doctor Mark records that, as a youth (he was educated in France), he was looked upon as *un jeune Anglais très fort,* a view which is easily confirmed in the different portraits of the handsome young Englishman he must have been at that time. About the age of twenty-four to thirty years, he noted "queer feelings," auditory murmurs, photophobia, embarrassing drowsiness, catarrhs, indigestions, and unaccountable fatigues. At thirty-seven, extreme prognathism was noticed by a dentist and acromegaly was privately surmised by his medical friends. From this time on, the cerebral, ocular, and nasal discomforts increased, and the growth of the head and extremities became especially marked. At twenty, he had small well shaped hands, fitting a 7.5 glove, and this size, an aristocratic one in a six foot man, eventually increased to 9.5. Similar difficulties with hats and shoes were encountered; prognathism and enlargement of the tongue became so pronounced that he could no longer masticate with comfort and had to have false teeth. At the age of forty-five, even his brother guessed him to be an acromegalic, and, at forty-nine, he was "spotted" for one in a crowd by Marie himself. The next year, the truth flashed across Doctor Mark "like a bolt from the blue." His diagnosis was confirmed the following day by Dr. Archibald Garrod and the next year he consulted Marie. At first, he resented the reticence of his medical friends who had known of his plight for so long, but he soon came to see their delicacy in the true light, for, as he remarks, if he had been made aware of his calamity before becoming inured and acclimated to its effects, he would in all probability have put an end to his existence. Once aware of the disease, however, he has found it easy to adapt himself comfortably to "the acromegalic state," especially through the sympathy and care of his medical friends. In this careful autoclinic, Doctor Mark distinguishes two periods; a restless or neuralgic phase during the first fifteen years, a static or lethargic condition during the last, and these two phases he attributes to hypopituitarism and hyperpituitarism respectively. Hence his reluctance to experiment with pituitary extract, lest he "shortly find the place in the ranks of the martyrs to science." Doctor Mark's book, written in attractive, even classical style, and illustrated with many interesting portraits, diagrams, and skiagrams, is one of the most important contributions to the recent literature of acromegaly.

[1] *Acromegaly. A Personal Experience,* London, 1912.

THE NUTRITIVE VALUE OF SOME INDIVIDUAL PROTEINS.

II.

Part II of *Bulletin 156* of the Carnegie Institution of Washington, is concerned chiefly with the effects of the individual proteins on the growth and maintenance of young rats. With the discovery that protein free milk afforded the ideal and essential mineral constituent of the diet, the chief experimental difficulty encountered had been overcome. Previous to the time that this fact was ascertained, certain interesting observations had been made. It was found, for instance, that when the rats began to fail on the dietary, feeding a little normal feces restored them temporarily to a good bodily condition. Sterilization over three successive days rendered the excreta incapable of producing this effect. It seems, then, that reestablishing the normal bacterial flora was desirable. Accordingly this was done at intervals in many of the experiments.

Young rats, fed on the Röhman salt mixture, fat, starch, and casein, do not grow. Their weight remains practically constant. There is even no skeletal growth, as described by Professor Waters for young steers kept on a maintenance diet. When the young rats were returned to a mixed or a milk diet, growth was resumed. This fact led to the discovery that the rats would gain on the single complete proteins if the protein free milk was substituted for the artificial salt mixture.

The experiments reported show that the "incomplete" proteins, zein, gliadin of wheat, and hordein from barley, in contrast to efficient proteins such as casein, lactalbumin, ovalbumin, edestin, glycenin

from the soy bean, and glutenin, are inadequate for growth. The former proteins check the "growth impulse" without permanently inhibiting it, for the animals grow normally if returned to an adequate diet. Gliadin and hordein do satisfy the needs of maintenance in young animals; zein does not—probably because of the absence of the aminoacid tryptophane in its chemical makeup.

Certain other facts brought out by the experiments may also be mentioned. The continued feeding of a protein such as casein, which does not yield the aminoacid glycocoll on cleavage, suggests a synthesis of this substance in the body for the foundation of the tissue proteins. The adequacy of the phosphorus free edestin indicates an ability on the part of the tissues to build up their organic phosphoric acid compounds from the inorganic phosphates. Then, too, all of the animals gained normally on a purin free diet, so that a purin synthesis is evidenced by the formation of the nucleic acid of the cell nucleoproteins.

Further investigations along the lines presented are to be looked for in the future as the result of this brilliant series of experiments. The addition of the aminoacids, to complete as it were the inadequate proteins, can now be studied with all the factors controllable. The utilization of hydrolized proteins, a much disputed problem, can be satisfactorily worked out. In conclusion, it may be added, the results of Osborne and Mendel's work will be the opening wedge for a series of most important nutrition investigations, not only as regards maintenance, but for growth problems as well.

THE INFLUENCE OF THE PHILIPPINE CLIMATE ON BLONDS AND BRUNETTES.

Major Weston P. Chamberlain has published, as president of the United States Army Board for the Study of Tropical Diseases in the Philippine Islands, an interesting paper on the influence of the climate of our Asiatic insular possession on white men of the blond and brunette type, which appears in the *Philippine Journal of Science* for December, 1911. The readers of our JOURNAL will remember the articles by Lieutenant Colonel Woodruff on this subject and the reviews of his books which appeared in these columns. His work has been taken up by others, among them Major Chamberlain, who comes to the conclusion that "on the whole the blonds seemed fully as able as the brunettes to withstand Philippine service for a period of two years, and probably as able for a period of five or six years." The extensive paper which leads to these conclusions is based upon six groups of observations: The first, the "1909 group," comprises 157 blonds and 154 brunettes among the enlisted men of the United States Army. The "1910 group" contains 347 blond, and 346 brunette soldiers. The third group is made up of 186 blonds, 147 brunettes, and 235 of mixed type, from commissioned officers of the Philippine scouts and Philippine constabulary and from the Americans of the Manila police force. The fourth group includes 273 patients invalided home from the Division Hospital in Manila during a period of eighteen months. In the fifth group are found 10,072 enlisted men of the United States Army, which showed a relative proportion per mille of 238 blonds, 206 brunettes, and 556 mixed types. Finally, as a sixth group, are cases of sunstroke and heat exhaustion occurring in the United States, in which the type of complexion of the patient was recorded. These six groups show the great amount of facts, examinations, and observations recorded. We find 4,794 weights, 5,306 pulse rates, 5,306 respiration rates, 5,306 temperatures, 3,520 blood pressures, 1,134 hemoglobin estimations, 1,134 red blood cell counts, 1,152 urine, and 601 stool examinations; and all these figures belong only to the first two groups. Of all the observations it is stated that the differences between the blonds and brunettes are so slight and inconstant as to be of no significance. Of the ratio of invaliding home it was found that it is lower for the blonds than for the brunettes. As to the difference in behavior between the two types, it is stated that the excessive use of alcohol was more pronounced among the blonds than among the brunettes, and as regards disagreeable symptoms referable to climate, the evidence seemed to indicate that the blonds suffered more than the brunettes.

MANAGED BETTER IN FRANCE.

It is gratifying to read in *Presse médicale* for March 23d, the case of a man in comfortable circumstances (*de situation aisée*), who managed to enter the ophthalmological service of a French hospital and have a cataract removed from his eye free of charge. A syndicate of French oculists first addressed an energetic protest to the director of the hospital in question, and then, with the permission of the Minister of the Interior, prepared to bring suit for 1,000 francs damages against the ingenious patient. The latter, however, did not await the lawsuit, but paid the 1,000 francs at once, of which sum the Minister of the Interior ordered 500 francs to be paid over to the treasurer of the oculist syndicate. The syndicate draws the attention of oculists generally to the great value of this precedent and urges upon them the necessity for following up all similar cases. If, in any of our States,

there is a protective law of the kind, the bringing to book of a few parasites on medical good nature would soon put a stop to their petty practice.

BOTULISM.

M. L. Lange describes in *Presse médicale* for March 9th the symptoms of botulism, which consist mainly of lethargy and dull, continuous headache, with vertigo and a persistent insomnia. The preliminary symptoms appear, from twelve to twenty-four hours after ingestion of the poisoned food, as pain in the abdomen, nausea with or without vomiting, a feeling of malaise, dimness of vision with mydriasis, dullness of hearing, muscular cramps, a contraction of the throat similar to that of hydrophobia, scanty salivary secretion, ulceration of the tonsils, a fetid breath, diminished urine, and a most obstinate constipation. The mortality is from fifteen to forty per cent.

The exciting cause is the ingestion of meats, etc., which have been thoroughly isolated from the air by means of brine, fat, or the like. This is explained by the fact that the microorganism, *Bacillus botulinus,* is anaerobic. It is Gram positive and easily cultivated on gelatin, producing thick oval spores below 95° F. The toxine is destroyed at the temperature of boiling water. It develops most easily in pork, but has caused botulism in Russia from its presence in preserved fish, such as sturgeon and salmon. Prophylaxis demands the most careful and thorough cooking of the foods preparatory to sealing them up.

THE CLEANING OF PUBLIC LIBRARIES.

Paris médical for March 23d, after pointing out the numerous sources of dirt in a public library, the constant use of books of reference by all comers, the use of the moistened finger to turn a leaf, the long stay of poverty stricken individuals seeking a refuge from inclement weather, the too frequent ventilation by large windows alone, the farce of ordinary sweeping with a broom, which stirs up the dust only to permit it to settle after a few hours, speaks admiringly of the precautions now taken in the Royal Library of Berlin. Two pumps of five horse power are installed in the cellar of this building, one of which is constantly in use. The dust which finds its way into one of these cleaners is immediately mixed with water, and as soon as saturated it is conducted to the sewer. This system is incomparably superior to any which keeps the dust dry. A complete installation of horizontal pipes connected with the cleaners traverses the ceiling of each floor, and from these other tubes drop within reach of the operators.

Medical Law.

VIII. CIVIL MALPRACTICE.

The familiar rule that a physician is not freed from liability for injuries resulting from negligence or unskillfulness because he has received no compensation was enforced under interesting circumstances in the case of Morris v. Altig, 134 Northwestern, Rep. 529. In this case the evidence showed that defendant had been a student at a veterinary college and was expecting ultimately to complete his course; that he was not licensed to practise as a veterinary although he did profess knowledge and skill in that line and was actually engaged in a veterinary practice more or less miscellaneous.

He was engaged to perform an operation on the shoulder of the plaintiff's mare and did undertake the treatment of the mare, although he received no compensation therefor. It was shown that treatment was unskillful and that a loss ensued. The defendant for his defense contended that in treating the mare, he did so simply as an act of neighborly kindness, and that the work was gratuitous. He insisted that this case came within the principle laid down by Judge Cooley in his work on *Torts,* wherein he said: "Where friends and acquaintances are accustomed to give, and do give to each other voluntary services without expectation of reward, either because other assistance cannot be procured, or because the means of parties needing the help will not enable them to engage such as may be within reach, the law will not imply an undertaking for skill, even when the services are such as professional men alone are usually expected to render. . . . When one holds himself out to the public as having professional skill, and offers his services to those accepting them on that supposition, he is responsible for want of the skill he pretends to, even when his services are rendered gratuitously." In this case, the appellate court was of the opinion that the defendant did hold himself out as having professional skill and was employed to render the services in question because of such supposed skill and not merely as an act of neighborly kindness. It directed therefore that the verdict and judgment of $95 rendered against him by the court below be affirmed.

X. THE PHYSICIAN AS WITNESS.

The case of Schlauder v. Chicago & Southern Traction Co., 97 Northeastern, Rep. 233, contains a further illustration of when a physician may, and when he may not give his opinion as to the cause of an injury. In this case the plaintiff sued to recover for injuries which, she asserted, resulted from a collision between a train and a trolley car of the defendant's company, in which she was a passenger.

Upon the trial, the physician who attended her testified to the existence of a bruise on the right thigh, which existed for a few weeks, and said that plaintiff had soreness over the lower part of the abdomen and other physical troubles peculiar to women; that she became depressed, morbid, melancholy, and hysterical; and that she had a sense of suffocation, and suffered from a loss of memory, morbidness, brooding, worry, and fear that some calamity would happen. The physician was asked: "Have you an opinion whether or not Mrs. Schlauder is or is not permanently injured as a result of that accident?" This question was objected to on the ground that it placed the doctor in the position of the court and jury to determine one of the issues in the case. The objection was overruled by the trial judge, but the Supreme Court in reviewing the case held that the objection was valid and should have been sustained. Mr. Justice Cartwright, speaking for the court, said:

The rule is that a witness cannot be permitted to give his opinion on the very fact which the jury is to determine. . . . In City of Chicago, v. Didier, 227 Ill. 571, it was explained that, where there is a conflict in the evidence as to whether the plaintiff was injured in the manner asserted, it is not competent for witnesses to give their opinions on that subject; but in that case there was no dispute as to the manner and cause of the injury, nor any dispute that the injury to the plaintiff's knee was caused by the fall. Inasmuch as there was no controversy on those questions, it was not considered improper to ask the doctor what he would say was the cause of the condition in which he found the knee. There was the same admission in Chicago Union Traction Co. v. Roberts, 229 Ill. 481, and Fuhry v. Chicago City Ry. Co., 239 Ill. 548. That was not the case here . . . while it was not denied that plaintiff fell, the fact that she was injured was disputed, and the evidence for the defendant tended to prove that she was not injured. Two physicians testifying for defendant, in answer to hypothetical questions embracing conditions and symptoms testified to by the plaintiff's doctor, gave it as their opinion that they had no relation to or connection with the accident. Under the rule stated in the Didier case, the ruling was wrong.

The principle upon which the courts will determine whether a physician's opinion as to the cause of a particular condition is admissible or not, is clearly set forth in this case, but to determine just where correctly to draw the line between opinions which trespass upon the functions of the jury and those which do not, is often very difficult, and apparently gives the courts as well as the lawyers considerable trouble. Several cases of this character were presented in the JOURNAL for March 2d.

News Items.

A Central Bureau of Medical Literary Information.—Doctor Berger, of Berlin, announces that he has opened a central bureau of medical information of a literary nature, at 12 Knaustrasse, Berlin-Friedenau, Germany, in which will be found an interesting and comprehensive collection of medical literature, in English, Esperanto, French, Italian, Polish, Russian, Swedish, and Spanish. This bureau will be of great assistance to research workers, and to writers who wish thoroughly to acquaint themselves with the literature of their subject.

Medical Association of the Greater City of New York.—The following programme has been arranged for a stated meeting of this association, to be held at the New York Academy of Medicine on Monday evening, April 15th; A Brief Exposition of Abbott's Method of Correcting the Fixed Spinal Curve, by Dr. Dexter D. Ashley; The Female Perineum from a General Surgeon's Standpoint, by Dr. Robert T. Morris; Surgery from the Pediatric Standpoint, by Dr. Le Grand Kerr. Among those who will participate in the discussion are Dr. Godfrey R. Pisek, Dr. Robert T. Morris, Dr. Thomas S. Southworth, and Dr. William Francis Campbell.

A Call to Anesthetists.—With a view to the organization of a national association of anesthetists, either as a section of the American Medical Association or as an independent body, the New York Society of Anesthetists has issued a call to all anesthetists in the United States and Canada to meet in Atlantic City during the coming session of the American Medical Association, June 4th to 7th. On June 4th a meeting will be held for purposes of organization, at which time officers will be elected, and committees appointed to determine the character and scope of the proposed society. The programme of the American Medical Association includes a symposium on anesthesia, under the auspices of the Section in Pathology and Physiology, on June 6th. For further information regarding this matter address the secretary of the New York Society of Anesthetists, Dr. H. A. Sanders, 864 St. Johns Place, Brooklyn. Dr. James T. Gwathmey, 40 East Forty-first Street, New York, is president of the society.

Medical Reciprocity in Pennsylvania.—The Pennsylvania State Bureau of Medical Education and Licensure, created by the Legislature last year, has sent to every State in the Union the agreement on reciprocity on medical practitioners' licenses which it offers to other States. Reciprocity is to apply only to holders of diplomas from medical schools recognized as in good standing by the licensing authorities of the State in which the candidate seeks the right to practise. The bureau advocates a decrease in the number of medical schools, and an absolute standardization of entrance requirements.

New Officers of the American Urological Association—At the eleventh annual meeting of the American Urological Association, held in New York on April 3d, under the presidency of Dr. Louis E. Schmidt, the following officers were elected for 1912-1913: Dr. Granville MacGowan, of Los Angeles, Cal., president; Dr. J. Bentley Squier, of New York, vice-president; Dr. H. A. Fowler, of Washington, D. C., secretary, and Dr. H. G. Fuller, of Washington, D. C., treasurer. The Executive Committee comprises Dr. N. Wheeler, of Lexington, Ky.; Dr. F. Lyons, of Denver; Dr. M. Bronner, of New York; Dr. G. Kolischer, of Chicago, and Dr. H. Hagen, of Washington, D. C.

American Association of Pathologists and Bacteriologists.—The twelfth annual meeting of this association was held in Philadelphia on April 4th, 5th, and 6th. Immediately after the meeting was called to order, officers for the ensuing year were elected as follows: President, Professor Herbert U. Williams, University of Buffalo; vice-president, Professor J. J. MacKenzie, of Toronto; treasurer, Professor F. B. Mallory, of Boston; secretary, Professor H. C. Ernst, of Boston; councillors, Dr. W. H. Park, of New York; Professor Leo Loeb, of St. Louis, and Professor E. R. LeCount, of the University of Chicago. An interesting programme was presented on subjects relating to pathology and bacteriology. Professor A. S. Warthin, of the University of Michigan, read a paper on tapeworm, and a new treatment for hydrophobia was presented by Dr. L. D. Harris, city bacteriologist of St. Louis.

American Association for Cancer Research.—The fifth annual meeting of the American Association for Cancer Research was held in Philadelphia on April 3d and 4th. Physicians from various parts of the United States, who have made a special study of cancer, read papers on the results of their investigations, reports were read concerning research work during the past year, and interesting discussions took place. Many lantern slide demonstrations were made. Among those who contributed to the programme were Dr. R. A. Lambert, Dr. Isaac Levin, Dr. G. H. A. Clowes, of Buffalo, Dr. E. R. LeCount, of Chicago, Dr. Peyton Rons, Dr. James B. Murphy, Dr. W. H. Sytler, Dr. Leo Loeb, and Dr. Moyer S. Fleisher, of St. Louis; Dr. E. E. Tyzzer, of Boston; Dr. Edwin F. Smith, of Washington; Dr. Harvey R. Gaylord, of Buffalo, and Dr. S. B. Wolbach, of Boston. Dr. E. E. Tyzzer, director of cancer research at Harvard Medical School, was elected president, Dr. Leo Loeb, of St. Louis, vice-president, and Dr. S. B. Wolbach, of Harvard, secretary.

Personal.—Dr. Joseph A. Blake, of New York, was operated upon for appendicitis on Saturday, March 30th. It is reported that he is making a rapid recovery.

Dr. H. U. Williams, professor of pathology and bacteriology in the medical department of the University of Buffalo, has been appointed acting dean of the department, preliminary to the appointment of a successor to Dr. Matthew D. Mann, who has resigned on account of pressure of other duties.

Dr. William Sidney Thayer, associate professor of medicine at Johns Hopkins University, has been called to a chair at Harvard Medical School. It is reported that Doctor Thayer has decided to remain in Baltimore.

Dr. Thomas McCrae, associate professor of medicine and clinical therapeutics in Johns Hopkins Medical School, has accepted the chair of medicine at Jefferson Medical College, Philadelphia. Doctor McCrae will sever his connection with Johns Hopkins at the end of the present scholastic year, and assume his new duties in October.

Dr. John W. Russell has been appointed superintendent of the Matteawan State Hospital for the Criminal Insane. He has been acting superintendent of the institution since Dr. James V. May resigned to become head of the State Lunacy Commission.

Postgraduate Work for Peruvian Physicians.—The Government of Peru has made arrangements for sending two physicians to Europe each year for postgraduate work in special branches of medicine. The candidates will be chosen by the faculty of medicine of the University of Lima from the members of the graduating class who have attained the highest averages in their studies, and who must be in good health. A monthly allowance of twenty pounds each for a period of two years will be granted by the Government to the successful candidates, together with transportation to and from the place of study.

Changes in the Faculty of Tufts Medical School.—At a recent meeting of the Board of Trustees of Tufts Medical College, Boston, the following changes in the faculty were announced: Dr. William Merritt Conant, a member of the visiting staff of Massachusetts General Hospital, appointed professor of clinical surgery; Dr. William Allen Brooks, Jr., appointed assistant professor of clinical surgery; Dr. Frederick M. Briggs, formerly professor of clinical surgery, appointed professor of surgery. Other additions to the staff will be announced in the near future.

Many Failures at State Board Examinations in Illinois during 1911.—According to the latest report of the Illinois State Board of Health, of 646 candidates who appeared for examination during the year 1911, only 432 received licenses to practise, the remaining 214, or about 33 per cent., having failed to meet the requirements. This is the highest percentage of rejections in the history of the State Board of Health, and shows that the standard of medical requirements is constanly being raised. In the matter of rejections, however, the Illinois State Board of Health for several years has led other State boards with practically equivalent requirements. Of 179 osteopaths and other "drugless healers" who presented themselves for examination only 61 were successful. Osteopathy has no official recognition in Illinois, and the examination given them is the same as that taken by other classes of "drugless healers," and covers no form of treatment. In thirty-eight States osteopathy is specially legalized, and in eighteen there are State Boards of osteopathic examiners.

The Late Dr. John S. Hawley.—At a meeting of the Hospital Graduates' Club, held on the evening of March 28th, the following minute was adopted:

The Hospital Graduates' Club desires to place on record its sense of loss in the death of Dr. John S. Hawley, who was one of the corporate members of the organization, having been transferred, at his own request, to the associate list in March, 1891. Though he had not been able to meet with the club of late years, on account of ill health, his colleagues entertained lively recollections of his many admirable traits of character. He hated all pretense and professional bombast, was the soul of honor, and was ever ready to help those less fortunate than himself. He was also possessed of a keen wit, and was ever ready to contribute to the success of the social affairs of the club. Some of Doctor Hawley's contributions are memorable in the literary efforts of the local medical profession. His genial personality, good fellowship, and lovable traits of character will always be remembered.

Therefore, be it resolved that this minute be entered in full on the club's records, that it be published in the local medical journals, and a copy be sent to the bereaved family.

Signed: James E. Newcomb, Arthur B. Townsend, William Kelly Simpson, } Committee.

Annual Meeting of the Medical Society of the State of New York.—A preliminary programme has been issued for the 106th annual meeting of the Medical Society of the State of New York, which will be held in Albany on Tuesday, Wednesday, and Thursday, April 16th, 17th, and 18th, under the presidency of Dr. Wendell C. Phillips, of New York. An invitation is extended to all physicians in good standing to attend this meeting, whether members of the society or not. The meetings which are open to the public are: The Oration in Medicine, on The Relation of Exact Science to Medicine, by Dr. Harvey W. Wiley, of Washington, D. C., on Tuesday noon; the addresses on the Prevention of Blindness, by Dr. G. E. de Schweinitz, of Philadelphia, the Prevention of Deafness, by Dr. G. Hudson-Makuen, of Philadelphia, the Prevention of Insanity, by Dr. Albert Warren Ferris, of New York, and the Prevention of Tuberculosis, by Homer Folks, Esq., of New York, on Tuesday evening; Oration on the Benefits of Vivisection to Mankind, by Dr. Walter B. Cannon, professor of physiology in Harvard Medical School, on Wednesday evening; and all the papers in the Section in Public Health, on Tuesday afternoon. All other meetings are strictly medical and are open to the medical profession only.

The American Hospital Association.—An interesting feature of the next meeting of this organization, which will be held in Detroit, on September 24th, 25th, 26th, and 27th, is an exhibit of useful hospital appliances and devices. It is the desire of the association to make this exhibition, which is noncommercial in character, as complete as possible, and each worker in every hospital connected with the association is invited to contribute to it. Practical things, useful appliances or devices which lighten labor, add to safety or comfort, or promote economy or efficiency in any way in any department of any hospital, and articles not ordinarily listed in catalogues are particularly desired. Miss C. A. Aikens, of Detroit, is chairman of the committee, and she will be glad to furnish complete information regarding the exhibit.

Representing America at the Tuberculosis Congress at Rome.—The Secretary of Agriculture has dispatched to Rome Dr. E. C. Schroeder, of the agricultural experiment station at Bethesda, Md., the well known bacteriologist, with credentials constituting him an official representative of the government, by appointment of the President. The senior delegate from this country is Nathan Straus, and the medical profession is represented by Dr. E. G. Otis, of Massachusetts. Recently six delegates were added to the list commissioned by the President. These are the representatives of the National Association for the Study and Prevention of Tuberculosis, headed by Dr. H. B. Jacobs, of Baltimore, and Dr. Livingston Farrand, of New York, the secretaries of that association.

Class Reunion of New York University.—On the evening of Wednesday, April 3d, the twentieth reunion and banquet of the class of 1892 of the Medical Department of New York University was held at the Hotel Martinique. The class originally numbered 162, of whom 153 survive. Dr. Robert E. Coughlin, of Brooklyn, acted as toastmaster, and among those who responded to toasts were Dr. Seymour Oppenheimer, Dr. G. H. Dowsey, Dr. Warren Coleman, Dr. J. F. Hagerty, of Newark, N. J., Dr. Henry Lyle Winter, of Cornwall, Dr. S. C. Miner, Dr. John H. Rose, of Hartford, Conn., Dr. H. C. Sherer, of Norwalk, Conn., Dr. W. H. Dunning, of Grand Rapids, Mich., Dr. L. Pierce Clark, Dr. Frederick C. Holden, of Brooklyn, Dr. J. Emmet Taylor, Dr. E. C. Krees, of Brooklyn, Dr. W. J. Brady, and Dr. Sigmund Beck, of Brooklyn. Others present were Dr. G. B. Campbell, Dr. J. M. Gillett, Dr. S. Goldstein, Dr. L. Hahn, Dr. A. Hymanson, Dr. J. C. Johnston, Dr. R. Lewy, Dr. J. Long, Dr. W. S. Reynolds, Dr. J. P. Sheridan, Dr. C. T. Siefert, Dr. M. J. Silberman, Dr. E. Specht, Dr. J. S. Stetson, Dr. G. Van Vranken, and Dr. J. W. Woods. At the close of the dinner a silent toast was drunk to the old university, its professors and teachers, and the absent members of the class.

International Association of Medical Museums.—The fifth annual meeting of this association was held in the medical laboratories of the University of Pennsylvania on April 4th and 5th, under the presidency of Dr. A. S. Warthin, of the University of Michigan. Action looking toward the establishment of a great central museum in the United States was taken, and a special committee, consisting of Dr. Leo Loeb, of St. Louis, Dr. Thomas Ordway, of Harvard University, and Dr. H. E. Robertson, of the University of Minnesota, was appointed to investigate the feasibility of such an institution. Doctor Warthin and Dr. Maude Abbott, of Montreal, are ex officio members of this committee. An interesting feature of the programme was a demonstration of the ravages of occupational diseases. The next meeting of the association will be held in London, England, in August, 1913. Dr. Arthur Keith, of London, will act as honorary president at that time, but the actual officers will remain as follows: President, Dr. A. S. Warthin, University of Michigan; first vice-president, Professor G. Sims Woodhead, of Cambridge, England; second vice-president, Professor Edmond Souchon, Tulane University, New Orleans; third vice-president, Professor J. Ludwig Aschoff, of Freiburg, Germany; secretary-treasurer, Dr. Maude E. Abbott, McGill University, Montreal; assistant secretary, Dr. Joseph Kaufmann, McGill University.

Meetings of Local Medical Societies.—The announcement of meetings of local medical societies to be held during the coming week will be found on page 779 of this issue. It was transferred from this department on account of lack of space.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

March 28, 1912.

1. A. E. Austin: Masquerades of Chronic Cholelithiasis.
2. E. E. Southard: Geographical Distribution of Insanity in Massachusetts.
3. Oliver A. Lothrop: Suturing as a Substitute for Splints after the Submucous Resection of the Nasal Septum.
4. Barbara T. Ring: Psychopathic Nursing.
5. Frederic J. Colton and Walter M. Boothby: Warning in Regard to Endotracheal Insufflation Anesthesia; the Necessity of a Safety Valve.
6. Harry W. Goodall: Method for Detecting Bile in Stomach Contents.

2. Geographical Distribution of Insanity in Massachusetts.—Southard's paper is one that can be studied with a great deal of profit. The mere statement of his findings can hardly convey their great significance. He finds a somewhat markedly uneven distribution of insane commitments classified by counties, the ratios ranging from 4.2 per 1,000 in Dukes County to 9.4 in Suffolk County. The classification by towns reveals a surprisingly uneven distribution of first commitments. Though towns as a whole show a lower ratio (5.7 per 1,000) than cities (7.6), yet twenty towns equalled or excelled the highest city ratio, 10.1. Ten of these twenty towns had ratios of from 12.5 to 20.8 per 1,000. There are twelve towns from which no insane have been committed during the decade 1901 to 1910. Three of these are on Martha's Vineyard; of the others all but two are west of the Connecticut River and are either in or adjoining Berkshire County. Seven of these towns are therefore in the Berkshire Hills region, characterized by a general level of 1,800 feet above the sea, narrow but fertile valleys. No Berkshire town yields a percentage approaching those of the maximal town percentages, and he finds the regional occurrence, studied comparatively in these two groups of zero and maximal commitment rate, to be roughly suggestive. None of the maximal towns is west of the Connecticut River and none on the sea coast. None of the twelve zero towns produced in the same decade any committed cases of insanity, feebleminded-ness, epilepsy, or inebriety. The towns with maximal insanity percentages have produced other so called forms of degeneracy in all cases but two. In the twelve zero or, as he terms them, "eugenic" towns there were twenty-four social defectives (eight per 1,000). In the twelve cacogenic towns chosen to compare with the former there were 310 (twenty per 1,000). This difference is still sharper when we consider that twelve of the twenty-four social defectives in the eugenic towns were from a single town, eleven neglected male children, and one pauper. The general medical and social status is rather worse in the cacogenic than in the eugenic towns. The total population of the twelve eugenic towns is far smaller than that of the cacogenic towns. That of the former is slightly decreasing, that of the latter slightly increasing. In conclusion, Southard advocates intensive locality studies and the collection of social statistics through every channel. If there is a statistical correlation between insanity, crime, pauperism, and disease, there may be a deeper causal relation between some of these factors.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

March 30, 1912.

1. William C. Gorgas: Sanitation of Panama.
2. Shepherd I. Franz: The Present Status of Psychology in Medical Education and Practice.
3. Adolf Meyer: Value of Psychology in Psychiatry.
4. E. E. Southard: Psychopathology and Neuropathology: Problems of Teaching and Research Contrasted.
5. John D. Watson: Content of a Course in Psychology for Medical Students.
6. Morton Prince: New Psychology and Therapeutics.
7. Robert A. Hatcher: Effects on the Heart of "Soluble Digitoxine," Cloetta.
8. L. W. Crigler: Trachoma: Its Etiology and Treatment.
9. Frank C. Yeomans: New Pneumoelectric Proctoscope and Sigmoidoscope.
10. Addison G. Brenizer: Gastroenterostomy: Technique of the Operation with Use of New Instrument.
11. Ernest E. Irons: Cutaneous Reaction in Gonococcal Infections.
12. Philip A. Sheaff: Oxyuris Vermicularis, or Common Seat Worm.
13. H. H. Thompson: Milk Borne Typhoid Epidemic.
14. F. Webb Griffith: Value of Cystoscopy in Surgical Diseases of the Kidney.
15. W. H. Bodenstab: Acute Lymphatic Leuchemia.
16. James L. Whitney: Phenolsulphonephthalein Test of Renal Insufficiency.

1. Sanitation at Panama.—Gorgas prefaces his paper with a description of the geography and topography of the isthmian zone and a succinct history of conditions holding when the United States took charge in 1904. For four hundred years, from the year 1520, when the route across the Isthmus was first established, until 1904 this isthmus had been considered the most unhealthy spot in the world, as the mortality records prove. Yellow fever, malarial fever, and dysentery are endemic at Panama, and unacclimated persons, waiting or passing through that region, paid heavy toll to these endemic diseases. The present railroad across the Isthmus was constructed in 1850 to 1855. The mortality was so great during this period that work ceased because the laborers had either died or were sick. One thousand negroes from the West Coast of Africa imported as laborers all died off within six months. These were replaced by an equal number of Chinamen, who met the same fate in the same period of time. When the work on the French canal was at its height (1881 to 1889) unacclimated persons in large numbers came to the Isthmus. The mortality among them was excessive. During the construction period of the old French company (1881 to 1889) 5,618 employes died in the hospitals, although the hospitals were of the best and the sick had the best care. Within these years (1881 to 1889) the French lost 22,189 laborers by death, a rate of more than 240 per mille in a year. The French, with an average force of 10,200 men, lost in nine years 22,189 men; we, with an average force of 33,000 men, in nearly the same time had lost less than 4,000. In the early period our maximum rate was 40 per 1,000; our present mortality is 7.50 per 1,000, the great fall being due to the great discoveries in tropical medicine and our improved methods of sanitation. The expenses of sanitation on the Isthmus have been about $365,000 per annum, which for a population of 150,000 means an expenditure of about one per cent. per capita per diem.

2. Present Status of Psychology in Medical Education and Practice.—Franz says that the profession, though long asleep, are gradually awakening to the importance of an understanding of mental matters. The proportion of one insane to 300 of the general population, the success of the

nonmedical healers (Christian scientists, mind curists, chiropractics, emmanuelists, etc.) are strong reasons for the attention of the profession to psychology, while the success of the nonmedical healers has made clear the influence of the mind in the alleviation of abnormal conditions. Our appreciation of psychological matters has been further increased by a realization of the occurrence of hysteriform, neurasthenic, and degenerative mental states in the sick, the delinquent, and the criminal. The realm of psychological knowledge cannot be gainsaid, either as an aid to diagnosis or as a help in planning our treatment. Various methods of psychotherapy have been advocated in the past years from suggestion alone, to hypnosis, suggestion, and persuasion. At present the Freudian method of psychoanalysis is in vogue. Franz closes with the thought that students of medicine should at least obtain an elementary knowledge of the mental processes, that the graduate may be prepared to appreciate the power of mind for health or sickness, that he may be prepared to treat many of the patients who now successfully seek the services of charlatans.

MEDICAL RECORD

March 30, 1912.

1. Simon Baruch: The General Practitioner in the Development of Appendicitis Management.
2. Aristides Agramonte: So Called Parasite of Yellow Fever (Seidelin).
3. Freeman F. Ward: The "Karnell Kur."
4. Charles H. Duncan: Gonorrhea: Its Prevention and Cure by Autotherapy.
5. Harold W. Wright: Some Individualized Aspects of Preventive Medicine.
6. J. Bayard Clark: When Cystitis Is not Cystitis.
7. Harry W. Lincoln: Abortive Typhoid

1. The General Practitioner in the Development of Appendicitis Management. — Baruch gives a history of his experience with appendicular cases from the early eighties down to the present time. During the early eighties he recorded seven severe cases of perityphlitis, four of which ended in recovery and three proved fatal. These three deaths convinced him that laparotomy was indicated whenever perforation was threatened as established by a sufficiently positive diagnosis, and further that it was advisable to open the peritoneum when local or perhaps diffuse peritonitis was evident, the latter for the reasons that the disease runs a rapid and fatal course and that the usual treatment was of no avail. From this point on, he became a believer in early surgical interference and he relates the serious conditions found in patients with apparently light symptoms and the fatal issues where operation was delayed. In only one case operated in was the appendix found normal. His advice now, as a general practitioner, in acute appendicitis is: "When in doubt, operate."

4. Gonorrhea: Prevention and Cure by Autotherapy.—Duncan asserts that every patient suffering from gonorrheal urethritis carries with him, in the discharge, the cure for it. The new method of cure is similar in its application to the method of preventing and curing sepsis. "It consists in placing the crude autogenous discharge of the disease on the patient's tongue." The author asserts a strong curative tendency, in any stage of the disease, for this method of treatment, and that it will abort gonorrhea if given early enough. Another method of applying the treatment is suggested by the author, that of filtering out the bacteria with a Berkfeld filter from the discharge, or a solution of the gonorrheal discharge and injecting the filtrate hypodermically. Convinced from observation and experiment that the possibility of gonorrheal infection of the mouth is so slight as to be negligible, he tried the first method of cure in three cases the history of which he records. He mixed the gonorrheal discharge with powdered sugar to the consistence of a thick paste, of which he gave the patient about one c.c. by the mouth, telling him to hold it there for five minutes before swallowing it. Two more doses were given at half hour intervals and instructions to place any and all discharges he was able to obtain from his urethra on his tongue. On the tenth day all evidence of the disease had disappeared.

6. When Cystitis is Not Cystitis.—Clark enumerates the "hoary symptoms our forefathers have handed down to us as a guide to the recognition of cystitits." He points out that these same symptoms are present in many other disorders of the urinary tract. He advises that we employ all known means and methods in forming our diagnosis, including the use of the urethroscope, cystourethroscope, or the cystoscope and the radiograph. In closing his paper he emphasizes three points: A diagnosis of cystitis should not be made from the presence of frequent urination, pain, and pyuria, especially if the case is of a chronic character; when vesical irrigations do not cure the trouble, it should not occasion surprise; and, finally, if there is reason to believe that cystitis is present, the underlying cause should be ascertained before beginning treatment.

LANCET-CLINIC.

February 24, 1912.

1. Dean Loree: Calculous Anuria.
2. E. O. Smith: Relation of Renal Activity to Surgical Operations.
3. Estill D. Holland: Rational Treatment of Syphilis.

March 2, 1912.

4. William C. Rucker: Eradication and Prevention of Bubonic Plague.
5. R. M. Grimm: Pellagra.
6. E. M. Hummell: Treatment of Cerebral Hemorrhage.
7. J. H. Carstens: Importance of Proper Feeding after Celiotomy.

March 9, 1912.

8. Benj. L. W. Floyd: Our Social and Moral Scourge.
9. Irvin S. Koll: Colon Bacillus Infections of the Urinary Tract.
10. Kennon Dunham: How to Fulfill the Purposes of the Ohio Association of Medical Teachers.

March 16, 1912.

11. W. J. Means: Relation of Medical Colleges toward One Another and Medical Education in General.
12. L. K. Hirshberg: Experimental Obstruction and Hormone Therapy.
13. Frederick Tice: Concerning Digitalis.
14. W. S. Ehrich: Test for Renal Function.
15. William F. Waugh: Prevention of Venereal Disease.

March 23, 1912.

16. Charles S. Rockhill: Pathological Physiology of Tuberculosis.
17. Sylvio von Ruck: Importance of an Analysis of Symptoms in Pulmonary Tuberculosis.
18. Jewett V. Reed: Conservative Treatment of Surgical Tuberculosis.
19. Philip F. Shaffner: Present Status of Antisyphilitic Treatment.

March 30, 1912

20. W. E. Moseley: Autopsies as an Aid in Teaching Special Pathology.
21. R. G. Hoskins: Correlation of Clinical Teaching and Physiology.
22. B. F. Lyle: Early Diagnosis of Pulmonary Tuberculosis.
23. D. D. De Neen: Surgical Cholecystitis.

2. Relation of Renal Activity to Surgical Operations.—Smith thinks the success of a major operation is dependent upon the activity of the kidneys, excluding faulty technique and bad judgment on the part of the operator. If the renal function is normal, as shown by the phenolsulphonephthalein

test of Rowntree and Geraghty, and there are no other contraindications for operation, the period of preparation need cover no more than a couple of days. If acidosis is produced by muscular activity, it will be diminished by the rest. The diet during this period should consist of easily digested, nutritious food, containing few proteids, and plenty of drinking water. Copious purging with salines immediately before the operation should be avoided, as it depletes the system of needed fluid, but the intestinal tract should be thoroughly but gently emptied by means of castor oil the day before and an enema a few hours before the operation. Until the time of operation the patient is allowed to drink freely of water. As to anesthetics, ether is generally preferred, but in old people and those having a bad heart or kidneys, nitrous oxide-oxygen is the anesthetic of choice. Rapid operation diminishes the shock. Postoperative attention should be directed toward sustaining renal activity; oxygen inhalations should follow anesthetic closely and in old people and bad risks, should be continued for several hours. The same class of patients should receive hypodermoclysis of at least two pints of alkaline solution, and when put to bed proctoclysis of saline solution should be started and continued for several hours, and repeated at intervals for several days if there is any evidences of renal failure. When the patient awakens from the anesthetic he receives hot water and plenty of it. When anuria does occur, intravenous saline injections, diaphoresis, and morphine will be found useful. For immediate relief of postoperative anuria, Fischer's alkaline solution is most efficacious.

9. **Colon Bacillus Infections of the Urinary Tract.**—Koll calls attention to the fact that ninety per cent. of the cases of acute and chronic inflammations of the urinary tract are due to the colon bacillus which invades the tissues by three routes: Through the urethra into the bladder; hematogenous or lymphagenous; through the cellular tissue of the bowel. The author reports the history of twenty-seven cases which showed that a two per cent. dilution of liquor aluminum acetate (N. F.) is an active germicidal and antiseptic agent to the colon bacillus and the colon group of bacteria, having no deleterious action on the mucous membrane of the urinary tract. The internal administration of the subacetate of aluminum increases the total acidity of the urine, a desirable feature when dealing with the colon bacillus infections of the urinary tract. His clinical conclusions were that the two per cent. liquor aluminum acetate is the best therapeutic agent in these conditions, the bacteria in the urethral discharge disappearing in from twenty-four to forty-eight hours following the instillation of the solution, but other astringents may be required to "dry up" the discharges. As an excess of free acetic acid will produce unpleasant subjective symptoms, care should be exercised in the preparation of the liquor aluminum acetate; moreover, the solution should not be used if more than seven to ten days old. Finally, the presence of the colon bacillus, proved by culture made under the most aseptic precautions, is the only valuable indicator for the use of this solution.

14. **Test for Renal Function.** — Ehrich finds that a reliable test for renal functional activity must have the following qualifications: The injection of a substance having no affinity for any tissue in the body; the substance must be wholly excreted by the kidney; and this substance must be excreted within a known and reasonably short time. The substance fulfilling these conditions is phenolsulphonephthalein, of which 0.006 gramme in solution is injected intramuscularly, the color appearing in the urine after the lapse of ten to twenty minutes. The full technique is given by the writer.

16. **Pathological Physiology of Tuberculosis.**—Rockhill finds that the subjective symptoms which cause the patient to present himself for treatment are lost appetite, with abdominal pain, constipation alternating with diarrhea, lost weight, general malaise, cough, change in voice (slight huskiness to complete aphonia), laryngitis, hemorrhage, chest pains, and pleurisy with effusion. The objective symptoms in early tuberculosis are rapid pulse, low blood pressure, subnormal temperature, or slight rise, dyspnea upon exertion, cyanosis, lost weight, general fatigue. All these symptoms, says the writer, can be accounted for by the action of the toxines upon the vasomotor centre, producing dilatation of the peripheral arteries. The heart pumping against wide open arteries results in a rapid pulse with low blood pressure and very sluggish circulation. Deficient oxygenation ensues with an accumulation of carbonic acid gas, acid potassium phosphate, and sarcolactic acid. The dyspnea and muscle fatigue (tired feeling) are the normal physiological results of the presence of the carbonic acid in excess and the acid product of metabolism. Insufficient oxidation and increased radiation caused by the blood passing slowly through the skin produces the subnormal temperature, cyanosis, and chilliness.

22. **Early Diagnosis of Tuberculosis.**—Lyle makes a strong plea for a systematic consideration of the subject. In addition to the family and personal history of the patient and a record of the subjective symptoms, the general conditions should be noted as to temperature, pulse, blood pressure, and weight. An examination of the sputum, blood, urine, and feces should be made, together with an examination for the presence of antagonistic elements in the blood and tissues, and, finally, an x ray examination. The author, in conclusion, states that we possess no easy method for the early diagnosis of this disease and relies chiefly upon the stethoscope, with the thermometer and microscope as valuable assistants.

BRITISH MEDICAL JOURNAL

March 23, 1912.

1. T. Clifford Allbutt: Heart Failure.
2. William Russell: Estimation of Heart Power.
3. C. W. G. Bryan: Serum and Vaccine Therapy in Diseases of the Eye. (*Lecture II.*)
4. J. M. H. Munro: Addison's Disease Treated with Tuberculin.
5. A. T. Jones: Eighty-six Cases of Pneumonia.

1. **Heart Failure.**—Allbutt calls attention to the little appreciated fact that in no organ is the lack of concord between the signals of life and death so disconcerting as in the heart; that in no other structure is the factor of safety or the reserve

force so capacious as in the heart, yet of this reserve we have no scientific measure. Allbutt takes up seriatim the different pathological states of the heart, and shows that we have no criterion either in clinical tests or in pathological findings, by which we are enabled to judge accurately the potentiality of a heart subjected to any one of the conditions. Even in the case of lesion of certain tracts, such as the tracts of Tawara, an altered rhythm is not an essential accompaniment. The pulse is no guide to myocardial disease. Sphygmomanometrical observations have not yet proved of use in the detection of myocardial lesions. Perhaps the most ominous sign of this form of cardiac disease is a permanent increase in the rate of the pulse above that known to be normal to the individual. Precisely the same conditions of doubt and uncertainty are seen in the estimation of the cardiac condition on the post mortem table and hearts that are seemingly sound both gross and microscopically may have been those which have failed suddenly, while an extensively diseased one may have carried on its duties to the end without having manifested any sign of defect.

3. Serum and Vaccine Therapy in Diseases of the Eye.—Bryan continues his discussion of the success of these measures and considers the external and internal diseases due to infection by such organisms as the pneumococcus, the gonococcus, various forms of the streptococcus and staphylococcus, bacillus coli, and even the bacillus of Morax-Axenfeld. In nearly all of the cases, if the treatment with vaccine is begun early, the results are good. In the case of the gonococcal infections the production of an autogenous vaccine is almost out of the question, and here we must be content with the use of a multivalent stock vaccine. As an accessory to vaccine treatment the use of local light treatment by the cadmium zinc lamp is of value to increase the circulation through the parts. It is also believed to have bactericidal properties. Cowpox vaccine has been used successfully in the treatment of trachoma.

4. Addison's Disease Treated with Tuberculin.—Munro reports a case of this disease in which he suspected tuberculosis to be the cause on account of the frequency of this disease as a cause and because the patient's sister had died of tuberculosis. The patient was treated in the usual climatic and general hygienic way, and in addition received several courses of tuberculin injections, with the result that she has been in good health and able to perform rather arduous duties for a period of fifteen months past.

5. Eighty-six Cases of Pneumonia.—Jones reports this series from his own private practice, and it forms an excellent example of the mortality of the disease when not under hospital conditions. His mortality was twenty-six per cent., the lowest death rate was in cases between ten and twenty years of age, the highest over sixty years. In the series there were two instances of direct infection. In each of two families there were three cases of the disease developing within a few days of each other, the later ones being in those who had been nursing the first case. Jones divides his cases into two groups, the first of which comprises thirty-six patients, to whom alcohol was given. In this series the mortality was thirty-eight per cent. The second group of fifty patients had no alcohol, and the mortality was but eighteen per cent.

LANCET

March 23, 1912.

1. F. A. Bainbridge: Paratyphoid Fever and Meat Poisoning. (*Lecture II.*)
2. Arthur Keith: Phases in the Evolution of Man.
3. W. C. Sullivan: Feeblemindedness and the Measurement of the Intelligence.
4. G. W. Badgerow: Pharyngeal Suppuration.
5. E. F. Clowes: Acute Myelitis with Optic Neuritis.
6. W. H. Battle: Decorative Surgery.
7. E. B. Waggett and E. D. Davis: Pharyngeal Diverticulum.
8. P. J. Cammidge: Dietetic Treatment of Diabetes.
9. J. A. D. Radcliffe: Immediate Results of Sanatorium Treatment.
10. E. Gillespie: Intestinal Obstruction by the Appendix.
11. D. W. Buxton: C. W. Long, the Pioneer of Anesthesia.

1. Paratyphoid Fever and Meat Poisoning.—Bainbridge continues his discussion of these two allied diseases with a consideration of the distribution, epidemiology, clinical symptoms, etc., of paratyphoid fever (B). He summarizes the features of interest in the two forms of paratyphoid fever by drawing attention to the fact that there is no real distinction between them save the difference in the bacteria. The points of difference other than this are the varying response of the patient in the production of agglutinins in his serum and the fact that the carriers of the bacillus (B) are chronic rather than acute. Paratyphosus (B) often agglutinates typhoid bacilli up to dilutions of one to 300. He suggests that, owing to the widespread distribution of these diseases in India and elsewhere, isolation and prophylactic vaccination be adopted as measures of precaution. Apart from the clinical symptoms of meat poisoning there are two characteristics of such an outbreak. First the practically simultaneous onset of symptoms among those who have eaten a given article of food. Secondly the limitation of the illness to those who have partaken of the food. He calls attention to the lack of bacteriological evidence for the exclusion of organisms as the cause of most of the outbreaks of so called ptomaine poisoning, and believes them in most instances to have been due to one or another bacterium rather than to the development of ptomaines. He then proceeds to a brief description of the chief features of meat poisoning and holds them to apply to infection by either *Bacillus enteritidis* or *Bacillus suipestifer.*

3. Feeblemindedness.—Sullivan suggests the application of a slightly modified series of tests of the Binet and Simon type to the examination of feebleminded adults as a means of definite measurement of their intelligence. He begins with the table of Binet and Simon for the age of seven years and runs through that for the age of fifteen. He applied this method in the cases of twelve girl prisoners, half of whom were obviously of the average intelligence and the other half of an obviously weaker mental development. He found it to be not only an excellent measure of intelligence, but also that it served to throw much light upon the affectivity and the will of the subject.

8. Dietetic Treatment of Diabetes.—Cammidge prefaces this discussion by the remark that no routine treatment, however sound, can be applied in all cases; the metabolic powers of each pa-

tient must be experimentally determined and a diet must be worked out which is adapted to his peculiarities; the patient must be treated, not the disease. Three points as to the gravity of the case must be settled, first the patient's power of handling glucose. To determine this, he must be put upon a known diet for forty-eight hours and his sugar intake and output compared. One must also include in the sources of the intake sugar the amount which can be derived from the proteid. Inasmuch as 3.65 grammes of dextrose may be derived from one gramme of protein nitrogen, if the total urinary nitrogen is multiplied by 3.65, the result will represent the total amount of sugar that may possibly have been derived from proteid. Add to this the carbohydrate of the food and the total available sugar for nutrition will be known. A numerical guide to the severity of the case may be had in the coefficient of excretion which is obtained by the following formula:

$$\frac{\text{Total dextrose in urine} \times 100}{(\text{Total urinary nitrogen} \times 3.65) + \text{Food dextrose}} = \text{Coefficient of excretion.}$$

This coefficient may vary between 100 and 0, the former being the figure when there is a complete absence of tolerance for sugar, and the latter when the carbohydrate intake and metabolism are balanced. This also gives a means by which the progress of a case can be measured. Second, there are other metabolic disturbances to be considered, most important is that associated with imperfect oxidation of fat and proteins with the production of the acetone bodies and acidosis. The degree of the acidosis may be measured indirectly by the amount of ammonia nitrogen in the urine in twenty-four hours. Acidosis is not necessarily of grave prognosis and becomes so only when it is accompanied by a disturbance of nitrogenous metabolism in which more nitrogen is being excreted than is being absorbed. The diet is to be made up by individual experiment for each case and must provide approximately thirty-five calories daily per kilo of body weight. In a mild case as much carbohydrate and proteid is to be given as can be borne without the appearance of sugar in the urine, the balance is to be made up with fats. In very severe cases carbohydrate cannot be totally cut off, but must be reduced, the nitrogenous foods are to be cut down and meat is to be substituted in part by the vegetable proteids. Fat again makes up the balance of the dietary and as much as 200 to 300 grammes a day may be needed.

9. Immediate Results of Sanatorium Treatment.—Radcliffe summarizes his anyalsis of the benefits from simple sanatorium treatment and from this treatment combined with the use of tuberculin, under the following four headings: 1. As the immediate result of sanatorium treatment alone we can expect only from twenty to twenty-five per cent. of all patients to lose the tubercle bacilli from their sputum. 2. When the use of tuberculin is combined with sanatorium treatment at least fifty per cent. of all cases will lose their bacilli. 3. The earlier the cases come under treatment the better are the results. 4. The immediate results are so strongly in favor of the use of tuberculin that it is difficult to understand the opposition to its employment, both in treatment and diagnosis.

BULLETIN DE L'ACADÉMIE DE MÉDECINE.

February 20, 1912.

1. Pécus and Hayem: Comparative Pathology of the Several Varieties of Aerophagia.
2. E. Kirmisson: Persistent, Patulous Meckel's Diverticulum. Laparotomy and Excision. Recovery.

1. Aerophagia.—Hayem makes a distinction between aerophagia due merely to the swallowing of saliva (sialophagia) and true aerophagia. The former occurs in patients in whom gastric or gastroesophageal irritation leads, generally during the periods of greatest difficulty in the processes of digestion, to a reflex flow of saliva, which is swallowed more or less mixed with air, producing a characteristic sound in the region of the cardia. If the resulting tympanitic distention is exclusively gastric, the eructations induced are occasional, i. e., do not occur in groups or paroxysms; if the distention involves also the intestine, there is little or no eructation, the gases escaping almost entirely by the anus. Hayem finds sialophagia to be the most constant of all symptoms of chronic gastritis in any of its forms; it is also common in cases of ulcer and cancer. True aerophagia, with swallowing of air as such, is, on the other hand, comparatively rare; it is paroxysmal in nature, accompanied by noisy eructations, and constitutes a definite gastric neurosis. It is generally secondary to sialophagia, the neurotic factor and air swallowing habit being gradually added to the latter. In the less frequent cases where it is primary, the air swallowed may not reach the stomach at all, or, if it does, is at once expelled. Pécus finds that the several varieties of aerophagia occur in horses just as in man. Hayem believes that the increased flow of saliva characteristic of one form of aerophagia may be produced by esophageal irritation alone.

2. Persistent, Patulous Meckel's Diverticulum.—Kirmisson reports the case of a male child one month old, presenting at the umbilicus a rounded, somewhat pediculated tumor about 1.5 inch in diameter, at the summit of which were two orificial openings, one communicating with the gut and giving issue to fecal material. At operation the diverticulum was found to be less than 1.5 inch long. It was excised without difficulty, the child recovering. The author comments on the ease with which laparotomy and other extensive operative procedures are borne, even by very young children; it is absolutely necessary, however, that the infants thus to be operated upon should be breast fed.

February 27, 1912.

3. Hallopeau: Treatment of Syphilis.
4. Méhlière: Report on the Question of [illegible] Table Use.
5. Paul Fabre: Hypodipsia and Oligoposy.
6. Perroncito: Life Phenomena of Ascarides.

3. Treatment of Syphilis.—Hallopeau states that by repeated injections of hectine around the initial lesion in thirty-seven cases of syphilis, he prevented the appearance of secondaries in all but five instances; the patients were under observation for periods varying from eleven to forty months. Injections of this substance may, in cases with an idiosyncrasy, cause disturbances of hearing and sight; these should be carefully watched for, and the treatment at once discontinued if they appear.

5. **Hypodipsia.**—Fabre differentiates hypodipsia, or diminished ingestion of fluids, from oligopotism (oligoposy), or diminished thirst. He reports twenty-three cases of oligopotism—fifteen in women, eight in men—in which practically no fluids, except such water as was ingested with soups, fruit, sauces, etc., were taken for long periods of time.

LYON MEDICAL.

March 3, 1912.

1. Piéry: Treatment of Pulmonary Tuberculosis by the Production of Artificial Pneumothorax. (*Part I.*)
2. E. Duroux: Grafting the Pneumogastric Nerves. Bilateral Resection of the Pneumogastrics in the Dog.

March 10, 1912.

3. Piéry: Treatment of Pulmonary Tuberculosis by the Production of Artificial Pneumothorax. (*Part II.*)

March 17, 1912.

4. Louis Gallavardin: Partial Cardiac Obstruction; Spontaneous, and Giving Little Distress to the Patient. (*Part I.*)

March 24, 1912.

5. Louis Gallavardin: Partial Cardiac Obstruction, etc. (*Part II.*)

1 and 3. Treatment of Pulmonary Tuberculosis by the Production of Artificial Pneumothorax.—Piéry reports seventeen cases of pulmonary tuberculosis treated by this method, first described by Forlanini. This method, briefly, consists in the hypodermic administration of morphine (one sixth grain), a half hour before the operation proper, which is a puncture of the chest wall by a large size hollow needle, the end of which enters the pleural cavity. Through this needle by means of special apparatus from 300 c.c. to 800 c.c. of nitrogen is pumped into the pleural cavity. The immediate results of this operation in most cases are remarkable. There is a manifest improvement, and in many cases an arrest of the pathological process in caseous pneumonia and rapid phthisis, clinical forms of pulmonary tuberculosis in which evolution is quickly fatal and scarcely amenable to former modes of treatment. The operation, however, is not devoid of danger, for in the seventeen cases reported there were three cases in which subcutaneous emphysema occurred, in two cases mediastinal emphysema, in one case unilateral convulsions on the left side, and in one case immediate coma, with convulsive seizures and death in thirty-seven hours.

2. Grafting the Pneumogastric Nerves in Bilateral Resection of the Pneumogastrics in a Dog.—Duroux reminds us that section of the pneumogastric nerves on both sides, in the cervical portion, is fatal to the animal; death ensues in from two to six days. In the dog, the vasculonervous supply of the neck contains but one nerve, the sympathetic being intimately united to the pneumogastric, forming a single trunk, the vagosympathetic nerve. The writer resected fifteen mm. of the pneumogastric nerve on both sides of a dog's neck, and replaced the lost substance with portions of two sciatic nerves taken from another living dog. Eighteen days after operation the animal was not only alive, but in good condition.

PARIS MÉDICAL.

March 23, 1912.

1. Hayem: Teaching of Anatomy.
2. A. Gilbert and P. Descomps: Critical Erythema of Angina Pectoris.
3. Jeannin: Treatment of Placenta Prævia.
4. Jacoulet: Treatment of Acute Generalized Peritonitis.

March 30, 1912.

5. A. Mouchet and Ségard: Congenital Coxa Vara.
6. Macaigne and Pasteur-Vallery-Radot: A Hemolysinometric Standard.
7. André-Thomas: Isolation in Psychotherapy.
8. Dupuy: Auricular Vertigo.
9. Piatot: Increasing Diuresis in Cardiac Subjects.

2. Erythema in Angina Pectoris.—Gilbert and Descomps have noted an erythema, not described to their knowledge in the literature, which appears just as the crisis of angina is reached, over the face, chest, and front of the neck. The preliminary pallor of an attack seems to be well known, but not this concluding erythema. In the case which they describe the erythema began with a diffuse redness, extending over face, neck, and front and back of the thorax. Smaller and redder spots then became visible, which grouped themselves into islets; this latter appearance coinciding with the disappearance of pain and the usual feeling of well being. It is notable that this phenomenon is similar to that produced by inhalation of amyl nitrite. It resembles, moreover, a deep blush and has been noted by the writers only in women.

8. Auricular Vertigo.—Dupuy has succeeded in relieving this condition by applying for twenty to thirty minutes a bladder full of ice, over and just below the mastoid region, and giving strychnine to tolerance before the first two meals of the day.

9. Diuresis in Cardiac Subjects.—Piatot places his main reliance on digitalis, of which he prefers an alcoholic solution of crystallized digitalin, of which fifty drops represent one milligramme. A maceration of the leaves is his second choice. He gives it usually in small doses over long periods, but not in bedridden patients in whom symptoms of intoxication may supervene. Occasionally the author adds theobromine and subtracts salt from the diet. In some forms of acute asystolia, the amount of liquids ingested must be diminished. Intraperitoneal injections of strophanthine act quickly and efficaciously in cases complicated with hepatic sclerosis and ascites. In hypertensive nephritides he prescribes a régime of milk, or at least a dechlorized diet, with theobromine associated with sodium acetate or salicylate; he believes in the diuretic action of adonis vernalis.

PRESSE MÉDICALE

March 23, 1912.

1. L. Landouzy: Historical Evolution of Phthisiology.
2. M. Chiray and J. Bailleul: Urichemic Valvulitis

March 27, 1912.

3. H. Roger: Toxicity of Bile.
4. A. Cade and R. Leriche: Franke's Operation in Rebellious Tabetic Gastric Crisis.

2. Urichemic Valvulitis.—Chiray and Bailleul recall that the classical cardiac accidents of gout are divisible into functional and trophic; to the first division belong arrhythmia, palpitation, bradycardia, false angina; to the second cardiovascular sclerosis, chronic myocarditis, inflammation of the coronary arteries, and valvular lesions of arterial origin. Beside these, however, there has been noted a urichemic valvulitis, an infiltration of the valve tissues with urate crystals. This condition is found sometimes on the mitral valve, sometimes on the aortic, but never in the right heart, the organ being usually dilated or hypertrophied. Its nature is manifest under the microscope. Details

of a case of the authors follow. The development was slow and uneventful, without fever or symptom of infection, and left a marked mitral murmur. There was some shortness of breath and palpitation. The process of infiltration of the valves by the urates is obscure.

3. Toxicity of Bile.—Roger concludes from a series of experiments that the bile of a rabbit injected into an animal of the same species is not toxic. No trouble will be induced even if a quantity is introduced equal to the amount secreted in eight hours. This phenomenon is parallel with the benign nature of icterus caused by simple retention. Beef bile injected into a rabbit, on the other hand, is quite toxic, but a fatal dose depends on the dilution of the liquid and the speed of the injection. A preliminary injection of rabbit bile does not augment resistance to the toxic action of beef bile.

SEMAINE MÉDICALE.

March 27, 1912.

L. Cheinisse: Is Brill's Disease a New Morbid Entity?

Brill's Disease.—Cheinisse summarizes the literature of this subject, agreeing with the conclusions of Anderson and Goldberger that Brill's disease is simply Mexican typhus or tabardillo.

MEDIZINISCHE KLINIK

March 3, 1912.

1. Friedrich Luithlen: Alopecia and Defluvium.
2. Peter Janssen: Indication for Operative Treatment of Prostatic Hypertrophy.
3. G. Seiffert: Paratyphus B Bacilli in a Carcinomatous Cyst of the Ovary.
4. Walter Altschul: Multiplicity of Primary Carcinomata.
5. E. Herzfeld and J. B. Elin: Iodine Elimination in the Use of Iodine Ointments.
6. Jungklaus: Oligodipsia.
7. Otto Mankiewicz: Catheter Forceps.
8. R. Kutner: Therapeutics of Ulcer of the Bladder. An Answer to the Article of Doctor Casper.
9. L. Casper: An Answer to the Preceding Article of Doctor Kutner.
10. W. Wangerin: Ant Plants.
11. Hoffendahl: Dental Caries.

March 10, 1912.

12. M. Hajek: Therapeutics of Tuberculosis of the Larynx.
13. Max Lissauer: Prostatic Hypertrophy.
14. Arnold Kutzinski: Hallucinations of Smell.
15. Otto Ebert: Kidney Stones in Childhood.
16. Hugo Hecht: Salvarsan Fever.
17. Otto Müller: Therapeutical Use of Jod-Neol-Boer.
18. Adolf Wachter: Walter Lowenstein's Treatment of Pneumonia.
19. Paul Israel: Severe Asphyxia of a Nursling in Reposition of an Umbilical Hernia.
20. Kromayer and Trinchese: Negative Wassermann Reaction.

1. Alopecia and Defluvium.—Luithlen gives a good review of the etiology of alopecia and defluvium. As to therapeutics he divides it into general and local. He does not believe selected diet will exert a direct influence upon the growth of the hair, but he thinks it influences the general organism, and through strengthening the patient stimulates the growth of the hair. Among drugs he favors arsenic and the iodides which, through their influence upon the general condition, act favorably upon the growth of the hair. In local therapeutics we must pay special attention to the condition of the skin, and here he mentions ichthyol and preparations of similar composition, quinine and pilocarpine, also Bier's hyperemic treatment, but the best remedy he thinks is found in chrysarobin. As stimulants with disinfecting effect, he mentions formalin, acetic acid, carbolic acid, tricresol, and camphor. Of the remedies which act only in an inflammatory way he gives veratrine, oil of turpentine, tincture of cantharides, oil of mustard, and croton oil. He finally comes to the use of faradaization, high frequency currents, and light rays.

5. Iodine Elimination in the Use of Iodine Salves.—Herzfeld and Elin have made experiments with iodine preparations. They found that petrolatum and vasogen are good vehicles for potassium iodide to be absorbed through the skin, while wool fat and lard give poor results. For iodoform petrolatum again was found the best vehicle. They speak especially of a preparation called jothion, which is well absorbed by the skin.

12. Therapeutics of Tuberculosis of the Larynx.—Hajek speaks first of the surgical treatment of tuberculosis of the larynx, and says that there are as many methods as there are surgeons. As narcotic remedies he speaks highly of alcohol, injected into the surroundings of the superior laryngeal nerve. He then reviews the results gained by galvanocautery, which should be used, in his opinion, only as an adjuvant to the surgical operation. He finally mentions the influence of sun and Röntgen rays, and states that he himself has seen patients who received benefit from sun rays, but the Röntgen rays exert no effect at all.

16. Salvarsan Fever.—Hecht gives as causes for fever, which occurs after intravenous injection of salvarsan, 1, the use of impure salt solution; 2, liberated endotoxines from spirochetes; and, 3, in rare cases, the specific toxic influence of salvarsan itself.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

February 20, 1912.

1. Zieler: Is Idiosyncrasy toward Drugs Real Anaphylaxis?
2. Gros: Process of Bactericidal Effect of Silver Preparations in Media Containing Sodium Chloride.
3. Roethlisberger: Investigation and Treatment of Tonsillitis with Polyarthritis.
4. Zoeppritz: Treatment of Eclampsia according to Stroganoff's Method.
5. Bardenheuer: Symptomatology of the Origin of Ischemic Contracture and of Acute Diffused Gangrene.
6. Huguenin: Fat Content of Sarcoplasm of Involuntary Muscles of the Gravid and Puerperal Uterus.
7. Hausmann: Contraction Phenomena of the Pars Pylorica in Palpatory Exploration.
8. Herz: Influence of Heredity upon the Origin of Diseases of the Heart.
9. Wasielewski and Wülker: Schmidt's Hypothesis Regarding Cancer.
10. Zimmermann: Scopolamine Poisoning.
11. Flaum: Mucous Polyp in the Appendix.
12. Kühl: Symptom of Salpingitis.
13. Sudhoff: Julius Leopold Pagel.

February 27, 1912.

14. Schöne: Transplantation Immunity.
15. Hoffmann: Diplegia Brachialis Neuritica.
16. Esch: Urine and Serum Toxicity in Eclampsia.
17. Jakob: Presence of the Sensomotor Double Function of the Cortex of the Brain as a Basis for a New Biological Interpretation of the Cortical Soul Organ.
18. Reichmann: Technique of Lumbar Puncture and Examination of the Cerebrospinal Fluid.
19. Loening: Phenyldimethylpyrazolonamidomethansulphon Acid Sodium, a New Antipyretic and Specific in Acute Articular Rheumatism.
20. Baer: Veronazetin, a Hypnotic and Sedative Containing Several Components.
21. Schwaer: Effect of Salvarsan upon the Cell Elements of the Blood.
22. Kretschmer: Effects of Hormonal.
23. Dordi and Canestrini: Intermittent Sensory Aphasia.
24. Winckel: Therapeutically Important Elements of Mud Baths.
25. Schwarz: New Apparatus for Pasteurizing Milk in Small Quantities for Nurslings.
26. Hohlweg: Diagnosis and Therapeutics of Tuberculosis of the Kidney.
27. Ischreyt: Technique for Plastic New Formation of the Lower Lid.
28. Daser: Lord Lister.
29. Schuster: Development of Medicine in Japan.

March 5, 1912.

30. Lindner: Ulcer of the Stomach from Surgical Viewpoint.
31. Pfeifer: Histological Diagnosis of Progressive Paralysis through Puncture of the Brain.
32. [illegible] Hypophyses.

33. Simon: Treatment of Gonorrhea with Arthigon.
34. Nassauer: Treatment of the Vagina with Powder.
35. Kondoléon: Drainage of the Serum as a Remedy in Chronic Edema from Crushing.
36. Voss: Abortive Treatment of Primary Lues.
37. Noehte: Malignant Tumor of the Brain Treated with Salvarsan.
38. Villinger: Etiology of Metasyphilis.
39. Hofmann: Painting of the Peritoneum with Tincture of Iodine in Tuberculous Peritonitis.
40. Wurm: New Preparation for the Protection of the Normal Skin in Treatment with Röntgen Rays.
41. Kennerknecht: Treatment of Spina Ventosa with Pyrogallic Ointment.
42. Popielski: Effect of Organic Extracts and Theory of Hormones.
43. Vörner: Primary Efflorescence of Lupus and the Primary Effect.
44. Vulpius: Support for Flatfoot.
45. Ortner: Laborious Expiration in Aortic Aneurysm.
46. Fellner: Thrombosis and Internal Secretion.
47. Loening: Phenyldimethylpyrazolonamidomethansulphon Acid Sodium, a New Antipyretic and Specific in Acute Articular Rheumatism.
48. Ehlers: Gerhard Henrik Armauer Hansen.

6. Fat Content of the Sarcoplasm of Involuntary Muscles of the Gravid and Puerperal Uterus.—Huguenin remarks that fat will be found in great quantity in drop form in sarcoplasm of the gravid uterus, and is probably only an increase of the fat contained in the normal uterus. These drops of fat in the wall of the uterus will be found only in the sarcoplasm and not in the areolar tissue, and can therefore not be the causes of ruptures of the uterus.

16. Urine and Serum Toxicity in Eclampsia.—Esch observed, in two cases of eclampsia during labor, a toxicity of the serum and especially of the urine. The toxic activity could be demonstrated in guineapigs after endocardial injections. The amniotic fluid was not toxic and the toxicity disappeared post partum. It was interesting to note that the toxine of the serum was identical with that of the urine. Esch remarks that it is possible that the toxine was the result of a degenerative disintegration in the parenchymatous organs.

21. Effect of Salvarsan upon the Cell Elements of the Blood.—Schwaer remarks that in diseases of the blood salvarsan, with our present technique, will show no curative effect.

32. Results of Extirpation of the Hypophyses.—Ascoli and Legnani have made interesting observations on dogs in which the hypophysis was extirpated. The operation was usually followed by death two days later, which demonstrated the importance of the gland. But the few dogs which survived showed a sudden interception of growth in all the organs of the animal; ossification and dentition were entirely retarded; not only the development of the bones, but nutrition also suffered, thus demonstrating that not only growth is suspended, but nutrition. Sexual development is also retarded; and the thymus gland, the thyroid, and the adrenals showed clearly retardation.

34. Treatment of the Vagina with Powder.—Nassauer absolutely opposes the method of fluid irrigation treatment of the vagina and endorses a dry technique. He especially favors white bole, the bolus albus of the German pharmacopœia, which should be used as a dusting powder.

39. Painting the Peritoneum with Tincture of Iodine in Tuberculous Peritonitis.—Hofmann reports four cases of tuberculous peritonitis in which he painted the peritoneum with tincture of iodine. He used a ten per cent. solution, which he applied not only to the peritoneum, but also to the omentum and to the intestines. He then closed the incision. He observed, forty-eight hours after the operation, a chemotactic peritonitis without fever, after which time recovery followed without interruption. Four weeks after the operation the patients were discharged as cured, and he could not see any detrimental influence of the tincture of iodine. He states that other cases must be added before we can come to a definite conclusion.

ZENTRALBLATT FÜR CHIRURGIE.

March 23, 1912.

1. F Krause: Extirpation of the Gasserian Ganglion under Local Anesthesia.
2. Payr: Disinfection of the Opened Gastric and Intestinal Tract with Tincture of Iodine.
3. E. E. Goldmann: After Treatment of Suprapubic Prostatectomy.

2. Disinfection of the Gastrointestinal Tract with Tincture of Iodine.—Payr is of the opinion that the application of tincture of iodine to the mucous membrane of the gastrointestinal tract, when it has been opened, has a favorable effect upon the healing, and reduces the danger of postoperative peritoneal infection to a minimum. Formerly he used a ten per cent. solution, but of late he has employed a five per cent. solution.

CORRESPONDENZ-BLATT FÜR SCHWEIZER AERZTE.

February 20, 1912.

1. L. Bossart: Gastritis Phlegmonosa.
2. E. Feer: Etiology and Pathology of Pertussis.

March 1, 1912.

3. F. Sauerbruch: Surgical Treatment of Phthisis.
4. Th. Kocher: Surgery of the Thorax.
5. E. Tschudi: Hemorrhage from a Ruptured Small Cyst of the Ovary.
6. C. Schneiter: Alcoholics in Heart Trouble.

2. Etiology and Pathology of Pertussis.—Feer reviews A. Czerni's and Döbeli's theory that pertussis is not a specific, uniform (*einheitlich*) disease, but a clinical conception, a symptom complex, as we have it in pneumonia, which can show itself at any time when different catarrhal infections attack the respiratory organs of a neuropathic person, in which case the attacks are said to originate through psychic infection (imitation). While Feer—and with him most clinicians—does not think that this theory is a lucky one, he calls attention to the important rôle played in whooping cough by the nervous system and the psyche, which causative factors have been so far overlooked, and which, when special attention is paid to them, will assist in the proper treatment.

3, 4. Surgical Treatment of Phthisis.—After a short historical review, Sauerbruch speaks of thoracoplasty, for which a specific operation does not exist. According to the localization of the principal focus and the anatomical condition of the thorax, the operation must be decided upon. He reports fifty operations in thirty-two patients; twenty-four patients were operated upon for tuberculosis. One patient died immediately after operation; two, nine and four months respectively after operation; two patients were entirely cured, two were very nearly cured; four very much improved; improved, five, unimportant improvement in two; no change in two. The operation consisted in a large resection of the ribs of one side, as many as nine ribs being resected. He concludes that the last resort for tuberculous patients with an extensive one sided phthisis, who cannot be cured through internal, dietetic, and climatic remedies, should be resection of the wall of the thorax.

——Kocher endorses Sauerbruch's statements, and says that, under the leadership of Sauerbruch, we have learned not to attack the tuberculous area directly, but indirectly, through rest of the lungs and alteration of the blood and lymph circulation.

AMERICAN JOURNAL OF SURGERY.

March, 1912.

1. H. O. Marcy: Personal Reminiscences of Lord Lister: the Introduction and Development of Antiseptic Surgery in America.
2. Winfield Ayres: Micrococcus Catarrhalis as a Cause of Inflammation in the Genitourinary Tract.
3. A. Crispin: Misleading Abdominal Symptoms.
4. F. E. Neef: Surgical Essentials.
5. G. F. Cott: Four Deaths in Latent Sinusitis.

2. Micrococcus Catarrhalis as a Cause of Inflammation in the Genitourinary Tract.—Ayres asserts that *Micrococcus catarrhalis* is capable of setting up an inflammation of the genitourinary mucous membrane resembling closely gonorrhea, but differing in being less severe, with less eversion of the lips of the meatus, and occurring often in cases where there has been no intercourse. The two organisms look similar in a smear, both being diplococci, intracellular, and Gram negative, but the catarrhalis will grow on nutrient agar at room temperature, while the gonococcus and meningococcus will not, and this cultural difference is the only sure method of differentiation. In treatment the newer silver salts will greatly aggravate a catarrhalis urethritis. In one of Ayres's cases with mild symptoms a ten per cent. argyrol injection anteriorly caused the development of epididymitis, prostatitis, vesiculitis, and pyelitis. Urotropin, fifteen grains every three hours, was the only drug that had any effect, and this alone rapidly cleared up the case. If a urethritis gets worse under usual treatment, suspect catarrhalis infection and avoid local treatment, relying on large doses of santal oil or urotropin internally. If a discharge persists after a week, use silver nitrate locally, very dilute.

ARCHIVES OF INTERNAL MEDICINE.

February, 1912.

1. Walter V. Brem: Studies of Malaria in Panama: III. The Etiology of the Erythrolytic Hemoglobinuric Type of Blackwater Fever.
2. Oscar Berghausen: Rôle of Acidosis of the Tissues as a Factor in the Production of an Attack in Paroxysmal Hemoglobinuria.
3. Henry A. Christian: Observations on the Fluid Contents of a Cyst Occupying the Epigastric Region of the Abdomen.
4. A. Alexander Howell: New Method of Determining Venous Blood Pressure.
5. W. Ophuls: Subacute and Chronic Nephritis as Found in One Thousand Unselected Necropsies.
6. Lewis A. Conner and Ralph G. Stillman: Pneumographic Study of Respiratory Irregularities in Meningitis.
7. John Albert Kolmer: Study of Streptococcus Antibodies in Scarlet Fever, with Special Reference to Complement Fixation Reactions.
8. Jacob Rosenbloom: Osseoalbumoid as a Possible Precursor of Bence Jones Protein. Experimental Study.
9. Jacob Rosenbloom: Spontaneously Precipitated Bence Jones Protein in Urine.
10. William W. Duke: Simple Instrument for Determining the Coagulation Time of the Blood.
11. D. M. Kaplan and Louis Casamajor: Neuroserological Findings in Tabes, General Paresis, Cerebrospinal Syphilis, and Other Nervous and Mental Diseases.

1. Etiology of Blackwater Fever.—Brem, in a previous paper, proposed that cases of hemoglobinuria in association with malaria should be divided into two groups: "Pernicious malaria with hemoglobinuria," in which the condition was due to the destruction of innumerable erythrocytes each by its infecting parasite, the unused hemoglobin being set free in the plasma; and "erythrolytic hemoglobinuria," resulting from the presence of an unknown hemolysin. He now reports a study of twenty-seven cases, including both varieties, among which were several cases apparently representing a transition between the two forms. In neither variety, moreover, did the intensity of the hemoglobinuria appear to be directly related to the absolute number of malarial parasites present. It seemed probable that in some pernicious infections the destruction of corpuscles and the liberation of the hemoglobin was not confined to the infected erythrocytes. From observation of these cases and experimental work, the author is inclined to believe that both forms are due directly to an hemolysin produced by the malarial parasite. He accounts for the irregularity and frequency of hemoglobinuria in malaria in general in the following ways: 1. Different strains of parasite may generate hemolysin that varies in quantity or intensity with the strain, or with inimical environments, such as quinine or relative immunity to malaria. 2. An antihemolysin may be formed during the incubation period of malarial infections, when gradually increasing doses of parasitic hemolysin are presumably being liberated.

2. Paroxysmal Hemoglobinuria.—Berghausen reports a case of paroxysmal hemoglobinuria in which it was observed that when congestion of the arm was produced by a constricting band above the elbow for purposes of venesection, the serum of the blood obtained was laked, and hemoglobinuria later appeared. This led to an experimental investigation of the influence of carbon dioxide and other agents on the red corpuscles of the patient and of a normal individual. The patient's corpuscles were found to show hemolysis more readily in an atmosphere of carbon dioxide than those of the control. A 1.5 per cent. solution of sodium citrate was found sufficient, however, to prevent both the patient's and normal corpuscles from undergoing hemolysis in carbon dioxide. Berghausen concludes that while the paroxysmal attacks of hemoglobinuria have been variously ascribed to the action of cold, congestion, and trauma, locally or remotely, it appears that changes locally in the tissues are necessary for their production. Since the three conditions mentioned are associated with an excessive acidity of the tissues, it may be supposed that the organic acids formed play some part in the production of the attacks. In the presence of a proper salt concentration, the corpuscles are protected against the hemolytic action of organic acids; this suggests giving neutral salts as a therapeutic agent, to prevent the onset of attacks.

4. Measurement of Venous Blood Pressure.—Howell describes a new method of venous pressure estimation. A light rubber bag, connected with a water manometer, is placed around the upper arm and held in place by a few turns of bandage. Another cuff, made of rubber dam, likewise connected with a water manometer, surrounds the forearm. Air is pumped into the first bag until, the veins of the upper arm being obliterated, venous congestion in the forearm is produced, a rise in the water column in the second manometer resulting. When this occurs the pressure in the first manometer, representing the venous blood pressure, is read off. In making an observation it is necessary that the arm be maintained at the level of the heart. The

readings are influenced also by the temperature of the air, the thickness of the skin and the prominence of the superficial veins. These modifying influences are to be allowed for in considering the results, but as the usefulness of venous pressure estimations centres especially in the following of individual cases as the patients improve or grow worse, the sources of error mentioned are not of great importance. The average normal venous pressure by this method proved to be 7.6 cm. of water. In a series of cardiovascular cases the pressures ranged from 7 to 25 cm., the average being 13.9.

5. **Subacute and Chronic Nephritis.**—Ophuls presents a pathological study of 1,000 consecutive cases, with numerous microphotographs and tables. He concludes that in many cases too much attention is at present paid to the kidneys, clinically and anatomically. The so called primary or genuine contracted kidney represents a disease which is the result of arteriosclerosis in the terminal arterioles of this organ, is closely associated with general arteriosclerosis, and cannot be properly understood without due consideration of this fact. It is difficult to decide the exact interrelation between the renal lesions, general arteriosclerosis, and the hypertension and cardiac hypertrophy usually present in these cases, but the rôle of the kidney lesions in the production of the hypertension has evidently been grossly exaggerated. There is some reason to believe that the condition as a whole is a toxic one. So far, however, lead is the only substance which seems to bear any definite etiological relation to the general process. Of true primary subacute and chronic inflammations of the kidneys there remain subacute and chronic glomerulonephritis, definitely, in the majority of instances, due to chronic sepsis. Closely related to this, etiologically and anatomically, is the subacute and chronic amyloid kidney (the large, white kidney of other authors). From a combination of the last two conditions there arises the so called secondary contracted kidney, which, in the author's series, was responsible for eleven out of thirty-seven cases of seriously contracted kidneys. The etiology of the cases of secondary contracted kidney is not quite so clear as that of the more acute conditions, but it is highly probable that chronic sepsis, in the broadest sense, is an important factor. The lesions in subacute and glomerulonephritis and secondary contracted kidneys are practically always hemorrhagic, and in subacute and chronic amyloid kidneys frequently so. The interstitial lesions which are present in these latter conditions begin to develop early, practically simultaneously with the epithelial lesions; it is not likely, therefore, that they should be secondary to them.

6. **Respiratory Irregularities in Meningitis.**—Conner and Stillman took tracings of the respiration in forty-three cases, including thirty-two of tuberculous meningitis, six of the epidemic cerebrospinal type, four of secondary streptococcus meningitis, and one of acute syphilitic basilar meningitis. Irregularities in the respiratory rhythm were observed at some time in all the tuberculous cases and in all but two of the nontuberculous. They often appeared early in the disease, and in most cases were to be seen much of the time throughout the course of the illness, though toward the end of life the breathing often became very rapid and quite regular. Cheyne-Stokes breathing was seen in fifty-three per cent. of all the cases, and in sixty-three per cent. of the cases in children. In the latter, this type of respiration presented certain features, distinguishing it from the form seen in adults. The form of periodic breathing described by West and called "grouped respirations," seems to the authors to be identical with the more extreme examples of the infantile type of Cheyne-Stokes. Biot's breathing was observed in twenty-seven per cent. of the forty-three cases. Its incidence among the adults and among the nontuberculous cases was considerably greater than among the children and the tuberculous cases. It was seen at all stages and occasionally alternated with the Cheyne-Stokes type. A third group of respiratory irregularities, the "undulatory" type, was characterized by more or less rhythmical variations in the rhythm and force of the respirations and in the tonicity of the respiratory muscles, without apneic pauses. This form was seen at times in almost every case. No relation could be detected between irregularities in the breathing and in the pulse; nor were the respiratory arrhythmias dependent on any special mental state, such as stupor or coma. The authors conclude that Biot's breathing, when it occurs, may be regarded as almost pathognomonic of meningitis. The Cheyne-Stokes type has little or no diagnostic value in adults, but in children it is seen much oftener in meningitis than in any other condition. The undulatory type is found too often in other diseases to be of much diagnostic value.

7. **Streptococcus Antibodies in Scarlet Fever.**—Kolmer sought to determine more accurately the relation of streptococci to scarlet fever, and to ascertain whether the clinical reports of Russian physicians concerning the efficacy of injections of streptococcus vaccine as a preventive of scarlet fever can be justified on experimental grounds. The question was studied from the standpoint of complement fixation, of the opsonic index, and of agglutination. Comparisons were made of streptococci from scarlet fever cases with others from septichemic patients and from a case of nonscarlatinal tonsillitis. The author agrees with those who state that streptococci found in scarlet fever cannot be differentiated from those found normally in the throat or in septic conditions by morphological or cultural characteristics. While his complement fixation tests showed the presence of a specific antibody for scarlet fever streptococci, this was true only in high dilutions of serum. Since the same specific relation is readily demonstrable between streptococci causing septichemia or nonscarlatinal sore throat and their immune serums, one cannot assert a specific streptococcus for scarlet fever any more than for puerperal sepsis, endocarditis, etc. Opsonins were found somewhat specific for the particular culture responsible for their formation, but the author is not prepared to conclude that certain strains of the cocci cause certain definite types of disease. The true scarlet fever poison lowers the resistance of the patient to streptococcus infection, as is shown by the low strepto-

coccoopsonic indices during the first week of scarlet fever, but how this is brought about cannot now be explained. Streptococcus agglutinins were found to be produced slowly by experimental immunization, but they were apparently nonspecific and of no value in differentiating streptococci. In view of these findings, as well as the fact that streptococci are found only in a certain number of scarlet fever cases and in many of these are apparently harmless, and since experimental work does not show an increase in opsonin after at least three injections of streptococcus vaccine sufficient to establish a good degree of immunity, Kolmer does not believe that streptococcus immunization prevents scarlet fever, though it may mitigate the severity of secondary streptococcic infections.

10. Determination of Coagulation Time of Blood.—Duke's method is a modification of that of Milian. The instrument used consists simply of a glass slide, on which are mounted with balsam two glass discs five mm. in diameter. In making a determination, the surface from which the blood is to be obtained is anointed with a thin layer of petrolatum, the first drop of blood wiped away, and the surfaces of the glass discs touched to the next drops in such a way that each disc is completely covered with blood. Drops of correct depth having been obtained, the slide is inverted over a glass nearly filled with water at a temperature of 40° C. and covered with a sponge or folded cloth wet with water at the same temperature. After five minutes the slide is removed at intervals of one minute, held vertically in front of a white surface, and the surface contour of the drops of blood noted. So long as the blood is fluid the drops hang down; but after coagulation has proceeded to a certain degree the drops fail to change in shape when the slide is tilted, maintaining a spherical contour. This is taken as the end point. It appears sharply and is easy to determine. The coagulation time as determined by this method varies in normal cases from six to nine minutes; abnormally, it may be as great as forty minutes. The chief source of error lies in the using of drops of incorrect depth. Gross errors in this respect do not, however, come practically into consideration, and, as a rule, several drops, as ordinarily picked up, clot within two minutes of each other.

ARCHIVES OF OPHTHALMOLOGY.

March, 1912.

1. C. Barck: Simplified Method of Extirpation of the Lacrymal Sac.
2. Howard V. Dutrow: Retrobulbar Pneumococci Abscess of the Right Orbit.
3. F. H. Verhoeff: Unusual Case of Epibulbar Sarcoma.
4. B. L. Millikin: Additional Notes on a Patient with High Astigmatism.
5. Alfred Bielschowsky: Exceptional Causes of Failure in the Operative Treatment of Strabismus.
6. Otto Schirmer: Incongruous Homonymous Hemianopsia.
7. The Operation of Excision of Tarsus and Conjunctiva (Heisrath) in Old Trachoma, Together with the Demonstration of a New Instrument and a Description of a New Method of Performing It.
8. Frederick Krauss: Antral Disease in a Four Months' Old Child, with Marked Orbital Symptoms.

1. Extirpation of the Lacrymal Sac.—Barck gives the following synopsis of the operation he suggests for extirpation of the lacrymal sac. The incision is made mesially to the insertion of the internal palpebral ligament directly down to the bone. The lacrymal sac is detached from the bone by curved elevators and loosened all around by a curved hook. It is then severed at the entrance into the nasal duct. Then it is forcibly drawn down and out and the excision completed.

5. Operative Treatment of Strabismus.—Bielschowsky emphasizes the fact that a warning against too hurried operations cannot be too urgent. No case of strabismus should be operated in after one examination, because frequently reexaminations allow recognition of possible deviations from the type, due to the dissociated character of the anomaly, the inconstancy of the angle, and its dependence upon physical and psychic conditions. Neuropathic disturbances should be searched for when subjective symptoms of the strabismus are present. The smaller the angle of strabismus, and the more prominent the disproportion between it and the intensity of the subjective complaints, the more conservative should we be in regard to operation, and when this cannot be avoided the patient should be informed of the uncertainty of the result and of the possibility of the appearance and continuance of diplopia after operation.

MILITARY SURGEON.

March, 1912.

1. J. R. Kean: Venereal Problem in the Army and Navy.
2. W. M. Garton: New Diet for Typhoid Fever, with Notes.
3. C. P. Wertenberger: Treatment in Typhoid Fever.
4. Weston P. Chamberlain: Report of the U. S. Army Board for the Study of Tropical Diseases as They Exist in the Philippine Islands.

1. Venereal Problem in the Army and Navy.—Kean compares the prevalence of venereal diseases and the measures for their prevention and control existent in the armies of the United States and foreign nations. The British Army regulations for troops in India compel the segregation and treatment of diseased women in military reservations or their expulsion therefrom, and stops the pay of the soldiers while unfitted for duty by venereal disease. Kean advocates the adoption of this rule in our army. Since arduous physical exercise has a sedative influence on sexual passion, officers should see that each man becomes active in some form of athletic exercise. A soldier's club, where beer and light wines could be sold, and lectures given to educate the soldiers in sexual matters and moral standards, using the cinematograph to make the lectures interesting, should be provided. An examination of the troops at all garrisons, stripped, twice a month, at unexpected times would be an excellent measure. For those who cannot be persuaded to practise continence a preventive packet containing a silver preparation for the urethra and a thirty per cent. calomel ointment for outer application could be supplied, and a toilet room provided in each company with facilities for washing, and a supply of appropriate disinfectants. A clear cut, systematic policy should be adopted and vigorously enforced, so as to cut down the present high disability list from venereal disease in the army and navy.

2. New Diet for Typhoid.—Garton has had remarkable results in the treatment of typhoid patients at the Norfolk, Va., hospital, with a minimum protein diet. He concluded that overfeeding with nitrogenous food is a cause of increased bacterial decomposition and intestinal fermentation, maldigestion, and autoinfection, and that ab-

sorptive toxines are more frequent and more serious in protein than in starch maldigestion. A diet was formulated consisting principally of carbohydrates and fats that would meet the requirements of a minimum nitrogen equilibrium; 175 cases have been treated in two years, with five deaths. The fever has been moderate, nervous symptoms absent, hemorrhage in less than ten cases, perforation in but one case, flat abdomen the rule, marked loss of flesh the exception, and rapid recovery of strength the rule. The diet is as follows, milk being altogether eliminated: 6.30 a. m., cup of hot coffee, with two drachms of sugar; no cream; two slices of zwieback or buttered toast; 8.30 a. m., one portion of Jordan's Bethlehem oats or Robinson's patented barley, according to bowel indications, with six buttered crackers, saltines; 10.30 a. m., six ounces of soup; change recipe occasionally; 12.30 a. m., one medium baked potato, mashed and prepared with two ounces of butter; add large pinch salt; two thin slices of hot buttered toast, and one cup of hot weak tea with two drachms of sugar; 2.30 p. m., two teaspoonfuls of pudding, bread or tapioca, and six saltine crackers; 4.30 p. m., two ounces of rice, farina, or cream of wheat, thoroughly mixed with one ounce of butter and four drachms of sugar; change from day to day; 6.30 p. m., three slices of buttered toast; 8.30 p. m., six ounces of soup; the soup to be strained. If patient cannot take all the meals, make up difference with milk sugar. Give plenty of water.

3. Treatment in Typhoid Fever.—Wertenberger doubts the wisdom of giving solid food to typhoid patients. In his own practice he has even stopped feeding milk, as milk is an excellent culture medium for typhoid bacilli, and gives nothing in the way of food excepting orange juice, of which the patient is allowed all he wants. Water is also given freely. He also gives ten drops of dilute hydrochloric acid three times a day, and asafetida or turpentine if tympanites is present. The tongue remains clean, there is seldom tympanites, the fever seldom exceeds 103° F., and complications are rare with this treatment. The temperature reaches normal about the twenty-first day, and when it remains so for forty-eight hours the patient receives a soft boiled egg, and, if no unfavorable symptoms develop, he is gradually returned to the regular diet. He has had but one death in five years, and this in a negro seemingly overwhelmed by the disease, who died in seven days.

JOURNAL OF LARYNGOLOGY, RHINOLOGY, AND OTOLOGY.

March, 1912.

1. J. S. Fraser and J. K. Milne Dickie: Analysis of 123 Consecutive Cases in which Operations Were Performed for the Relief of the Mastoid, Labyrinthine, and Endocranial Complications of Suppurative Otitis Media.
2. P. Watson Williams: Diagnostic Value of the Suction Syringe in Maxillary Antral Sinusitis.
3. Von Eicken: Education of the Medical Student and of the Specialist in Diseases of the Throat, Nose, and Ear, Germany. The Position of Otolaryngorhinology in the German Medical Schools.

2. Suction Syringe in Maxillary Sinusitis.—Williams questions the efficacy of transillumination as the deciding factor in determining antral suppuration, and places more dependence upon the suction syringe for diagnostic purposes. The specially devised needle is readily inserted, and nearly a syringeful of water is quickly injected into the cavity of the antrum, and at once sucked back into the syringe, in order to obtain a specimen of the antral contents. The author asserts that in a number of cases his suspicions of antral suppuration were negatived by excellent transillumination, with pupil reflex, whereas, the use of the syringe revealed the presence of thick pus in greater or less amount, or the existence of blobs of mucus with or without pus. The greatest value of this instrument seems to be in the early cases of infection by organisms which set up recurrent catarrhal attacks, starting like ordinary colds, but without the formation of pus.

MEDICAL CHRONICLE

March, 1912.

1. Ernest S. Reynolds: Mental Derangements in Their Relation to Marriage.
2. Alfred A. Mumford: Precocity and Retardation in School Attainment in Relation to Disease and Other Agencies Affecting Physical Development.

INDIAN MEDICAL GAZETTE.

March, 1912.

1. M. J. Shaw: Proposed Bill to Consolidate and Amend the Law Relating to Lunacy.
2. D. G. Crawford: Appointment to the Service Examinations.
3. V. B. Green Armytage: Hypnotism and Psychotherapy.
4. W. G. King: Air Movement in Association Wards.
5. M. Foster Reaney: Intestinal Parasites in the Wardha District.
6. L. Reynolds: Sanitation in the Plains.
7. R. F. D. MacGregor: Syphilis in Thibet.
8. Lawrence G. Fink: Treatment of Aural Sepsis.

7. Syphilis in Thibet.—MacGregor says that the commonest disease in Thibet is syphilis. Of the 439 persons in the Civil Hospital during eight months of 1911 144 were suffering from venereal disease, thirty-three per cent., and gonorrhea and the soft sore are comparatively uncommon. A great many of the cases of syphilis are of a severe nature, largely because of neglect, and the stress of the disease seems to fall mainly upon the bones and joints. Another prevalent disease that has an important bearing on the treatment is scurvy. MacGregor says that it is the exception to have a patient whose gums are not spongy, and many suffer from hemorrhages, chiefly from the nose.

REVUE DE CHIRURGIE.

January, 1912.

1. E. Quénu: Critical Study of Fractures at the Ankle.
2. J. Guyot and A. Parcelier: Surgical Treatment of Primary Tumors of the Pleura and Lung.
3. G. Pascalis: Tumors of the Cerebellopontile Angle. Operative Indications and Surgical Treatment (*To be continued*).

February, 1912.

4. A. Poncet and R. Leriche: Inflammatory Tuberculosis and Epithelial Carcinoma.
5. S. D'Este: Technique of Amputation of the Breast for Mammary Cancer.
6. E. Quénu: Critical Study of Fractures at the Ankle (*Concluded*).
7. A. Chalier and J. Murard: Terminoaortic Region. Ligation of Common Iliac Artery and Other Vessels of this Region.
8. E. Marquis: Disinfection of the Hands Exclusively with Alcohol, without Preliminary Washing with Soap (*To be continued*).
9. G. Pascalis: Tumors of the Cerebellopontile Angle. Operative Indications and Surgical Treatment (*To be continued*).

1. Fractures at the Ankle.—Quénu presents a study of fractures of the lower extremities of the tibia and fibula, based on radiographs in 146 cases. Numerous line drawings accompany the article. The author protests against the classification of these fractures exclusively, according to the mechanism of their production, i. e., according to the direction of the force applied. While the displace-

ment resulting from fracture is the most important point to be considered, it does not depend alone upon the seat of application or the direction of the stress, but upon the association with the fracture of other more or less complex injuries, such as rupture of ligaments, tibiofibular diastasis, and additional fractures. Quénu, therefore, primarily divides fractures at the ankle into those which involve but one portion of the mortise, formed by the lower ends of the tibia and fibula, and those in which several lesions, including one involving the mortise, are simultaneously present. Each major division is subdivided according to the special portions of the bones involved. It thus becomes possible to have a classification which corresponds to the types of injury recognized by clinicians. Displacement of the foot results from lesions involving the projecting lateral margins of the mortise, i. e., the malleoli; if, in addition, the bony edges of the vault of the mortise (formed by the lower end of the tibia) are torn asunder, displacement is further accentuated, while if diastasis of the tibia and fibula occurs, owing to rupture of the intervening ligament, displacement is extreme. Separation of the bones, however, is not characteristic of any specific kind of fracture, but may occur as a complication in every variety. It merely serves as an indication of an injury to the soft tissues which the x rays cannot render discernible.

4. Tuberculosis and Carcinoma.—Poncet and Leriche discuss the etiology of malignant growths. They had previously studied the rôle of tuberculous processes in the causation of lipomata, adenomata, fibromata, and exostoses. In the present paper, after showing the inadequacy of the other theories of cancer causation—parasitic theory, embryonal rests, etc.—they call attention to the possible rôle of tuberculosis and other sources of chronic irritation as etiological factors. They do not consider the fact that no confirmatory experimental evidence has as yet become available an objection to their hypothesis, since such evidence has not been obtainable either with respect to cancer known to be caused by contact with tar or soot.

5. Breast Amputation for Carcinoma.—D'Este discusses especially the Tansini method of operating for mammary cancer. He does not consider the skin incisions employed either by Halsted, Willy, Meyer, Kocher, Handley, or Gosset to be invariably adequate; it is impossible by these methods to excise enough skin, as is shown by the frequency of skin recurrences after they have been employed. The skin covering the entire mammary region should be considered as involved in the malignant process, and consequently removed at operation. Tansini's incision is ovoid, with the smaller pole of the ovoid at the apex of the axilla, the remainder of it extending broadly downward and forward so as to enclose the entire mammary area, including, in particular, the axillary prolongation of the gland. Nearly the whole of the operation is thus performed upon indubitably healthy tissues, the diseased tissues being removed *en bloc,* without dissection beneath possibly involved skin margins. In order to cover the broad area denuded of skin, a U shaped autoplastic flap is taken from the region behind the axilla and brought forward in front of the triangular tongue of skin still extending up into the axilla. This flap is advantageous in that its blood supply is assured, in that it may be made of any size sufficient to cover the denuded area at the anterior portion of the thorax, and that the skin of which it is made is almost never a seat of cancerous growth, either primarily or secondarily. The flap includes also the subcutaneous tissues and a muscular layer consisting of portions of the latissimus dorsi, teres major, and, in some instances, the infraspinatus and teres minor muscles. Accompanying the article are several photographs of cases operated in, showing the excellent plastic results and the ability of the patients to elevate the hand of the operated side above the head. The free movement of the arm obtained results from the fact that drawing of the scar such as would lead to limitation of motion, is avoided by the Tansini method. The removal of the entire mammary area with the skin in one piece expedites the operation and renders it relatively bloodless. Healing is particularly rapid.

7. The Terminoaortic Region.—Chalier and Murard deal minutely with the surgical anatomy of the region, bounded above by the transverse portion of the duodenum, below by the sacral promontory, anteriorly by the peritoneum, behind by the posterior muscular wall of the abdomen, and laterally by the psoas muscles. Discussing the technique of ligation of the common iliac arteries, they point out the advantages of operating transperitoneally in preference to the subperitoneal procedure hitherto described by most authorities.

Proceedings of Societies.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, Held Wednesday, October 11, 1911.

The President, Dr. C. B. LONGENECKER, in the Chair.

Preventive Medicine; Present Achievement and Future Field of Activity.—Dr. D. H. BERGEY stated that some of the more important measures employed in preventive medicine were: Isolation, disinfection, immune sera, vaccines, chemotherapeutic agents, and the chemical, physical, and biological agents used in the purification of water, sewage, and milk. The efficiency of isolation was frequently defeated through neglect of proper care on the part of physicians and nurses. Disinfection was often ineffectual because inefficient materials were employed or efficient materials were employed in too great dilution or for insufficient time. The prophylactic value of diphtheria and tetanus antitoxine had been demonstrated repeatedly. The great value of vaccine virus in warding off smallpox, and the value of vaccine in eradicating typhoid fever, cholera, plague, and dysentery could not be estimated. Of the chemotherapeutic agents, quinine in malaria, and salvarsan in syphilis, were of inestimable value in limiting disease and death. The great activities of laboratory investigators led us to hope that other valuable chemotherapeutic agents might soon be discovered. The filtration of water and sewage

and pasteurization of milk not only served to reduce the morbidity and mortality rates of the diseases of the gastrointestinal tract, but had an important influence in reducing the general mortality rates in communities where these measures were employed.

The important diseases which were still not under satisfactory control were scarlet fever, measles, pneumonia, and tuberculosis. The careful application of the preventive measures now in our hands would serve to control more effectively these great scourges of humanity. It was probable that the day was not far distant when we should have in our hands more efficient prophylactic measures in the form of vaccines, immune sera, or chemotherapeutic agents to control these latter diseases.

Dr. B. A. Thomas took exception to Doctor Bergey's statement that immune sera other than antidiphtheritic and antitetanic were valueless. Anyone having had clinical experience with the use of antigonococcic serum must be convinced of the great value, therapeutically, of this agent in acute and subacute and in a less degree in chronic gonorrheal synovitis. In view of the failures to produce an efficient antistaphylococcic serum, about two years ago he endeavored to immunize a ram, first by dead, followed by living suspensions of staphylococci. A multivalent suspension of eighteen various strains from abscess, furuncles, and carbuncles was used. The animal was highly immunized, employing the opsonic index as a guide. At the conclusion of four months the ram was bled to death and the serum collected and sealed in sterile ampullæ. He had used this serum in two or three dozen cases, including bacteremia, recurrent furunculosis, and aggravated carbunculosis, in the majority of cases with immediate benefit. He was inclined to think that the therapy of the future in these cases might be the administration of serum in the acute attack because of its more immediate effect, followed subsequently by the autogenous bacterin for purposes of more prolonged immunization to prevent recurrences.

Dr. Samuel Wolfe said he would like Doctor Bergey to explain wherein would lie the use of salvarsan as a prophylactic in syphilis.

Dr. Leonard D. Frescoln remarked that Doctor Bergey had well said that the topic of his paper was such a broad one in these days that it would be hard to cover all the points in so short a time. Our necessary association with the lower forms of animal life might be dwelt upon in this connection. He had already referred to the war against malaria and yellow fever and the destruction by crude oil of mosquitoes carrying these diseases; also to the common house fly in disseminating typhoid and as a tuberculosis carrier. The ordinary house cat, likewise, was the means often of spreading ringworm and favus. The dog had been referred to in spreading hydrophobia, and in Australia, therefore, there was a six months' quarantine on newly arrived dogs. This brought up the question of municipal and government control. Our country was behind some other great nations in this matter of regulation in the way of controlling carriers of disease. It was an easy matter to report by postal cards furnished by the city, transmissible disease; then early fumigation with formaldehyde, etc., might be begun and the root of the matter struck. He, therefore, earnestly urged his fellow practitioners to endeavor to detect scarlet fever, tuberculosis, etc., early, and report them early, and he trusted that Doctor Abbott would also speak from his municipal experience on this matter.

Dr. A. C. Abbott, as he listened to Doctor Bergey's paper, was impressed by the fact that the foundation stones of the structure which we called modern preventive medicine were in a very large part laid by men who were not practitioners of medicine in the ordinary sense of the term, and whose education and interests had comprehended subjects other than those strictly medical. For instance, Pasteur, to whom we owed so much, was not identified with practical medicine, though the value of his researches to problems of preventive medicine could not be overestimated. Metchnikoff, whose doctrine of phagocytosis had done so much to elucidate the problems of immunity, was not a medical man, but a zoologist, who realized the importance of particular lines of zoological investigation to some of the riddles of medicine. Koch, admitted to be one of the masters of medicine, we found in his youth, while pursuing a country practice, supplying himself, through work in special lines of investigation, with knowledge that had not been included in his medical course; knowledge which he regarded as necessary to the problems that he proposed to undertake. The results were known. Ehrlich, to his mind the most brilliant investigator of the century in collateral lines of medicine, was, it was true, a medical man, but it was alleged that he was regarded at the University of Berlin as one of the poorest medical students that had presented themselves for examination, and had it not been for the brilliancy of researches already done in branches related to medicine, doubt had been expressed that he would have received his medical degree. Had Doctor Meigs, who wrote those classical papers on malarial fever, been educated more broadly in the fields of natural science, it might not have been necessary for us to have waited for the discovery of the cause of malarial fever until the matter had been taken up by Laveran. Carlos Finlay, a practitioner of medicine, did, however, possess knowledge and interest which led him to pursue studies not strictly medical. His observations enabled him to offer suggestions that must be taken as the humble beginning of a glorious end, surely one of the triumphs of modern medicine, the revelations upon yellow fever that had led to its control.

The problems of modern preventive medicine demanded an education quite different from that offered or required of the medical student a few years ago, and to this end a modification of the curricula of our schools was imperative. Demands were everywhere being made for broader preliminary training; and it was a pleasure to note that they were being met. Given students possessing broader understanding of the natural and physical sciences, it was possible for the teaching in our schools to be so ordered as to meet the demands of the times; without students so equipped, such teaching was ineffective and wasted.

Dr. Aaron Brav, in considering the various pro-

cesses and mode of infection from the viewpoint of prevention, pointed out that we should think at once of the *common* drinking cup of our schools. Hundreds of children were compelled to drink from a cup that had probably not been cleansed during the entire season. This evil should be remedied by the boards of health. A sterilizing plant could be devised for the correction of this very obvious danger.

Diphtheria Antitoxine and Anaphylaxis.—Dr. JOHN A. RODDY averred that the regularity with which first injections of horse serum sensitized guineapigs and the severe manifestations of anaphylaxis and high mortality which usually followed second injections of horse serum were not criteria of an inherent danger of therapeutic sera administered to man. Human beings were less frequently sensitized by serum than guineapigs; when hypersusceptibility was caused by the injection of horse serum into man it was usually developed to a less marked degree than in guineapigs. When a second injection of horse serum into man was followed by anaphylactic phenomena, the symptoms differed considerably from those manifested by anaphylactic guineapigs. They were usually less sudden in onset, of a very much less violent character, and very rarely fatal or productive of any irreparable harm. Ill effects, other than those of anaphylaxis, hardly ever followed the proper use of therapeutic sera now. Among more than 15,000 patients treated by J. C. Wilson, S. Woody, R. Brundage, H. Price, and J. P. Kerr, and receiving a single injection of diphtheria antitoxine, not one had shown any ill effect whatever. Of about 10,000 patients treated by the same physicians, less than 150 had shown symptoms of anaphylaxis after receiving a second injection of diphtheria antitoxine. In most cases the manifestations had been mild. All had recovered from anaphylaxis but two. Two had died, probably as a direct result of induced hypersusceptibility to horse serum. Seventy per cent. of all cases of diphtheria which received a first injection of less than 20,000 or 30,000 units of antitoxine did not have all the toxine neutralized, and consequently needed a second injection.

Dr. DANIEL M. HOYT had been particularly interested in noting from Doctor Roddy's paper how small the danger was from the use of antitoxine. A strong argument was presented against legislation adverse to this life saving measure. If a person had been an asthmatic, antitoxine should be administered with great caution. In a paper published by Gellette (*Therapeutic Gazette*, xxxiii, 159, 1909), twenty-eight cases were cited of severe general reaction following the use of antitoxine. Of these cases, fifteen ended fatally; in eighteen there was a history of asthma, nine of which terminated fatally. While not an argument against the value of antitoxine, it was obvious that the histories of our patients, particularly in the administration of immunizing doses in a household, should receive careful inquiry.

Dr. B. A. THOMAS considered the guineapig as a poor criterion for the study of anaphylaxis in the human subject; the comparative symptomatology was so very variable. Certainly the danger from anaphylaxis or hypersusceptibility was no reason to contraindicate the intelligent use of serum, antidiphtheritic or otherwise. As to diphtheria antitoxine, the profession had come to realize the inefficiency of the old small doses. He was convinced that in the case of other immune sera, notably antitetanic serum, the dose was still too small for curative purposes, and he believed anaphylaxis was a much exaggerated occurrence. It had been his province to immunize, both actively and passively, several hundred cases during the past five years, and with one or two exceptions, he had never seen a case of hypersusceptibility, the exceptions being mild reactions and unworthy of note.

Dr. SAMUEL WOLFE was of the opinion that a clear investigation might demonstrate that anaphylaxis was comparatively more frequent where diphtheria antitoxine had been used for prophylaxis or in doubtful cases, as in such it did not come in contact with the causal factors of the disease, and must expend itself without being neutralized. However, a chemical antidote and a physiological antitoxine could hardly be regarded as comparable.

A Bacteriological Study of Cultures Made from the Thyroid Gland.—Dr. JOHN J. GILBRIDE pointed out that the frequent occurrence of Graves's disease in certain districts of both Europe and this country, and the acute exacerbations occurring in the course of the disease, were facts of special interest, as was also the occurrence of the disease in several members of the same family. The study of the cases reported had been undertaken to determine, if possible, whether infection played a rôle in the etiology of hyperthyroidism. The cultures had been made according to the method of obtaining cultures from tissues at autopsy, and from the thyroid gland at the time of operation. Cultures had been made from fourteen cases of goitre, six of exophthalmic goitre, and eight of cystic goitre. A growth had been obtained from the culture in two cases. In one, a case of exophthalmic goitre, *Micrococcus tetragenes* had been found; in the other case, one of cystic goitre, the *Streptococcus vermiformis* of Sternberg had been discovered.

Letters to the Editor.

BASELESS AND CRUEL NEWSPAPER SENSATIONALISM.

New York, April 19, 1909.

To the Editor:

As a contributor to a recent number of your esteemed JOURNAL on the subject of The Chemotherapy of Cancer, kindly allow me to express my disapprobation that some of my words, used with caution and conservatism in my article, have appeared in certain issues of the lay press, in quotation marks, it is true, but without acknowledgment or reference to the source from which they are taken, thus making it appear that I had given a direct interview. I hardly need say that I have seen no reporters on this subject and had no knowledge about the newspaper articles until I saw them in print.

Worse still, headlines assert that a cure for cancer has been found and that the "aniline dyes

are used to cure cancer." Well, so they are, if this is understood to mean, are used in the hope to cure cancer. Aniline dyes have been used for years in the treatment of this disease, but success has not yet been attained. I, myself, have used them for ten years and have published many articles relating to the subject. I have met with encouraging results along the road of investigation and expect to continue experimentation, but I wish distinctly to state that I cannot "cure cancer" and as yet know of no one who can. It is mournful to contemplate the hopes raised in the minds of sufferers by premature statements, such as I have referred to—hopes thus far only to be shattered by the stern reality that finality in the line of continued experimentation is far from being reached. And so far as I am concerned I shall be greatly obliged if you will publish in its proper place this disclaimer and my expression of regrets that a calm, judicial, conservative outline of theories and facts, such as I meant to present in my communication to your JOURNAL should be thus misinterpreted. WILLIAM J. MORTON, M. D.

CONSULTATIONS FROM A LAYMAN'S POINT OF VIEW.

KANSAS CITY, MO., *March 30, 1912.*

To the Editor:

Will *you* be our apostle, and help us to establish honesty and justice to our helpless sick? When we discontinue our business and pleasure and are willing to sacrifice our homes, our last suit of clothes, and even our own flesh and blood in order to help our beloved helpless sick, and we invite our confidential advisers, our physicians, to help us in our sore distress, shall they betray us, and play politics and ethics in our homes? Shall our physicians respect their own honor more than the life of their patient? It is unbelievable, and yet such a thing exists and is practised daily.

I accuse and condemn the *medical ethics* of our dishonest physicians. Why? Because two physicians, an *attending* and a *consulting* physician, administered ether to a patient who had a sore throat, and the ether caused strangulation, suffocation, tongue pulling, and death after sixty minutes of great suffering in spite of the consulting physician, who *objected* to administering ether.

The medical ethics in section eleven says: "A physician who is holding consultation should observe the most honorable respect for the 'attending' physician, and no hint should be given which could impair the confidence of the attending physician whose conduct of the case should be justified in regard for the truth." But this case was *not justified,* and the consulting physician had a right to object; yet the attending physician administered ether.

If a consulting physician has no power to say anything, why is a consulting physician called? Just to please the family? Just for a blind? Is this what you call a civilized, honest ethics? I say no. This is a barbarian, dishonest ethics; and finally a criminal murderous ethics.

The *consulting* physician respects the honor of his ignorant colleague more than the life of his patient, and helps to administer ether in spite of his own objection when he knows absolutely that it is wrong. Is the honor of the *attending* physician superior to the life of the patient?

I say no. The life of a patient is not only superior to the ethics and politics of our physicians, but it is superior to all politics and ethics. Even a hunter would not kill a distressed bird when it seeks refuge in his bosom.

This is not a personal grievance, but a *National* one. How many innocent victims have we whose lives are deprived daily by the *dishonest* ethics of the medical profession.

I appeal to you in the name of the dead whose blood cries out from the grave. They have been innocently deprived of their life and for the sake of the living.

Let us stop the National slaughters which our physicians are hiding under the mask of their profession. Let us not have barbarous ethics, but ethics based upon civilization and honesty. Let us not live in peace and "fight for our death" by strangulation, but let us fight for our lives and die in peace.

I am not only appealing to you, but I demand from you that you raise your voice to echo in the heart of every true citizen. We demand honesty and justice for our helpless sick.

Born in Russia, I am a citizen of the United States, and father of the patient.

H. HARRIS.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Pharmaceutical Bacteriology. With Special Reference to Disinfection and Sterilization. By ALBERT SCHNEIDER, M. D., Ph. D., Professor of Pharmacognosy, Histology, and Bacteriology, California College of Pharmacy; Pharmacognosist, U. S. Department of Agriculture. With Eighty-six Illustrations. Philadelphia: P. Blakiston's Son & Co., 1912. Pp. viii-238. (Price, $2.)

Doctor Schneider has very successfully undertaken the task of writing a book on bacteriology to deal with the subject from the point of view of the pharmacist. In it he takes up the general characteristics of bacteria, their classification and distribution, the preparation of culture media, and the methods of examining bacteria. In addition to the foregoing, the following chapters deal more directly with matters of special interest to the pharmacist; one on bacteria in the industries, another on the manufacture and use of sera and vaccines, yeasts and moulds, disinfectants and disinfection, food preservatives, insecticides, sterilization and disinfection in the pharmacy. Interspersed with these are chapters on immunity, bacterial activities and bacterial products, protozoa in disease, and communicable diseases, with suggestions on preventive medicine. That cancer should be included under communicable diseases is a mistake, as there is very little evidence that would indicate its being in any way a contagious disease. That it is caused by organisms of the protozoan group is without support, as is the idea that it can be spread by the eating of vegetables. The statement, however, that all advertised cancer cures are fakes is so valuable that it is sufficient excuse for the introduction of the paragraph.

There is finally a description of a bacteriological and microscopic laboratory for the pharmacist. This last chapter seems a little questionable in regard to certain suggestions made concerning bacteriological work that can be done by the pharmacist in behalf of the physician. Much valuable assistance can be rendered in the way of preparing culture media, making up stains, and in the em-

ployment of some of the simpler methods of technique. It does not seem proper to suggest, however, that the pharmacist should carry out Wassermann reactions, particularly as the description of the method is totally inadequate for the purpose. A brief account of the general principles upon which the test depends would have been better. In the list of books recommended on bacteriology, several of the latest and most important do not appear, such as McFarland, Hiss and Zinsser, Park and Williams. With these slight objections, the book is one in which the subject is well and interestingly presented; much valuable information not ordinarily to be found is contained within it. Press work and illustrations are good.

Case Histories in Medicine Illustrating the Diagnosis, Prognosis, and Treatment of Disease. By RICHARD C. CABOT, M. D., Assistant Professor of Clinical Medicine, Harvard Medical School. Second Edition, Revised and Enlarged. Boston: W. M. Leonard, 1911. Pp. 295.

The first edition of this book was published without answers to questions, and was intended for undergraduate use only. The present edition, which is enlarged to the number of one hundred cases, contains answers and discussions, and will be found of considerable value to the practitioner. The subjects of prognosis and treatment are also considered in detail in this edition; and this feature adds materially to the usefulness of the work. A perusal of this book is calculated to make the reader think, and in this respect it differs from so many medical works, which seem to be designed to stifle rather than to stimulate thought. The cases have been classified, as follows: Infectious diseases, diseases of the gastrointestinal and biliary tract, diseases of the urinary tract, diseases of the circulation, diseases of the respiratory system, diseases of the nervous system, diseases of the lymphatic and ductless glands, and diseases of unknown origin. The volume concludes with a chapter on drug therapy, which will be read with interest. The book, throughout, is healthy in tone, breezy in style, helpful to an unusual extent, and can be unreservedly recommended.

Arthritis. A Study of the Inflammatory Diseases of Joints. By PETER DANIEL, F. R. C. S., Senior Surgeon to the Metropolitan Hospital, Surgeon to the Gordon Hospital, etc. The Medico-Chirurgical Series No. 3. Edited by JAMES CANTLIE, M. A., M. D., C. M., F. R. C. S., Surgeon to the Seamen's Hospital Society, Lecturer on Surgery, London School of Tropical Medicine. New York: William Wood & Co., 1911. Pp. viii-515. (Price, $4.)

This book treats of the inflammatory diseases of joints, and covers the field pretty thoroughly. It is largely a record of the personal experience and views of the author, but at the same time the views of other writers receive due attention and, not infrequently, are criticised; the writer of the present volume being both able and willing "to give a reason for the faith that is in him." For the surgeon who already has some knowledge of the subject, and who is acquainted with the generally accepted views this book will prove both interesting and stimulating. It is not, however, the best book for the novice. The illustrations are numerous and, as a rule, are of decided value. With regard to the style in which the book is written, we regret to say that it is a decided exception to the elegant and scholarly work which we are accustomed to receive from the other side of the water; and we wonder how several of the statements (we cannot call them sentences) managed to pass the editor. Many of these statements defy grammatical analysis; the language is loose, often amusing, occasionally even startling. For example, "Dr. Mitchell Bruce taught that the second toe is very liable to gonorrhea." Really, the second toe should be taught to behave itself and its wayward tendencies should be checked. We know that the middle finger used to be called *digitus impudicus*, but up to the present we had believed the toes to be above reproach. The author's personal opinion of the general practitioner in Great Britain is certainly not flattering: "My experience is that very few medical practitioners are at present competent to express an opinion on either the mouth or nose." Possibly the time that the practitioner should devote to stomatology and rhinology is being spent in the new and attractive department of genitourinary chiropody.

Meetings of Local Medical Societies.

MONDAY, *April 15th.*—New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York; Medical Society of the County of Erie, N. Y.; Elmira Clinical Society; Hartford, Conn., Medical Society.

TUESDAY, *April 16th.*—New York Academy of Medicine (Section in Medicine); Buffalo Academy of Medicine (Section in Obstetrics and Gynecology); Tri-Professional Medical Society of New York; Medical Society of the County of Kings, N. Y.; Binghamton Academy of Medicine; Syracuse Academy of Medicine; Ogdensburgh Medical Association; Oswego Academy of Medicine; Psychiatrical Society of Ward's Island; Clinical Society of the Elizabeth, N. J., General Hospital.

WEDNESDAY, *April 17th.*—New York Academy of Medicine (Section in Genitourinary Diseases); Woman's Medical Association of New York City (New York Academy of Medicine); Medicolegal Society, New York; New Jersey Academy of Medicine (Jersey City); Buffalo Medical Club; Northwestern Medical and Surgical Society of New York; New Haven, Conn., Medical Association.

THURSDAY, *April 18th.*—New York Academy of Medicine; German Medical Society, Brooklyn; Newark, N. J., Medical and Surgical Society; Æsculapian Club, Buffalo, N. Y.

FRIDAY, *April 19th.*—New York Academy of Medicine (Section in Orthopedic Surgery); Clinical Society of the New York Postgraduate Medical School and Hospital; New York Microscopical Society; Brooklyn Medical Society; Alumni Association of Roosevelt Hospital (annual); Saratoga Springs Medical Society.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending April 5, 1912:

CHOLERA—FOREIGN: *India,* Feb. 4-March 2, 35 cases, 87 deaths.

YELLOW FEVER—FOREIGN: *Brazil,* Jan. 16-March 2, 6 deaths: *Mexico,* March 17-23, 2 cases; *Venezuela,* Feb. 1-March 10, 8 cases, 7 deaths.

PLAGUE—FOREIGN: *Azores,* Jan. 10, present; *Brazil,* Jan. 16-Feb. 10, 1 case, 2 deaths; *Chile,* Feb. 24-March 27, 2 cases, 4 deaths; *China,* Feb. 11-17, 6 cases, 6 deaths; *Egypt,* Jan. 25-March 7, 59 cases, 26 deaths; *India,* Feb. 4-March 2, 243 cases, 229 deaths; *Java,* Feb. 11-17, 5 cases, 1 death; *Mauritius,* Jan. 12-18, 3 cases, 1 death; *Peru,* March 6, 34 cases; *South Africa,* Feb. 12-21, 3 cases, 2 deaths; *Straits Settlements,* Feb. 4-10, 6 cases, 3 deaths; *Venezuela,* March 12, 1 case; *West Indies,* April 3, 1 case.

SMALLPOX—UNITED STATES: *Florida,* March 3-16, 82 cases; *Illinois,* Feb. 1-29, 107 cases; *Louisiana* (New Orleans), March 17-23, 10 cases; *Mississippi,* Feb. 1-29, 183 cases; *Missouri* (Kansas City), Jan. 1-31, 10 cases; (St. Louis), March 17-23, 1 case; *New York,* Feb. 1-29, 88 cases; *South Dakota,* Feb. 1-29, 21 cases; *Tennessee* (Knoxville), March 17-23, 4 cases; *Utah,* Feb. 1-29, 279 cases; *Washington,* Jan. 1-31, 154 cases.

SMALLPOX—FOREIGN: *Austria-Hungary,* Feb. 11-17, 2 cases; *Brazil,* Jan. 16-Feb. 24, 14 cases, 64 deaths; *Canada,* March 17-23, 13 cases; *China,* Feb. 11-17, 53 cases, 38 deaths; *France* (Marseille), Feb. 1-29, 1 death; (Paris), Feb. 27-March 9, 21 cases, 1 death; *Germany,* March 10-16, 9 cases; *Great Britain,* March 3-9, 1 case; *India,* Feb. 4-March 2, 197 cases, 92 deaths; *Italy,* March 3-16, 133 cases, 40 deaths; *Mexico,* January 21-March 23, 79 cases, 37 deaths; *Portugal* (Lisbon), March 3-9, 2 cases; *Teneriffe,* Feb. 26-March 2, 2 deaths; *Russia* (Odessa), Feb. 26-March 2, 6 cases; *South Africa,* Jan. 28-Feb. 10, 2 cases; *Spain,* March 3-9, 31 cases, 1 death; *Straits Settlements,* Feb. 4-10, 3 cases, 1 death; *Turkey* (Beirut), Feb. 26-March 9, 235 cases, 10 deaths; (Constantinople), March 3-10, 8 deaths.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending April 3, 1912:

Anderson, J. F., Passed Assistant Surgeon. Detailed to represent the Service at the annual meeting of the

American Association of Pathologists and Bacteriologists at Philadelphia, Pa., April 4, 5, and 6, 1912. **Currie,** D. H., Passed Assistant Surgeon. Relieved from temporary charge of plague suppressive measures in California, and placed in independent charge of the Service laboratory. **De Valin,** Hugh, Passed Assistant Surgeon. Relieved from duty at the Marine Hospital, San Francisco, Cal., and directed to report to the Commanding Officer of the U. S. Revenue Cutter *McCulloch* at San Francisco, Cal., for duty. **Goldberger,** J., Passed Assistant Surgeon. Directed to proceed to New York, N. Y., to investigate suspected cases of typhus fever. **Horning,** Henry, Acting Assistant Surgeon. Granted seven days' leave of absence, from March 29, 1912, under paragraph 210, Service Regulation. **Houghton,** M. W., Acting Assistant Surgeon. Granted four days' leave of absence, from March 3, 1912. **Kolb,** L., Assistant Surgeon. Granted three days' leave of absence, from March 31, 1912, under paragraph 191, Service Regulations. **La Grange,** J. V., Pharmacist. Granted twelve and a half days' leave of absence, from March 30, 1912. **Lloyd,** B. J., Passed Assistant Surgeon. Detailed to represent the Service at the Annual Conference of State, County, and City Boards of Health of the State of Washington, at Seattle, April 8 and 9, 1912. **Long,** J. D., Assistant Surgeon General. Relieved from duty in the Bureau, effective March 31, 1912, and directed to proceed to San Francisco, Cal., and assume charge of the field operations in connection with plague suppressive measures in California. **Rucker,** W. C., Passed Assistant Surgeon. Detailed as assistant surgeon general for duty in the Bureau, in charge of the Division of Domestic (and Interstate) Quarantine, effective April 1, 1912. **Simonson,** G. T., Acting Assistant Surgeon. Granted one day's leave of absence, without pay, March 29, 1912. **Stevenson,** J. W., Acting Assistant Surgeon. Granted two days leave of absence, without pay, April 3 and 4, 1912.

Boards Convened.

Board of medical officers convened to meet at the Bureau at 11 a. m., Friday, March 29, 1912, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Assistant Surgeon General W. J. Pettus, chairman; Passed Assistant Surgeon J. W. Schereschewsky, recorder.

Board of medical officers convened to meet at the Bureau, April 8, 1912, for the examination of candidates for admission to the Service: Passed Assistant Surgeon A. M. Stimson, recorder, Vice-Passed Assistant Surgeon Joseph Goldberger, relieved.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending April 6, 1912:

Bosley, John R., Captain, Medical Corps. Ordered to Fort H. G. Wright, N. Y., for duty. **Bruns,** Earl H., Captain, Medical Corps. Granted thirty days' leave of absence. **Jones,** Harold W., Captain, Medical Corps. Ordered to the Army and Navy General Hospital, Hot Springs, Ark., for observation and treatment. **Kelly,** John P., First Lieutenant, Medical Reserve Corps. Reports arrival at College Park, Md., with Signal Corps Aviation School, from Augusta, Ga. **Maguire,** Daniel F., Lieutenant, Medical Corps. Ordered to proceed from Fort Barrancas, Fla., to Fort Oglethorpe, Ga., for temporary duty. **Maus,** L. M., Colonel, Medical Corps. Relieved from duty at headquarters, Central Division, and ordered to Governor's Island, N. Y., for duty as Chief Surgeon, Eastern Division. **Patterson,** R. U., Major, Medical Corps. Granted leave of absence for one month, to take effect upon the completion of his duties at Fort Leavenworth, Kansas. **Rich,** Edwin W., Captain, Medical Corps. Relieved from duty at Fort Mason, Cal., and as attending surgeon at San Francisco, Cal., and ordered to proceed to Fort Clark, Texas, for duty. **Russell,** Frederick F., Major, Medical Corps. Detailed to represent the Medical Department of the United States Army at the meeting of the Medical Society of the State of New York, to be held in Albany, N. Y., April 16 to 18, 1912. **Shook,** Jay R., Major, Medical Corps. Granted leave of absence for two months and twenty days. **Stephenson,** William, Lieutenant Colonel, Medical Corps. Orders directing him to report to the Commanding General, Eastern Division, for duty as Chief Surgeon of that division, is revoked.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending April 6, 1912:

Dorsey, B. H., Passed Assistant Surgeon. Detached from the Naval Hospital, Boston, Mass., and ordered to Camp Elliott, Canal Zone. **Hathaway,** G. S., Passed Assistant Surgeon. Ordered to the Naval Hospital, Boston, Mass. **Hoen,** W. S., Passed Assistant Surgeon. Ordered to the Naval Hospital, Puget Sound, Wash. **Ryder,** C. E., Surgeon. Detached from the Naval Hospital, Puget Sound, Wash., and ordered to the Asiatic Station. **Ziegler,** J. G., Assistant Surgeon. Detached from Camp Elliott, Canal Zone, and awaits orders.

Births, Marriages, and Deaths.

Married.

Scott—Green.—In Brooklyn, N. Y., on Wednesday, April 3d, Dr. Peter Scott and Miss Gertrude Green. **Young—Day.**—In Denver, Colo., on Friday, March 29th, Mr. Edward E. Young and Dr. Alice M. Day, of Dallas, Texas.

Died.

Arnold.—In Baltimore, on Sunday, March 31st, Dr. William T. Arnold, aged sixty-seven years. **Bell.**—In Toledo, Ohio, on Friday, March 29th, Dr. Robinson Bell, aged fifty-two years. **Bradley.**—In Macon, Ga., on Thursday, March 28th, Dr. John H. Bradley. **Britton.**—In Bushkill, Pa., on Friday, March 29th, Dr. Charles Potts Britton, of Trenton, N. J., aged sixty-six years. **Cadieux.**—In Canandaigua, N. Y., on Friday, March 29th, Dr. Joseph H. Cadieux, aged seventy-six years. **Child.**—In Ogdensburg, N. Y., on Wednesday, April 3d, Dr. Nelson N. Child, aged seventy-five years. **Davis.**—In Springville, N. Y., on Tuesday, March 26th, Dr. J. D. Davis. **Dewees.**—In Newark, N. J., on Tuesday, March 26th, Dr. W. B. Dewees, aged fifty-seven years. **Guth.**—In Erie, Pa., on Wednesday, March 27th, Dr. Morris S. Guth, aged sixty years. **Hoag.**—In New York, on Tuesday, April 2d, Dr. William E. Hoag, aged seventy-one years. **James.**—In Galt, Ontario, on Thursday, March 28th, Dr. E. Pearson James, aged thirty-three years. **Landon.**—In Silver Bay, N. Y., on Friday, March 22d, Dr. D. S. Landon, aged eighty-five years. **Lemmon.**—In Albion, Ind., on Saturday, March 23d, Dr. Stansbury W. Lemmon, aged eighty-two years. **Little.**—In Dallas, Texas, on Tuesday, March 26th, Dr. W. H. Little, aged forty-five years. **Maser.**—In Parsons, Kansas, on Wednesday, March 27th, Dr. George W. Maser. **Metcalfe.**—In St. Louis, Mo., on Saturday, March 23d, Dr. N. E. Metcalfe, aged fifty-eight years. **Musser.**—In Philadelphia, on Wednesday, April 3d, Dr. John H. Musser, aged fifty-five years. **Picorelli.**—In Brooklyn, N. Y., on Saturday, April 6th, Dr. Nicola Picorelli, aged forty-four years. **Rasbach.**—In Ilion, N. Y., on Wednesday, March 27th, Dr. James I. Rasbach, aged fifty-nine years. **Ratliff.**—In West Newton, Ind., on Monday, March 25th, Dr. Barclay Ratliff, aged fifty-eight years. **Reynolds.**—In Denver, Colo., on Thursday, March 21st, Dr. George H. Reynolds, of Delhi, N. Y. **Schlotterback.**—In Ligonier, Ind., on Monday, April 1st, Dr. Eli L. Schlotterback. **Smith.**—In Evansville, Wis., on Monday, April 1st, Dr. Charles M. Smith, aged seventy-seven years. **Smith.**—In Campbell, N. Y., on Friday, March 29th, Dr. Charles S. Smith, aged forty-seven years. **Tiedemann.**—In Seattle Wash., on Friday, March 29th, Dr. John Tiedemann, aged forty-eight years. **Walker.**—In Detroit, Mich., on Friday, April 5th, Dr. Henry O. Walker, aged sixty-nine years. **Walters.**—In Little Rock, Ark., on Tuesday, March 19th, Dr. John R. Walters. **Wells.**—In Fulton, N. Y., on Saturday, March 30th, Dr. Willis M. Wells, aged sixty-one years.

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ETIOLOGY OF PERINEAL LACERATIONS.*

Indications and Technique of Primary Perineorraphy.

BY J. CLIFTON EDGAR, M. D.,
New York.

Although the scope of the present paper takes no cognizance of the varieties, symptoms, and diagnosis of pelvic floor lacerations, still it has to do in a limited extent with the etiology.

Preservation of the tissues of the pelvic floor has been placed by some authorities as second in importance only to the preservation of the lives of the mother and child. From this standpoint it is possible to discuss the entire mechanism and conduct of labor with the one aim in mind, of saving the tissues that go to make up the pelvic floor under all circumstances, when other more weighty conditions do not contraindicate. The subject has actually been handled in this manner by a German by the name of Krantz (*Die Aetiologie der geburtshilflichen Dammverletzung, und der Dammschutz,* Wiesbaden, 1900).

The factors which bear directly and indirectly upon the causation of pelvic floor lacerations, are numerous, but for convenience they may be divided into four major classes, namely: 1. Anomalies of the expulsive forces; 2, anomalies of the soft parts —vagina and pelvic floor; 3, faulty presentations and positions of the fetus; 4, faulty posture of the mother.

1. Excessive expulsive power, both voluntary and involuntary, causing the too rapid advance of the head, shoulders or breech, is one of the most important if not the most important factor in the etiology.

2. The unusual rigidity of the tissues, seen especially in elderly primiparæ, in the corpulent, and in cases of local edema, and the peculiar friability of the pelvic floor tissues seen in certain women, are all predisposing causes.

3. Beside rapid expulsion, whether the delivery is spontaneous or artificial, faulty positions and presentations of the fetus enter into the etiology. The birth of the suboccipitofrontal circumference of the head is always a menace to the integrity of the perineum in cranial and breech, as is the occipitomental circumference in face presentations.

4. Some years ago, the fourth factor in the etiology, namely, the faulty posture of the mother, was vividly brought to my attention. Upon the same afternoon I made my hospital rounds at two maternity services. At each a forceps operation was in progress, the patients both being in the exaggerated lithotomy posture at the edge of the operating table. Perineal tears occurred in both instances, by reason in my opinion, of two important errors in technique.

Long observation has convinced me that extraction of the head at the outlet with the patient in the exaggerated lithotomy posture, conduces to unnecessary injury to the pelvic floor. Hence at the moment of extraction or expulsion of the head, the patient's thighs should be brought down into the ordinary dorsal or "cross bed posture."

Moreover, the delivery of the head through the pelvic outlet with the forceps still applied, is usually unnecessary and favors lacerations.

Although the term, perineal laceration, as commonly employed is anatomically incorrect, since it is made to include lacerations of the posterior vaginal wall, rectum, labia, and vestibule, as well as the perineum proper, still since perineovaginal, and perineovaginorectal are most common, it is convenient for clinical purposes to consider three degrees namely, first degree as superficial perineovaginal, second degree as vaginoperineal, extending down to the sphincter, and third degree vaginoperineorectal lacerations in which the sphincter ani is involved.

The mechanism of pelvic floor lacerations is, I believe, as follows: 1. When the remains of the hymen give way to the presenting part, the laceration may extend to the fourchette, or in multiparæ may begin in the latter. According to the circumstances in each case, the injury may stop at the fourchette or extend to a variable degree into the pelvic floor. 2. The rupture of the pelvic floor is simply a continuation of the vaginal lacerations. The mucous membrane is the first to yield, the tear extending into the subjacent tissue. In fact, as is not infrequently the case, a submucous and muscular rupture of the pelvic floor can occur to such a degree as to involve all the tissues down to the rectal wall, and including the latter, and still the *integument* over the perineum remain intact and present no external evidences of rupture. Within the year I observed such a case in an elderly primipara, in which all the tissues, with the exception of the skin, were torn through, including the anterior rectal wall and some of the fibres of the sphincter ani.

INDICATIONS.

The neglect to recognize and repair a severe or complete tear of the perineum may be said to be inexcusable, and many suits for damages have been

*Read at a stated meeting of the Medical Society of the County of New York, February 20, 1912.

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based upon neglected tears involving the rectum.

Whether the repair shall be immediate, or after several hours or even days have intervened, is to be decided by the individual operator, and the condition and environment of the patient at the termination of labor.

Broadly speaking, the sooner the wounds are closed the better, but there is much to say in favor of a delay of a few hours or possibly days.

One authority asserts considerable advantage in the repair of the lacerations in from five to seven days after labor, pointing out that not only has the swelling, edema, and bruised conditions of the parts subsided, rendering the anatomical relations clear and well defined, but the patient is in better physical condition for complete anesthesia. The lacerated cervix is first repaired, followed by the pelvic floor, and the additional assertion is made, that by this method involution is more rapid, thus shortening the puerperal period.

This plan of intermediate repair of the lacerations has not been widely adopted. It temporarily disturbs lactation, and then the lochia is much more irritating several days after labor than at first, thus interfering with primary union; or a possible mild sapremia may demand a real secondary operation.

The delay of a few hours, on the other hand, is often not only advisable but imperative, by reason of the swelling, edema, and bruising of the parts, rendering their anatomical relations obscure, the exhausted condition of the patient, the absence of proper equipment, light, and assistants.

Broadly speaking, justification for delay rests upon the severity of the lacerations. Ordinary vaginal and perineal lacerations, not involving the rectum, are best closed at the time of labor; tears involving the rectum should be treated more deliberately, due time being given for the nutrition of the parts to improve, for the patient to recover from the shock of labor, and for the securing of assistance and conveniences.

EQUIPMENT.

Instruments and equipment for the repair of lacerations should be included in every obstetric kit. These need not be cumbersome, numerous, or complicated. My own plan is to include in my obstetric bag, in addition to the usual obstetric outfit, including a Kelly pad, a canvas sling for placing the patient in the lithotomy position, a canvas receptacle containing needle holder, sponge stick, and volsella forceps, and several tubes of No. 2 chromic catgut, already threaded upon a curved perineorrhaphy needle, silkworm gut, and plain catgut. The sling is made of canvas with galvanized iron attachments, so as to withstand frequent boiling, and when folded in its receptacle occupies a space of only nine by four inches.

The three instruments in their canvas cover measure eleven by four inches by one inch.

The scissors is contained in the usual obstetric outfit.

OPERATION.

The patient being placed in the lithotomy posture, in the best available light, anesthesia should be used in all but the slighter degrees of laceration, and this should not be intrusted to the nurse, as is so commonly done.

The field of operation is now cleared of blood by irrigating or sponging with saline solution, no chemical antiseptic being permitted. A piece of gauze on the sponge stick passed up into the vagina, temporarily dams back the lochia and gives one a clear field for suturing.

The parts are now brought as nearly as possible into their normal relations by means of two tenacula, obtained from the broken volsella forceps, in order to appreciate the extent and character of the injury. One's aim should be to secure exact approximation of denuded surfaces in their normal relative positions.

Necrosed tags or bruised bits of tissues should be snipped away, and our aim in each instance should be so carefully to approximate the torn surfaces that no pockets for the collection of stagnant secretion shall remain.

The cleansing and preliminary testing of the extent of the laceration and bringing together of the torn edges before actual suturing, cannot be too strongly emphasized, otherwise, imperfect closure of deep wounds with pockets, too extensive closure of denuded surfaces, shortening the anterior or posterior vaginal walls, or perineum, or wounding the urethra will result.

Drawing the sutures too tight in immediate repair is an all too common error. Although edema and swelling usually subside quickly after labor, still they may increase temporarily with the result that the sutures will cut through the tissues held by them and the wound open.

In tears of the vagina and perineum not involving the rectum, so called first and second degree lacerations, good results may be obtained by separating the labia with the fingers of the left hand, and closing the vaginal wound from above downward with interrupted sutures of chromic catgut, the needle being introduced close to the upper angle of the laceration, near its margin, not appearing at the bottom of the wound, but emerging at a corresponding point on the opposite side.

In high laceration of the vagina, in the absence of retractors, one can conveniently insert the sutures at the upper angle of the wound by palpation with the left index finger. The vaginal laceration is thus stitched in its entire length.

The perineum proper and skin surface are now sutured in like manner, beginning at the lower angle of the tear.

One often encounters two vaginal lacerations, one on each side of the posterior column. These should be sutured separately as just described, care being taken that the posterior column, often bruised and detached from below upward, is left in its normal position. In deep vaginoperineal lacerations, in order that the lower portions of the tear may be lifted up and brought into contact in the same relative positions which they previously occupied, I know of no better means than the Emmet suture.

In this method of suturing, the needle is not passed directly across the wound, but downward until it appears in the floor of the laceration, then reentered and carried upward again until it appears at a point on the opposite side of the laceration, corresponding to that at which it first entered. The sutures are thus passed with two distinct objects in

view; first, of grasping the torn muscular tissue on the lateral wall by deep suturing, and second, of exercising a definite lift, each suture helping to lift up the pelvic floor.

In lacerations involving the rectum, it is convenient to plug the upper vagina with the gauze and sponge stick as described above, and also to insert a plug attached to a ligature, into the rectum above the tear, the latter to be removed before the sphincter ani is finally sutured.

My results, in these vaginorectal tears have always been more certain when a constant irrigation of normal saline solution or plain sterile water is employed over the wounded surfaces.

The rectal tear is first closed from above downward by interrupted sutures of fine silkworm gut or chromic catgut, six sutures to the inch, taking up just enough tissue of the rectovaginal septum to secure a good hold. These sutures are knotted in the rectum, and the ends should be left long to hang out of the anus. If catgut sutures are used and knotted on the rectal side, they are cut short.

An alternative method for the repair of the rectovaginal septum is to place interrupted catgut sutures and bury them, knotting on the vaginal side of the laceration.

After trying both methods many times, I am convinced that the silkworm gut suture knotted in the rectum gives the best results. Two or three fine catgut sutures unite the torn ends of the sphincter ani, and a few buried plain catgut sutures are inserted in the deeper parts of the wound to bring the edges of the levator ani together.

The danger of infecting the wound will be lessened if, after the insertion of the rectal sutures, one uses an entirely fresh set of instruments and needles and a change to another pair of rubber gloves.

The sutures already applied should be reinforced by a silkworm gut suture, which enters the skin to one side, transfixes the sphincter muscle, passes upward above the upper angle of the laceration, skirting the tear so to speak in the rectovaginal septum, and passing again downward, emerging through the sphincter muscle and skin at a corresponding point on the opposite side. The laceration is now converted into one of the so called second degree, and is managed as just described.

AFTER TREATMENT.

The knees should be loosely bound together. The use of the catheter should be avoided if possible, and thorough cleanliness of the external genitals maintained, especially after urination and defacation.

No douches should be used unless the lochia become putrid.

The bowels should be made to move after the second day by an injection of oil into the rectum through a soft catheter, and should a subsequent enema be required, its administration should be intrusted only to an experienced nurse.

In the passage of a vaginal or rectal tube, the greatest care should be exercised not to disturb the sutures.

CONCLUSIONS.

1. More attention should be given to the causes and prevention of perineal lacerations, including posture of the patient. Many perineorrhaphies would thus be avoided.
2. Broadly speaking, all lacerations are best closed at the time of labor, but in those accompanied by bruising, edema, and swelling, the best results are obtained by waiting a few hours or even a day or so until conditions are more favorable.
3. In all cases, before suturing, carefully cleanse the torn surfaces, and adapt the edges with tenacula to determine their proper relationship.
4. Do not draw sutures too tight, as they will cut through the tissues.
5. Avoid chemical antiseptics.
6. Secure an assistant to administer the anesthetic. Do not intrust the ether to the nurse unless she is trained in its use. Use ether and not chloroform.
7. In rectal tears, sutures knotted in the rectum give better results, being less likely to infect the wound, than buried sutures knotted on the vaginal side of the laceration.
8. In primary perineorrhaphy, interrupted sutures for the vaginoperineal lacerations give better results than the buried layer suture.

28 West Fifty-sixth Street.

THE USE OF SPINAL FLUID (AUTOTHERAPY) IN THE TREATMENT OF CHRONIC SYPHILIDES, ESPECIALLY OF THE CENTRAL NERVOUS SYSTEM.

By William Browning, Ph. B., M. D.,
Brooklyn,
Professor of Mental and Nervous Diseases, Long Island College Hospital; Neurologist, Kings County and other Hospitals;
and William Lintz, M. D.,
Brooklyn,
Associate Professor of Bacteriology, Long Island College Hospital; Assistant Physician, Kings County and [illegible] Hospitals.

(*First Paper.*)

That we lack satisfactory methods of treating most cases of diffuse nerve syphilis is too well recognized to need comment.

And the demand for more radical curatives in these lines is so great as perhaps to warrant us in giving some account of work based on an entirely new plan, though as yet various phases of the method and its results cannot be fully considered. Even though it does not prove to be a *therapia sterilisans* at one shot, it may still be an invaluable aid in a desperate class of cases.

RATIONALE OF THE METHOD.

The following is an outline of the facts or basis upon which this method is founded:

The antibodies or immune bodies are recognized as curative agents in specific affections.

During the earlier and systemic period of lues the antibodies appear in the general circulation, and not in the spinal fluid.

In the later spinal and parasyphilitic stages, this tends to be reversed; the antibodies then being in abeyance in the general circulation, but occurring in somewhat concentrated form in the spinal fluid.

The spinal subarachnoidal sac in the human subject has no absorbents (*vide infra*). It consequently retains whatever material accumulates in it.

During the active hours of life this is practically a suspended sac, a kind of settling tank for the cerebrospinal fluid and its ingredients.

Not only biologically (as exemplified by the Wassermann test), but even macroscopically the spinal fluid in these cases usually shows that it carries abnormal constituents.

Antibodies and antigens are known to exist in a solution in a colloidal state, and therefore cannot diffuse through any retaining membrane. Consequently those in the spinal sac cannot reach injurious toxines or organisms in tissues near or far.

The rational thing then is to transfer them from this inert position to the general circulation, and thus give them a chance to exert their proper activity.

Though this series of facts made it appear that good might be done by such a method, it still remained to demonstrate this in practice, and also to determine the range and permanency of its action. We consequently proceeded to observe results in selected small groups of cases.

The three groups that naturally come first are: Paretics, tabetics, and spastic spinal cases. There may be many more, but these are the more common and available.

Of course, degenerative and organic changes in the central nervous system, which have advanced far, must be regarded as permanent. We cannot expect to accomplish much in an old and quiescent case of tabes, and still less in a specific hemiplegia or other gross lesion. Even then the fluid can be tested, and, if found potent, there can be no objection to a careful trial of it. The best we can hope in such is to stop any active process, remove the cause, and remedy some of the partial changes.

Consequently we have chosen only such cases as showed some evidence of active progress or possibly removable material. It has, however, only been used in severe cases and of considerable duration.

Only a long period of observation can determine how complete or how lasting the results are to be. In some, even if a curative effect on the specific trouble were realized, it might still be necessary to absorb exudate or remaining material. None of the cases, however, were under very active medication, and in most of them this was discontinued.

At best the varying proportion of immune bodies in the fluid must affect the results of its use in the individual case.

The psychic influence of novelty or change in treatment is great. For this reason neither paretics nor tabetics are well adapted to any rapid or crucial testing of the method.

The paretic, particularly in the expansive stage, is liable to bubble over with enthusiasm at any new treatment or suggestion. And, that merely psychic stimuli can produce wonderful temporary effects in tabetics has been sufficiently demonstrated of late years. Of course either disease, if actively progressing or followed long and accurately, will show the direction it is taking.

In spastic conditions, however, there appears to be less evidence of psychic deception. And as they are more immediately and demonstrably amenable to specific therapy, they afford a far better field for tests. We consequently began with these.

POSSIBLE DANGERS.

Certain limited risks attend even spinal puncture. These pertain no more to the present method than to any other procedure requiring puncture.

It might be expected that the tense spastic would be most affected by puncture, and that the analgetic and dull tabetic would show little reaction thereto But the reverse is often the case. If kept quiet and carefully guarded, the tabetic may stand a single puncture fairly well. But with him the next puncture should be delayed. In any kind of case repuncture should wait until all reaction from both the former puncture and the injection has fully subsided; and two weeks may be suggested as short enough time in most cases—and it can be stated that even then the antibodies are not fully restocked.

The strictest asepsis in both puncture and reinjection are required, the more as many of these cases are in poor trophic condition.

Care should also be had not to reinject fluid that has become contaminated.

There is always a chance that repeated punctures (because of the inevitable little traumatisms to the vertebræ) may set up a troublesome osteitis or spondylitis.

The cases so far studied indicate that no unexpected dangerous reaction is likely to arise from the autouse of these fluids, provided sufficient time is allowed between the different stages. But whether the reaction which does occur is wholly attributable to a preformed antibody, or to an antigen which subsequently stimulates antibody production, or to both, remains to be determined.

It may be remarked that the best fluids for this purpose always show some fine cloudiness when first drawn, contrasting distinctly with the crystal clearness of ordinary normal fluid. This deposits on standing, showing that it is heavier than the fluid and should be included in the reinjection. Cloudiness appearing later is more likely due to contamination.

Such a patient's fluid is his most valuable possession. It should be taken with every care, kept from leak, loss, chemical or other deterioration, and duly returned to him. In laboratory testing, it is not necessary for present purposes to use the larger amounts of late recommended (five or more c.c.), as the fluid presumably has little value unless the antibodies are demonstrable in much less quantity. This permits us to use for the patient's cure practically the whole amount obtained by the tap.

That this fluid may carry antibodies, antiseptics, and, according to recent work of Tilney, at times the pituitary principle, as secretions (or excretions), is known. But the use of cerebrospinal fluid as a therapeutic agent involves an additional principle.

The spinal subarachnoidal space is a blind pocket or permanent retainer. That such is the case in the human subject was shown

by one of us some fifteen years ago. In animals there are lymphatic outlets, especially along the lower spinal nerves. Some trace of these was still found in the monkey. And in the human subject they are still demonstrable during fetal life. But with the beginning of extrauterine life in man all trace of such absorbents rapidly disappears. (*Vide,* An Examination of the Spinal Efferents for the Cerebrospinal Fluid, in the *Normal and Pathological Circulation in the Central Nervous System;* also *Proceedings of the Association of American Anatomists.*)

This knowledge has hence long been public property. But, possibly because no application has been made of it, the fact has attracted little attention. It is clearly the explanatory key to this whole matter of the spinal retention and accumulation. It gives the interpretation to the findings, and indicates the natural way to utilize this information in practice.

When reclining, as in sleep, some of the upper portion of the spinal stock may possibly work back into the cranial subarachnoid, and thus even get out into the general circulation; but most of that would sink back again on rising, and, in any case, not much affect the more condensed material in the lower portion of the spinal sac.

To do this work satisfactorily requires the immediate cooperation of the pathologist and one who is familiar with all the known luetic reactions, especially of the Wassermann type. To proceed without such control means seriously to risk the patient's chances. Furthermore, this control frequently shows that a case is not adapted to the treatment (either from its different character, or because antibodies are not present in the fluid).

Although guided by certain theoretical considerations, there are so many possibilities and uncertainties in working out a new method, it would have little interest to detail all our experiences. While the plan appeared safe, so long as limited to reinjection of the individual's own fluid, still, from general considerations and then from some special reactions encountered in the initial work, we have proceeded very gradually. Details of the plan, with illustrative cases, will be given in subsequent papers. Suffice it to say that the method is proving its value in some of these types, though not equally in all.

When the technique is sufficiently perfected to make it available for wider use, it is proposed by some of our associates to try fluids of this kind in chronic syphilis of other structures.

REPORT ON THE ACTIVITY OF THE DEPARTMENT OF PHYSICAL THERAPY OF MT. SINAI HOSPITAL DISPENSARY.

By Heinrich F. Wolf, M. D.,
New York,
Chief of the Department.

The department of physical therapy of the Mt. Sinai Hospital Dispensary was opened on December 5, 1910. For certain reasons the department was fitted up with the Tyrnauer apparatus for treatment with hot air, and the treatment was necessarily limited to the use of hot air and massage. The systematic application of these therapeutical measures on strictly scientific lines gave such good results that I feel I can, with justice, give a report on the first year of its activity in order to show how good the results were and how necessary it is to place such a department under the responsible direction of a physician instead of intrusting it to a layman. During this time there were 640 patients sent to the Department, receiving in all 5,945 treatments.

It would seem to me of importance to say something about the organization of the department. It is not open directly to the public, but the patients are sent to it from the different sections of the dispensary. Through this, an overfilling of the department has been avoided; this is even better attained if only those patients are accepted for treatment who present suitable cases and who have a desire for improvement. This seems to me to be of importance, for thereby just so much more energy can be devoted to the cases. The fact that the selection of the patients did not devolve upon us, that after the beginning of this treatment the chiefs of the different departments controlled it, makes our results appear specially interesting. For example, one may remain skeptical about the early treatment of fractures in spite of various authors, and believe there was a special selection of the cases; but if a department receives patients sent to it in the most widely different stages, and who had previously been treated in various ways, then if the treatment is the same in all cases one can form a judgment on the value of the methods of care adopted. This is best seen in the treatment of fractures, of which we had in all about 120. Massage and hot air treatment play a great rôle in the treatment of fractures, though I am sorry to say it is not generally known what significance the early employment of massage has in the rapidity of the recovery. The early treatment of fractures is by no means of very recent date. Back in the early eighties Championnière and later Norstroem earnestly advised massage of broken bones from the very beginning of the injury. Since then a large number of physicians of wide experience have expressed themselves as very decidedly in favor of this treatment.

It is worthy of remark that in spite of all these favorable reports, this treatment of fractures has not been generally in use. The reason for this seems to me to lie in the fact that physicians in general are not sufficiently familiar with the indications for this treatment. It is clear from the start that it is impossible to treat all fractures according to the same rule. My observation has taught me there are two points important for us to consider; first, the motility of the fractured parts and, second, the relation of the fracture to the joint. If the parts are readily movable then one should delay the massage at least until there is a fibrous union between the parts. On the other hand, if the fracture is near the joint, one should try to begin massage and passive movements as soon as possible in order to prevent the joint from becoming stiff. Fortunately we are able, in most cases, to take this attitude into consideration without injury. We find

the more marked motility of the ends of the fracture only in the long bones and far from the joints. Although the callus develops greatly in such cases, there would still be no interference with motility to be feared. One can therefore allow them to be firmly fixed for two to three weeks without damage. The fractures in the neighborhood of the joints show, in the majority of cases, only a slight range of motion of the ends, so that when the bones are once set a duly careful manipulation is not likely to cause a dislocation of the fragments. I must mention, however, the fact that certain physicians begin early with massage in cases of fracture of the long tubular bones in spite of marked mobility, in order to bring about a disappearance of the ecchymosis and swelling, and put on a firm dressing only after a few days have elapsed. This procedure is chosen because the setting of the fracture is thus rendered much easier. There exist, indeed, among the decided advocates of early massage, various opinions as to manipulation during the first few days. Woolsey employs firm dressings in Pott's fracture for four to seventeen days, in Colles's fracture he uses fixation frequently for seven to ten days. Angelesro resorts to bandaging for fifteen to twenty days in fractures with displacement. Thus do the views differ. I do not believe that a general principle can be established; where would the man stand who believed in massage as soon as it was in any way possible? I shall now communicate the observations that I made in the department of physical therapy on the early manipulation of fractures.

COLLES'S FRACTURES.

In the course of the year fifty-three fractures of this type were sent to the department for treatment. The results are indicated in the following table:

Number of cases.	Beginning of treatment.	Results.
11.....	1-7 days	Cured in 12-20 days
7.....	8-14 days	Cured in 3-4 weeks, 1 case 6 weeks
7.....	2-4 weeks	Cured in 6 weeks, 4 cases; 3 cases bad result
19.....	more than 4 weeks	12 cases cured in 6-12 weeks; 3 cases moderate result; 4 cases bad result after 3 months
9.....	6-12 weeks	Uniformly bad result

A case was considered as cured when all movements were free and there was no pain on moderate work. The result was moderate or bad when there was no complete restoration after months of treatment. Naturally we cannot tell what the final result will be after longer periods of time.

FRACTURES OF THE ELBOW, SUPRACONDYLAR.

FRACTURES OF THE ELBOW.

Supracondylar.

Name.	Age.	Beginning of treatment.	Results.
S. B.....	7 years	14 days	Straight arm in 5 weeks (strong posterior displacement, cannot bend more than to 80° for mechanical reasons—perfect motion otherwise)
S. K.....	8½ years	6 days	Discharged as cured 25 days
C. L.....	8 years	5 days	Discharged as cured 25 days
T. W.....	13 years	8 days	Discharged as cured 28 days
B. T.....	10 years	7 days	Discharged as cured 6 weeks
S. T.....	3 years	16 days	Discharged as cured 6 weeks
T. W.....	5 years	20 days	Discharged as cured 6 weeks
T. S.....	19 months	18 days	Discharged as cured 31 days
J. L.....	38 years	14 weeks	(6 weeks in plaster) ankylosis 5 times, adhesions broken

The result of mechanical manipulation of this fracture is naturally greatly dependent upon the treatment which immediately followed the injury. For example, in the first case, S. B., who came under treatment ten days after the injury, extension is normal, but flexion is possible to only 80°; the cause of this incomplete result lies in the mechanical interference which the callus offers to flexion. In this case the radiograph shows a marked backward displacement of the distal fragment which is the cause of the greater callus formation. In fact examination under narcosis shows a firm obstruction to motion. Movement today, five weeks after the injury, is perfectly free between 180° and 80°. The ultimate result in all cases of fracture at the elbow joint appears to be dependent upon the position into which the joint is put. Marked flexion appears to give the best results. The only exceptions are the fractures of the olecranon.

FRACTURES OF THE OLECRANON.

Case.	Age.	Beginning of treatment.	Result.
A. P.....	10 years	6 days	Complete cure in 4 weeks
S. B.....	5 years	14 days	Complete cure in 8 weeks
T. R.....	?	4 weeks	Complete cure in 7 weeks
		External Condyle.	
B. R.....	?	4 days	Complete cure in 25 days
M. A.....	6 years	3 weeks	Complete cure in 5 weeks
H. D.....	8 years	3 months	Much improved, 5 months (75°-165°)[1]
		Internal Condyle.	
H. M.....	11 years	6 weeks	Complete cure 10 weeks
B. B.....	8 years	14 days	Good result after 2 months[2]
		Neck of Radius.	
A. G.....	?	15 days	Cured 5 weeks

[1]Radiograph showed a very obvious displacement of the condyle, the line of fracture going through the joint. At the onset of treatment the movement was about 30°.

[2]Patient, a boy of eight years, came very irregularly, often remaining away for eleven days without the knowledge of his parents.

The age of the patient has very little influence upon the ultimate result. Among those who came under massage treatment within fourteen days some were between fifty and sixty years old and poorly nourished. If one sees any difference, it is that young persons can more easily stand a longer immobilization without prejudicial results than can older ones. With these, passive movements and early massage are of special value. A patient, seventy-five years old, who came under treatment nine days after her injury was, in spite of deficient union (posterior displacement), in a position to attend to her housework after three weeks; cured after six weeks. The limitation of motion at that time was only muscular.

Furthermore, I would remark that patients who showed marked edema fourteen days after their injury and who went under treatment late required a much longer time for recovery.

Hot air treatment was not used in the early stages. It was seldom necessary in the majority of those cases which came under treatment within fourteen days. It was employed, however, in all cases in which there was stiffness of the joint, usually only after three to four weeks following the injury.

There is little to say concerning the technique. When necessary the skin is shaved, and white petrolatum or talcum powder is used as a lubricant. The injured part is to be well supported, especially in the recent cases, and stroking alone is employed with the open hand. One should begin with gentle pressure in order to avoid pain, and this should be gradually increased as the pain grows less. In impacted fractures one can at once begin cautiously with passive movements, however, only without

causing noticeable pain. If the fragments are movable then one must wait eight to ten days for the use of passive motion. In any case, one cannot make a mistake if one is guided in his procedure by the painfulness of the process. As long as this does not arise during the manipulation, one need not be afraid of causing any harm.

Active movements are not so essential. They are of the first importance, however, when one wishes to strengthen the muscles. This can and should also be obtained through massage of the associated muscles. However, if one massages the fracture early the recovery is so rapid that the muscular atrophy never reaches any considerable extent.

I shall not go into a consideration of the other forms of fractures, because they came for treatment too late or too seldom for us to form any opinions. I would, however, say a few words upon the after treatment of fracture of the patella. Operative uniting of the fragments had been carried out in the three cases which were sent to us. I believe that in all of them treatment with passive manipulation should have been begun about three weeks after operation. This certainly was not done in our cases. Though massage is important for the restoration of muscular power, and hot air treatment for the softening of the tissues, the simple apparatus I have recommended for passive bending of the knee seems to me to be specially valuable.

In conclusion, I might say that fractures should be treated from the very first with massage and passive movements, if this treatment is not contraindicated. From my observations I can regard only the free motility of the fragments or open wounds as contraindications. But in these cases also one should not wait longer than is absolutely necessary before starting the treatment; that is, only so long as these contraindications exist. Certainly one should never dare to trust the early care of fractures to a layman; a physician alone should carry it out. In this he must allow himself to be guided by the radiographic findings. And, again, I have to state that the treatment should not cause more pain than the patient is well able to bear.

JOINT DISEASES.

In the course of the year there were a large number of diseases of the joints referred to us. I will say immediately that none of these cases was of a tuberculous nature, for, according to experience in these cases, neither massage nor hot air treatment is indicated. I will likewise not mention here the chronic arthritides, because both the treatment and the results are known generally. It seems more important to me to discuss more fully the acute affections of either traumatic or inflammatory nature. It is true for both that in general the treatment of these joints is begun much too late. This is peculiarly hard to understand in the case of the traumatic lesions. It is quite purposeless to delay the treatment in ordinary contusions as well as in dislocation of the joint. Once a dislocated joint is reduced, there is no existing ground for delaying the massage treatment. The bandage can always be so applied that the joint is held in its normal position, while at the same time it shall be accessible for massage. If this is impossible, then massage can be carried out through the bandage. The blood and swelling in the ordinary contusion, as well as in dislocations, are made to disappear by massage. Beside this the pain will be much diminished, so that the way is prepared for further treatment, that is for passive movements. Therefore one should begin passive movements after two or three days in contusions, and eight to ten days following dislocations. Certainly after this length of time the joint capsule is so far healed that one can make careful movements without danger. I cannot see why so long a delay is made in the different joint injuries, until finally adhesions have formed. It is, then, in these frequently described conditions that the massage is intrusted to a layman. It is undoubtedly a waste of energy on the part of the physician, and a loss of time and money on the part of the patient, to allow such adhesions to form as necessitate a prolonged treatment, instead of preventing their formation. The saying is true here that prophylaxis is the better part of medicine.

It is more difficult to decide the proper standpoint in the inflammatory joint diseases. I refer here primarily to gonorrheal arthritis, then to those which are also uniarticular, with high fever, swelling, and redness at the onset, the etiology of which is, however, often unknown (gonorrhea being excluded). One has to consider two possibilities; the danger of general infection and that of total stiffness. The former forbids massage or passive motion; to prevent the latter they are necessary. Without doubt, the former is the more important, and still we cannot afford to lose sight of the latter. Here is where the judgment of the physician is of the greatest importance. This dilemma will make work for the doctor. The majority give up the battle and accept the stiffening as unavoidable. Possibly thermopenetration will give us a general solution to the question. Doctor von Berndt advised that the joint be subjected to this procedure. Thereby the temperature of the tissues can be raised to the desired degree, if possible to 40° to 41° C. Gonococci are known to be very susceptible to high temperature and are greatly reduced in resistance. Through this we may be in a position to begin very early with massage and passive movements, without necessarily fearing a general infection. Unfortunately we have no apparatus for this high temperature at our disposal. In addition, vaccine and serum treatment would seem, from reports, to be very promising. Furthermore, the danger of causing a general infection in gonorrheal arthritis through massage seems to me to be very much overrated. It is well known that urologists begin the massage of the prostatic abscess when the acutest stage is passed and the prostate is still full of gonococci. In spite of that, no case of general infection has been reported as a result of such treatment. Furthermore, the investigations of Bauer indicate that the gonococci die out very quickly in the tissues, and, even a few days after the development of a joint involvement, no living cocci can be found. If we then bring into contrast the small danger of general spreading of the gonococci through massage—in fact, such an occurrence has never been observed—and the great advantage to be gained through the early manipulation, then we certainly cannot be in doubt as to our choice. I treated such gonorrheal joints with massage over fifteen years ago, and

never saw any unfavorable results. As for the technique, it is scarcely necessary to say that one must proceed with the greatest care. The sensitiveness of such a joint is so acute that even the gentlest touch is almost unbearable. I have observed that it is not the touching which is so painful so much as the jarring of the joint caused thereby. It is therefore of prime importance to place the joint in a position that is comfortable for the patient, and while one hand carries out the stroking—the only massage which is permissible—the other must keep the joint completely quiet. In order to get greater effects one must use a great deal of soft petrolatum, for the more slippery the hand the gentler the massage. The pressure can be increased, but very gradually, and, indeed, only if the patient is relieved. This relief is the goal we are striving for through each single manipulation, and only when we reach this goal have we an indication as to whether our treatment was the right one.

All this depends in great part upon the masseur. When our department was opened and my assistants were not yet highly skilled, a patient came to us with an acute gonorrheal involvement of the elbow. The sensitiveness was so extreme that none of my assistants could undertake the treatment. Through the proceedings above mentioned only, especially by fixation of the joint with one hand, could the treatment be carried out with good results.

In the case of the acute joint inflammations of other etiology, the type of treatment is naturally dependent upon the possibility of general infection. One must therefore wait until the signs of acute involvement have disappeared. But one should likewise not wait too long before beginning passive movement. There is no general rule for the time at which to begin; that must be determined in each individual case by the physician.

Hot air treatment is decidedly not advised in cases in acute or subacute stages, for active hyperemia, swelling, and thereby pain are greatly increased. Here the passive hyperemia of Bier is in order.

Certain forms of multiarticular gonorrheal rheumatism occupy an entirely different position. They are the toxic forms in which there is swelling about the joints and serous effusion into them. They suddenly appear, now here, now there, and disappear without leaving behind any serious alterations. In these cases recovery is considerably hastened by massage.

The number of acute cases treated in our department is indeed small, but the results throughout were so good that I will cite them:

CASE I. T. M., operator, twenty-three years old; fell sick at the end of September, 1911. Right elbow was swollen, skin red, very painful, temperature 105° F. In hospital for five weeks. Bier treatment. Sent to the department for treatment October 31, 1911, still swollen, motion about 30°, no signs of acute inflammation. Treatment massage. Patient improved rapidly and was discharged four weeks later.

CASE II. A. W., nineteen years old, dressmaker, came to the department May 19, 1911. Disease started five weeks before, left elbow highly swollen, exceedingly painful, no motion, kept in flexion at 130°. Bier bandage did not relieve the pain, massage did relieve the pain, but had to be done very carefully with fixation of the joint. Over night a starch bandage was used for protection. May 27th, the bandage was left off, swelling decreased, passive motion started. June 15th, patient was improving rapidly. July 5th, patient was going to begin work in the shop; bending and stretching nearly normal. Patient came to see us on November 8, 1911; motion and strength normal; had worked continuously.

CASE III. T. S., aged thirty years, gonorrheal arthritis of left hand. Was first treated outside for six weeks and had some motion in her fingers. The hand was swollen and painful and was put into plaster; when the plaster was taken off the hand was perfectly stiff and still swollen. It took eight weeks to give her good motion in her finger joints. The wrist still remains somewhat stiff. This case illustrates very well the bad effects of immobilization in these affections.

CASE IV. Th. Th., aged forty-nine years, laborer. Admitted on January 10, 1912; patient fell on January 5, 1912, and dislocated his shoulder. The dislocation was reduced on the 6th and the arm immobilized. January 10th, bandage taken off and massage started. After the massage the arm was immobilized with strips of adhesive plaster that left the shoulder exposed. The massage was only slightly painful and slight passive motion was started without any greater amount of pain. Bandage removed and sling adopted on January 17, patient can lift his arm above his head and abduction is about 80°. Patient went to work as fireman *three* weeks after the accident.

CONSTIPATION.

It is well known that constipation is a very widely spread symptom. It is to be regretted that the great majority of people and many physicians do not know that it is only a symptom, and that the most widely different causes may underlie it. The following three forms only are suitable for mechanical treatment: 1. That caused by a weakness of the smooth muscle of the intestine. 2. That due to weakness of the voluntary abdominal muscles. 3. That from relaxation of the floor of the pelvis. In the first form we usually find the ampulla of the rectum empty; it is full in the second, and still the weak abdominal muscles cannot expel the contents. In the third form it is also full, and pressure drives the pelvic floor downward instead of its rising. Massage is the best form of treatment for the first form. There are, however, physicians who deny this, but it is obvious from their own statements that they have not carried out the treatment themselves, and that the technique used was of very little value; therefore their judgment is of little worth. The dispensary is, in general, not a good place for the introduction of such treatment. The patients come to the doctor for a cathartic, and will submit themselves to an etiological treatment only for special complaints. The method which I advise, and one which closely resembles that of Joseph Schreiber, is totally different from the generally bad procedures. The useless stroking of the abdominal wall I have entirely abandoned. It is not important at what point one begins massage. Nothnagel says, "It is ridiculous to believe that one can move the intestinal contents through external movements of the hand." That is by no means the purpose of this massage. What one wishes to obtain and should obtain is a greater activity of the intestinal musculature. In order to accomplish this one must attempt to grasp the gut between the points of the fingers and the posterior abdominal wall and to stimulate it by thrusts. This treatment, if practised with some care, is neither unpleasant nor painful. The massage table for this treatment must not be higher than two and a half feet, thereby allowing the masseur to use the weight of his body in the manipulation. This is of importance, for the use

of a high massage table practically excludes a prompt result. The method which I employ is so effective that I abandon the treatment if there has been no result after fourteen days. In the course of the year eighteen of these cases were sent to us to receive the treatment. Of these, four were unsuited for the treatment—one case of lead poisoning, one of mucous enteritis, and two of spastic constipation. In all we began the treatment in spite of an anticipated failure. Of the remaining cases, five gave up treatment after the first or second massage. The result in the others was excellent. In every one of these cases spontaneous evacuation of the bowels began after three to six treatments.

Case V. T. T., nurse, constipated for twenty years. Never had a movement without a cathartic. After two massages an enema sufficed to move the bowels (previously ineffective). After six treatments there were spontaneous movements. Discharged cured after twelve treatments.

Case VI. M. B., aged thirty-three years, constipated for fifteen years. After but one treatment a glass of water in the morning was sufficient to move the bowels. Five treatments in all. For three weeks without cathartic.

Case VII. C. B., aged twenty years, finisher. Constipated for nine months, takes a dose every day. After first massage bowels moved. After that they moved spontaneously or after enema. Patient had weak abdominal muscles and diastasis of the recti. Had desire to move the bowels but could not do so. Enema of very small amount of water moved them at once (ampulla must be filled).

Case VIII. N. F., aged forty-eight years, constipated for ten years. Grew steadily worse, had to increase dose of cathartic. Had headache and backache. After two treatments the bowels moved spontaneously, and continued moving for two weeks, after which patient was discharged as cured.

Case IX. R. G., aged eighteen years, constipated since childhood, medicine every day. After six treatments bowels moved spontaneously. Discharged after ten treatments (had to go to work). Six months later the result was still perfect.

Case X. H. P., fourteen years old, constipated for two months (?). Came irregularly for treatment. After eight days the bowels moved with one half the usual dose. After twelve days with only one half teaspoonful a day (before one teaspoonful three times a day). After fourteen days medication stopped, after three weeks discharged as cured.

Case XI. R. R., aged twenty years, constipated for six months. After the first treatment spontaneous movement. Since that daily movements for about two weeks, then stopped coming.

4 West Eighty-third Street.

AN ANALYSIS OF THE RESULTS OF DORSAL ROOT SECTION IN THE TREATMENT OF THE SPASTIC STATE OF CEREBRAL DIPLEGIA.*

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(*Concluded from page 734.*)

Surgical considerations (Taylor), and case histories (Clark and Taylor).

The surgical technique employed in the cases to be reported was described and discussed in the *Annals of Surgery* for April, 1910, although there have been a few modifications in the instruments used for the removal of bone.

Through a unilateral laminectomy properly performed, the roots of both sides may readily be divided without in any way injuring the cord substance. In most of the lower extremity cases a portion of all the roots involved has been divided instead of dividing two consecutive roots completely and then skipping one, as is so frequently advised. An objection has been raised, that in dividing a part of the root the remainder would be traumatised, but this objection is largely theoretical because the posterior roots leave the cord in a series of little bundles and any proportion of these bundles may be cut without injury to those remaining.

Case I. G. D.,[3] a boy eleven years old, whose history was negative except for a cerebral diplegia secondary to meningoencephalitis induced by a very severe attack of malignant scarlet fever at eleven months of age. The boy's paraplegic syndrome was typical; bilateral exaggerated knee jerks, ankle clonus, Babinski, a tendency to "crossed leg progression" was present. The boy, however, with this spastic handicap, was able to walk by very short steps (about the foot's length) without assistance, but with arms extended. Various orthopedic measures failed materially to help him. The extremities were cold and blue. Sensory disturbances were absent. Operation, August 23, 1909; ether.

Left unilateral laminectomy was done, involving the vertebræ from the D_{11} to L_2 inclusive, which exposed the lumbar enlargement and the upper part of the cauda equina, after the dura was opened. In this first case there is some confusion as to the exact nerve section, but the posterior roots of the twelfth dorsal and the first and second lumbar were divided completely, and segments were removed from the next three roots, all on the left side. The dura was sewed tight with a fine continuous catgut, and the remainder of the wound closed tight by layer chromic sutures, with a silk suture for the skin.

Primary union resulted, and he was allowed up on the sixteenth day.

There was marked relief from the spasticity at once in the left limb, especially about the hip and thigh. He was able voluntarily to separate his knees twelve to sixteen cm. The reflexes were lessened on the operated side. After a course of instruction by Miss Margaret R. Baker, he was able to walk without his crutches for the first time in his life. The gait was somewhat awkward, but the knees were held well apart and he could shuffle along at fair speed. As a secondary result there was marked improvement in both his mental and physical condition.

There were no sensory or trophic disturbances at any time. The spine was perfect in contour and function.

On June 27, 1911, the dura was opened through the old wound and the right posterior roots were divided, D_{12} and L_1 and L_2 completely, and one half of L_3 to S_2 inclusive. The wound was closed as before, and primary union resulted. The previously marked spasticity on the right side was replaced by considerable flaccidity.

Note, two and one half years after the first operation, and seven months after the second operation: From inability to walk at all (patient completely collapsed on attempting the same two weeks after the second operation) he is now able to take steps normal in length, unaided in any way. There is still some shuffling in walking. There is no actual loss of sensation anywhere in the lower extremity. Both legs are capable of segmental movements about one half normal range, the right leg being freest in this respect. The knee jerks are absent. The left knee, left big toe, and internal malleolus still show some slight tendency to ulcerations as the result of slight traumatism in getting about. Babinski and Oppenheim reflexes are present about as before operation. There is no clonus. Now that this patient is able to go to school regularly, a remarkable improvement in intellectual de-

*Abstract read before the American Neurological Association, Baltimore, May 12, 1911.

[3]This case was the first one operated in in this country. The [illegible] longed after care the boy has received is somewhat of a standard to be followed by all who wish for similar results.

velopment is noticed by all. The all around betterment in this case is most gratifying.

Case II. E. F., an eighteen year old boy, suffering from left hemiplegia from birth. The boy's birth was the termination of a long and tedious labor, in which instruments were freely used, and the father says "there was a great dent in the right skull of the child at birth." The child was a "blue baby." It was a crying, irritable child, and moved the left arm and leg little from time of birth. In course of time the typical infantile hemiplegic syndrome developed, the arm and leg were moderately undeveloped, the left forearm was contracted on arm at an acute angle, and the hand flexed at more than a right angle at the wrist. The fingers were in extension, and could just be moved. The whole extremity was in a "birdwing" contracture, and spastic. Patient was feeble minded.

November 8, 1909, operation, a left unilateral laminectomy was done under ether. The intention was to divide the left posterior C_5, C_6, C_8, and D_1, but for reasons not worth explaining at length, the final result consisted in the division of the posterior roots of the left side from the C_6 to the D_3 inclusive. The wound was closed by layer suture as in the preceding case. Primary union resulted, and the sutures were removed on the seventh day. The day following operation the spasticity was very greatly diminished, and the arm was moved with great freedom.

February 14, 1910, there was anesthesia of the inner aspect of the forearm and hand, which had persisted since operation. There was also an eruption, somewhat like pemphigus, on the hand and forearm, which had been present for about a month. Many of the sores had healed, and the trouble entirely disappeared later. The spine was normal in contour and flexibility in every way.

The final results were excellent. He gained nearly all the ordinary uses of his arm, but the hand remained paretic, yet able to grasp and hold objects placed in it by the other one.

Case III. The third case operated in was one of infantile cerebral hemiplegia, in M. K., eighteen years old. Right side paralyzed from birth. He had had epilepsy since he was eight months old. At first the attacks were truly hemiplegic, beginning in the arm of the affected side. The whole body was affected. In the fit the patient had an epigastric aura. The right arm was spastic in the shoulder, arm, forearm, and hand. Permanent contraction of the adductors of arm, biceps, and long flexors of the fingers was present. The shoulder and arm were the seat of a mild grade of athetoid movement.

November 15, 1909, operation under ether. Right unilateral laminectomy was done with division of the C_4, C_5, C_6, and C_7 posterior roots. When the dura was first punctured in this case the fluid spurted upward nearly eight cm.

The wound was closed as in the preceding cases. Primary union resulted. The spasticity largely disappeared immediately after the operation. Two weeks after operation, sores like those described in the preceding case appeared on the extremity from the fingers up to the elbow. They healed slowly.

At present, some two years and two months after operation, patient's epilepsy remains about as before operation. He is too simple minded to be put through a training treatment, yet he has been able to use his arm in dressing and undressing himself much better than before the operation. No further ulceration has occurred since those above cited.

Case IV. Thomas M., fifteen years old, an athetoid diplegic. June 27, 1911, operation under ether. Left unilateral laminectomy was done, and through this one sided exposure the posterior roots of the left C_5, C_6, and C_8, and the right C_5, C_7, and C_8 were easily divided. In this case the pia mater was unusually thick and opaque. The wound was closed as usual. Spasticity was greatly improved, but athetosis is unmodified.

Case V. Joseph H., twelve years old; spastic paraplegia. August 14, 1911, operation under ether. Left unilateral laminectomy was done, and about one half of each posterior root from L_1 to S_2 inclusive was divided on both the right and left sides. The wound was closed as in the preceding cases, and primary union resulted.

The release of spasticity noted in all the other cases is not in evidence here. Patient's condition remains practically unchanged. Evidently a partial resection of individual roots is not able to induce the desired flaccidity, as seen in the other cases.

Approximately, some forty-one cases of Little's disease have been subjected to this operation.

Little's Disease: Cases operated in:

	Cases.
Küttner,	10
Klapp,	6
Clark and Taylor,	5
Foerster and Tietze,	2
Gobell,	2
Gottstein,	2
Biesalski,	2
Hildebrand,	2
Wilms-Kolb,	2
Van Gehuchten,	1
Anschutz,	1
Kotzenberg,	1
Hevesi,	1
Frazier,	1
Codivilla,	1
Stiefler,	1
Heile,	1
Total,	41

The ten cases following were operated in by Küttner.[4]

Case I (Little's disease). Male, seven years old. Legs held rigidly in adduction and flexion. Myotomy of adductors resulting in rigid abduction so that the child resembled a frog, with arms and legs abducted. Neither voluntary nor passive motion possible in any degree.

At the present time, a year and three quarters following radiculectomy, legs are held in a normal position, passive motion unlimited, and voluntary motion not accompanied by associated movements. The boy can sit without support, and can walk with the aid of two canes.

Case II. (Little's disease). Male, eleven years old. Contractures as marked as in Case I. He could not turn over in bed. To-day, thirteen and a half months after the operation, he walks with two canes and goes up and down stairs without assistance.

Case III (Little's disease). Male, ten years old. Child always confined to bed. Passive motion impossible. The operation was performed in three sittings, and was followed by meningeal symptoms lasting for a long time. Gymnastic exercises begun only one and a half month ago. Now the boy can walk around when supported.

Case IV (Little's disease). Male, ten years old. All motions, passive or voluntary, impossible. Seven months after the operation, flexion, extension, abduction, and adduction, inward and outward rotation are unlimited. The child can stand perfectly straight, and walks alone with two canes. A pronounced cerebellar ataxia appears when walking or standing, but this is gradually overcome by systematic exercises. It is also relieved by supporting the child so that he can even stand on one leg when someone holds his hand.

Case V (Little's disease). Female. Operated upon at the age of three years. Could neither walk nor stand before the operation, but can now walk around when her hand is held.

Case VI. (Little's disease). Male, thirteen years old. Could sit up and stand when supported. Walking impossible. Contractures in extensors of the knee and adductors and inward rotators of the hip joint. Operation one and a half year ago. Following the operation a transitory flaccid paralysis of both legs, persisting in the peronei muscles of the left leg. Nevertheless, he can walk around. Flexion, abduction, and outward rotation now possible. This boy has been going to school for the past few months.

[4] Küttner, Die Foerstersche Operation bei Little'scher Krankheit. *Verhandlungen der deutschen Gesellschaft für Chirurgie*, xxxix, p. 23, 1910.

Case VII (Little's disease). Male, eight years old. Always confined to bed, but active flexion of legs possible in an almost normal degree. Isolated movements impossible. One and three quarters year after the operation, independent voluntary motion. No limitation of active or passive motion in any direction. Walks very well with two canes. Can walk with only one cane, or even without support, but the gait is then ataxic.

Case VIII (Little's disease). Male, four years old. The child was completely bedridden. The results of the operation were less satisfactory than in the other cases, possibly because a tenotomy was performed to counteract the persisting equinovarus contraction of the flexors of the knee. Nevertheless, the child can now walk alone.

Case IX (Little's disease and chorea). The spastic contractures ceased after the operation. No further observations were made.

Case X. Male, twenty-one years old. Always bedridden. Spastic contractures of upper extremities with daily tonic painful spasm of left arm and shoulder. Section of fourth, fifth, sixth, seventh, and eighth cervical roots on left side. Five weeks after the operation spastic contractions had disappeared. The painful spontaneous cramps occurred only in the fingers. Slight shortening of the tendons at the wristjoint remained and might necessitate a plastic operation later on.

Küttner reports the results of Foerster's operation in ten cases of spastic paralysis. Nine of these patients were unable to walk or stand, and five could not even sit up. A boy of eleven years, who previous to the operation could not turn himself in bed, thirteen and a half months after the operation could walk around with two sticks, and with so much ease that the father wanted to seek employment for him as a shepherd. The functional results were equally startling in another child that had been bedridden, but a pronounced cerebellar ataxia is observed when the child walks. Küttner feels confident that the ataxia symptoms will disappear with systematic exercises.

The least satisfactory results were obtained in the case of a small boy in whom tenotomy was performed before the radiculectomy. Küttner is strongly of the opinion that it is better to wait with the tenotomy until afterwards. He also emphasizes the importance of beginning the after treatment as soon as possible, to counteract the tendency to abnormal position, and as the root section only relieves the spastic contractures, but of course not the secondary retraction of the muscles.

The *ultimate results* are good, as far as the time allows us to judge. It must be borne in mind that the patients must be *taught* to coordinate, like little children.

Regarding regeneration, Küttner thinks that it does not take place, but nevertheless he recommends complete resection of the spinal roots, not merely severing them.

In one case of multiple sclerosis the spasticity disappeared immediately after the operation. Two weeks later the child had a sudden attack of paraplegia, of the flaccid type. This second paralysis can in no way be considered a recurrence, but a second stage of the progressive multiple sclerosis. Küttner closes with the remark that Foerster's operation is not to be so readily resorted to in the diffuse progressive cerebrospinal lesions.

Klapp, of Berlin, has performed Foerster's operation in six cases of Little's disease at Bier's clinic. The results were satisfactory on the whole, but he wished to state that the spasm, which disappeared immediately after the operation, returned shortly in more or less pronounced degree (he does not state in how many of his cases). He offers two explanations for this: 1. It may be due to shock, local, from nerve irritation, or general, from loss of blood and spinal fluid or from the anesthetic. 2. Possibly a new reflex route may be formed in the remaining sensory tract.

The next two cases are Foerster's, operated in by Tietze:[5]

Case I (Little's disease). Congenital bilateral atresia of frontal convolution. Male, ten years of age. Examination: Notable deformity of cranium, which was abnormally small in comparison to the massive face. Divergent strabismus. Marked imbecility. Thorax barrel shaped. Arms slightly involved. Spasmodic paraplegia of lower extremities, with following symptoms: Extreme plantar flexion with contractures, rendering any attempt at standing impossible. Ankle clonus and Babinski's reflex on both sides. The flexors and extensors of knee contracted in an equal degree. Only slight passive flexion of knee possible. The thighs were flexed and held in forcible adduction and inward rotation. The only passive motion possible was a slight supplementary flexion. The only voluntary motion possible is a slight flexion of knee and hip, accompanied by dorsal flexion of the big toe and the metatarsal joints on both sides, motions of the arm, flexion of spinal column, and of head upon chest. These secondary movements were more marked and more extensive when the reflex defense contraction was produced, e. g., by pinching the leg. The patient could not sit up nor turn over in bed. The forcible adduction of the thigh was apparently the chief obstacle to active motion. This condition had grown steadily worse during the past two years.

Section of L_2, L_3, L_5I, S_2I was performed on June 11, 1907, by Tietze.

The contractions disappeared during the anesthesia, proving their true spastic character. Following the operation, the limbs assumed a normal position. Passive motion normal in all directions. The patient could sit down without spastic contraction of the flexors of the knee resulting. The Achilles reflex and ankle clonus had disappeared, but patellar reflex was normal. Bilateral Babinski persisted. The defense reflex motions had disappeared almost entirely. Passive motions were somewhat painful during the first five or six weeks, which may have accounted for the unsuccessful attempts at active motion at first. Voluntary motion improved rapidly, so that in September associated muscular movements no longer appeared when he attempted to walk. The left quadriceps remained weak owing to accidental injury to the fourth lumbar during the operation. Sensory disturbances were absent, as far as the low mentality of the child permitted one to determine.

Case II (Little's disease). Female, nine years old. She had never been able to walk or stand. Could only sit up when supported. Disturbance of speech. Imbecility. Bilateral divergent strabismus. Upper extremities showed spastic paralysis. Lower extremities, equinovarus on both sides. Contractures in flexors of the foot, knee, and hip. Passive motion limited in the knee joint. Abduction and outward rotation in hip joint impossible. Passive extension of the thigh accompanied by flexion of both legs and feet. Tonic contractions followed the slightest pressure upon the soft parts, or tickling the sole of the foot, sometimes spreading to the upper extremities, which were held in flexion and abduction with the hand pronated and the fingers extended. Ankle clonus and Babinski present. Patellar and Achilles reflexes exaggerated. Voluntary motion impossible in the foot and restricted to slight flexion and extension in knee and hip, but always accompanied by movements of the other leg, upper extremities, spine, and head. The child could not sit up unsupported, could not raise itself up in bed; standing and walking impossible.

Operation, May 13th and 15th, by Tietze. Bilateral section of third and fifth lumbar and second sacral. Immediately following the operation, passive motions were pain-

[5]Foerster, Ueber die Behandlung spastischer Lähmungen mittels Resektion der hintern Rückenmarkswurzeln. *Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, ii, p. 403-558. 1905.

ful. Babinski persisted. Achilles reflex diminished. Ankle clonus absent. Patellar reflex present on the left side (possibly the fourth lumbar reflex present in both legs, but less marked). No associated movements, except flexion of the knee when leg was raised with patient in recumbent position.

Voluntary motion progressed so that at the end of June flexion, extension, abduction and adduction, and inward rotation were possible. The adductors were still contracted, possibly on account of shortening. On July 5th, tenotomy of Achilles tendon on the left side, and of flexors of kneejoint on the right side. In March, 1908, myotomy and adductors, after which thigh was put up in plaster, in abduction for four weeks. Reduction of congenital dislocation of the left hip, followed by immobilization in abduction and outward rotation for four months. In October, 1908, the child was discharged. Voluntary motion: Flexion and extension of foot to 90° and of hip to about 60°, abduction to 90°. Adduction with greater ease than before. Slight limitation of outward rotation, but not of inward rotation. No associated movements. The girl could sit up in bed, could not stand alone, walked with crutches.

Göbell reports[6] two cases in which he performed radiculectomy:

Case I (Little's disease). A boy, fifteen years, presenting a typical case of Little's disease. The increase in reflexes was so enormous that tapping the table on which the child lay was sufficient to cause tetanic spasms of the lower limbs. Ankle clonus and Babinski well marked. The second sacral, fifth, third, and second lumbar roots were resected. Following the operation, both legs were flaccid, all muscle and tendon reflexes were abolished, voluntary movements returned so the child could walk around when supported. There were no sensory disturbances. About seven and a half months later the reflexes were markedly increased in the left leg, and the associated movements had also returned in the left leg to a slight extent, but there were no marked sensory disturbances (the boy was not intelligent enough for the finer tests). The Babinski reflex was present. The right leg was flaccid, with absence of muscles and tendon reflexes.

Göbell states that, as both legs were flaccid and tendon and muscle reflexes were absent in both sides following the operation, one can only assume that partial regeneration of the posterior spinal roots on the *left* side has taken place. To guard against such an occurrence he recommends Bardenheuer's procedure (entwining the cut ends of the nerves).

Case II (Little's disease). *Hydrocephalus.* Female, five years old. This child had been able to walk, but since its second year had been paralyzed.

Examination: Circumference of head, fifty-eight cm. Movements of the eye were normal. Could walk when supported. Gait ataxic. Equinovarus on the right side. Babinski and ankle clonus present on right side, with increase of tendon reflexes. Reflexes in the right leg only slightly increased, absent in the right arm.

Operation, June 28, 1909. Resection of L_2, L_3, L_5, and S_2. On July 30, 1909, this case was demonstrated before the Schleswig-Holstein Medical Society. Spastic condition had disappeared entirely. Voluntary motion in both legs. No ataxia, no sensory disturbances. No associated movements.

Gottstein[7] gives the two following cases:

Case I (Little's disease). Female, six years old. Died second day after operation.

Case II (Little's Disease). Male, seven years old. All voluntary motion absent. Defense flexion reflex present to a marked degree at every attempt to make the child stand, or at tickling of the plantar surface. Spontaneous tonic spasms of lower extremities when he moved the arms, when speaking, and when frightened. Sometimes the opisthotonus was produced by merely touching the toes of one foot. Operation consisted in resection of the second, third, and fifth lumbar and second sacral. Results: The spastic contractions partly disappeared. Voluntary motion was good. One and a half year after operation the patient could sit unsupported, could stand erect with support, and walked with canes. Gait normal and steady. Ataxia and spastic contractions of upper extremities disappeared gradually.

Two cases of Biesalski[8] are as follows:

Case I (Little's disease). The child died as a result of iodine poisoning shortly after the operation.

Case II (Little's disease). At the present time the child had recovered nicely from the operation and was put up in plaster in order to overcome a tendency to adduction.

Hildebrand[9] performed intradural root sections seven times, in six patients, for a great variety of reasons, including two cases of Little's disease. These patients were two children of seven years and two and one half years respectively. In the first case the first posterior sacral root, and the fifth, third, and second lumbar roots were divided on both sides. In the younger child, with spastic contractures, a relatively good result attended the operation. The contractures have relaxed, and the child is beginning to stand up, but the full success has not yet become apparent for the reason that the child is not normal psychically, and moreover has a congenital luxation of the hipjoint. On account of its youth, moreover, it could not be given the appropriate after treatment. It is probably the youngest child on whom the Foerster operation has been performed for Little's disease. The child of seven years, on whom the Foerster operation was performed, has likewise done well, but the final outcome cannot yet be stated.

Two cases by Wilms and Kolb[10] are as follows:

Case I (Little's disease). Intervention on conus medullaris, division of relatively few fibres. Effect positive, although moderate, according to circumstances.

Case II. Contractures due to athetoid spasms (Little's disease). Although the value of the method was undoubted, the functional result proved unsatisfactory, in view of the complicated features of the case.

An attempt has been made by Wilms to modify Foerster's operation in such a way as to expose the nerves at the conus medullaris, where they emerge from the cord, instead of dividing the sensory roots before their emergence from the spinal canal. The object of the modification is to locate the field of operation higher up, and to diminish its extent. The posterior arches of the twelfth dorsal, first and second lumbar vertebræ are resected, the dura is opened, and the dorsal nerve is traced, drawn forward, and fixed; which causes the spinal cord to become tilted and placed edgewise. There is no difficulty about distinguishing the sensory from the motor fibres. Of the sensory bundles, two respectively were divided, and one was left, passing downwards to the extremity of the spinal cord. The outcome was moderately good in the first case operated in (Little's disease). Wilms regards further attempts in this direction as justified.

The next case is reported by Van Gehuchten[11]:

Little's disease treated by modified Foerster operation.—The patient was a girl nine and a half years old, in whose case the continued wearing of plaster apparatus had corrected the faulty position of the limbs, but the extension contracture of the thighs on the pelvis, and of the

[6]Göbell, *XXXIX Congress für Chirurgie*, 1910.
[7]Gottstein, *XXXIX Congress für Chirurgie*, 1910.
[8]Biesalski, *XXXIX Congress für Chirurgie*, 1910.
[9]Hildebrand, Beitrag zur Rückenmarkschirurgie, *Archiv für klinische Chirurgie*, xciv, H. 2, 1911.
[10]Wilms-Kolb, *Münchener medizinische Wochenschrift*, No. 37, 1961, 1911.
[11]Radicotomie postérieure dans les affections nerveuses spasmodiques (modification de l'opération de Foerster), *Bulletin de l'Academie royale de médecine de Belgique*, iv, 24, p. 800, 1910.

legs on the thighs, prevented all active and passive movements, beside giving rise to extremely severe pain on the slightest attempt at motion. The child had to remain in the horizontal position, sitting being rendered impossible by the involvement of the gluteal muscles in the contraction.

Operation: (Operator, Lerat). Resection of root fibres, in immediate vicinity of cord, was recommended by Van Gehuchten, and the operation consisted in the bilateral resection of three small root bundles, belonging to the posterior roots of the lumbosacral nerves.

On the day following the operation, the child could voluntarily flex and extend the legs on the thighs, and the thighs on the pelvis. Some time was required to give her the courage to walk. She now walks very well when held by one hand and can walk unaided for a distance of about one hundred metres. She flexes the various segments of the two lower limbs voluntarily, sits down on a chair with the greatest ease, and has no trouble in crouching down on her heels and getting up again. But the gait is not normal. It must be kept in mind that the original lesion is not cured by the posterior radiculotomy, which merely aims at diminishing, as well as may be, the harmful results of this lesion, more particularly the muscular hypertonicity.

It is by diminishing the exaggeration of the normal muscular tonus that we succeed in diminishing the obstacle to the exercising of the voluntary motility. The clinical return of voluntary motility, as associated with the diminished spasticity of the muscles, clearly proves what Van Gehuchten has long maintained, namely, that the corticospinal connection, established by the pyramidal tract, takes place through at least two distinct kinds of nerve fibres: fibres concerned with the mechanism of the voluntary motility and fibres which exert an inhibitory action on the tendon reflexes, the inferior cutaneous reflexes, and the normal muscular tonus.

Case of Little's disease (Anschütz).[12] Female, thirteen years old. Spastic contractures of muscles of the calf, in the flexors of the hip and kneejoints, and the adductors. Legs held in adduction or inward rotation. Equinovarus. Standing, walking, or sitting up in bed impossible. Operation: Section of L_2, L_3, L_4I and S_2.

Results: Immediate disappearance of spastic contractions. No sensory disturbances. After six weeks the legs were held in normal position, except for slight flexion of knee and hip. Walking and daily improvement in gait. Gymnastic exercises.

Case of Little's disease (Kotzenberg).[13] Female, four years old. Mentality normal. Lower extremities held in forcible adduction with flexion of hip and kneejoints Babinski and ankle clonus present. Patellar and Achilles reflexes increased. Contractures most marked in adductors, also present in flexors of hip, outward rotators, and plantar flexors. No voluntary and only slight passive motion possible. Section of L_3, L_5, and S_1. Results: Active and passive flexion and abduction normal. Ankle clonus and Babinski not present. Patellar reflex still exaggerated. The author states that it is yet too early to determine the ultimate results in this case. No mention is made of child walking or standing.

Case of Little's disease (Hevesi).[14] The spastic symptoms most marked on the left side. Active and passive motions impossible. Resection of L_2, L_3, L_5, and S_2 on the left side and L_2, L_4, S_1 on the right side. Spastic contractions disappeared at once, and passive motion became possible in all directions. Voluntary motion appeared later, so that seven weeks after the operation the child could stand and walk with the aid of two canes. Gait unsteady, but improved daily. No marked sensory disturbances or ataxia.

Frazier's[15] personal experience has been limited to one case of Little's disease.

Case of spastic congenital diplegia (Little's disease). Patient, aged twenty-four years. Resection of fifth, sixth, seventh, and eighth sensory roots of cervical cord.

Results of operation: In eight weeks almost complete disappearance of athetoid movements; spasticity diminished, but not abolished. Voluntary motion and control of both extremities possible to a much greater degree. Individual voluntary movements *not* restored. Associated movements pronounced. The patient was able to walk with less difficulty. Improvement continued daily.

Frazier is not prepared to say why the results here are disappointing, in regard to spasticity and the associated movements. It may possibly be on account of the cerebral origin, or the section of the roots of the cervical cord may be less beneficial than in the dorsal and lumbar regions, or possibly a mistake was made in the selection of the resected roots.

Case of spastic spinal paraplegia due to sclerosis of lateral strands (Codivilla).[16] The patient was a girl of fifteen years of age, unknown parentage. Disturbances on part of nervous system since tenth year, beginning with some weakness of the lower extremities and limit of motion in walking. Limbs became progressively more rigid and adducted, kneejoints more flexed, until she could walk only with a stick. No results from mercury and iodine treatment.

On examination of the patient in the dorsal position, all the articulations of the lower extremities were found to be flexed; the thighs in the hipjoint, the legs in the kneejoint; the feet in equinus position. Forcible passive abduction or flexion rendered the extremities as well as the trunk rigid and stiff. Unilateral performance of passive motion caused an involvement of the opposite side in the spastic contractions. Active movements were very slight, limited to slight flexion and extension in the kneejoint and slight flexion in the hipjoint; these movements were made slowly and painfully.

Operation: Resection, on right side, of posterior roots, of the second sacral, fifth, and third lumbar; on the left side, on account of its abnormally high origin.

Result of operation: Slight improvement of spasticity. Although the patient's gait still retained its spastic character, the reflex spinal irritability was undoubtedly much diminished. The spontaneous movements were considerably freer, and the patient was better able to control her movements. Spasticity, contractures, and reflex movements were worse on the left than on the right side. The muscular development of the left leg remained stronger, because the resection of the nerves was not so complete as on the right side.

Codivilla is of the opinion that similar results might have been obtained by the ordinary procedures, such as tenontomyotomies, etc. The persistence of the spasticity is certainly referable to the fact that the resection was limited to a small number of nerve roots. The grave and very troublesome contracture of the adductors might have been corrected by resection of the second, beside the third lumbar vertebral arch. In order to lessen the dangers of the intervention (two deaths among sixteen cases operated in), the author recommends the transference of the field of operation from the present lumbar sacral site to the dorsolumbar region, so that instead of the cauda equina, the lowermost

[12]Anschütz, Chirurgische Behandlung der Little'schen Krankheit, *Münchener medizinische Wochenschrift*, p. 1713, August 17, 1909.

[13]Kotzenberg, Durchschneidung der hinteren Wurzeln bei Little'scher Krankheit, *Zentralblatt für Chirurgie*, xxxvi, p. 501, 1909.

[14]Hevesi, Beitrag zur Operation Behandlung der angeborenen Gliederstarre, *Deutsche medizinische Wochenschrift*, 1910.

[15]Frazier, The Treatment of Spasticity and Athetosis by Resection of the Posterior Roots of the Spinal Cord, *Surgery, Gynecology, and Obstetrics*, xi, p. 251 3, 1910.

[16]Codivilla, Ueber die Foerstersche Operation (Resektion der hinteren Nervenwurzeln bei der spastischen Paralyse), *Münchener medizinische Wochenschrift*, No. 27, p. 1425, 1909.

portion of the spinal cord is exposed. Orientation would thus be facilitated, and individual bundles of fibres could be resected, instead of the entire roots. Moreover, the skeletal segments are more superficially situated higher up; the injury to the soft parts is less considerable; a resulting hemorrhage is less profuse, and the field of operation is more easily inspected.

In the case described above, the operation was followed at first by spontaneous pain in the extremities, and pain on active or passive movements. There was urinary retention on the first day. The pains subsided entirely by the end of twelve days. Five months after operation, at the time of the report, the spinal irritability was notably diminished, the spontaneous movements were relatively free, and the patient had much better control over her body.

Case of diplegia spastica infantilis or Little's disease (Stiefler).[17] Foerster's operation, combined with systematic after treatment, undoubtedly led to very satisfactory results; the spasms were in part removed, in part considerably diminished. Especially, the spontaneous motility increased in strength and scope, so that the patient was enabled to sit upright, unaided, and also to walk with the assistance of the hands.

Heile[18] reports a cured case of Little's disease in a child of four years of age, after resection of the second, third, and fifth posterior lumbar and second sacral root, to the extent of about two cm.

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THE SCHOOL AND THE DOCTOR.*

By Gustave Straubenmüller, L. H. D.,
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In all parts of the world, even in so called benighted countries, great efforts are being made to improve the physical condition of man. The battle against human misery in every form is on. Death to dirt and to disease is the worldwide war cry. In the struggle to adjust and to adapt the human body to the great physical and nervous strain imposed upon it by the recent wondrous and epoch making inventions in the arts and sciences, followed by the great industrial and economic changes that have been forced with precipitancy upon us, we need the help of every one. We need particularly the help and cooperation of men of science. We need them to help us to break down the walls of hygienic ignorance and superstition, and not only to point out, but to light up the road to human efficiency through human health. In this clash of arms with the foes to health and vital power, it is wise to protect and strengthen the weakest, the most exposed, and the most pliable of links in the chain of human life—the children—the rising generation. The child is father to the man, therefore let the war on human misery begin with the child. We, physicians and teachers, know that child life, too, has its miseries and its tragedies.

I come before you to-night, gentlemen of the medical fraternity, to ask your individual and cooperative help, not only in minimizing the *obvious* dangers to the physical welfare of the children in school, but also in advocating a scientific study of the *less obvious* dangers in order to determine their exact effect on children and to suggest remedies for their removal. The doctor is really a public official as much as the teacher is, and both should be champions of the physical and mental welfare of the school child. The Greeks, in their wisdom, recognized the close affiliation between medicine and pedagogy in the training of children; for Achilles and other heroes of Grecian story were said to have been educated by Chiron, who was at once physician and teacher.

It is self evident that when the State makes education compulsory, it is in duty bound to provide hygienic surroundings and hygienic instruction for the child. The State's interest in the physical welfare of the child in school should be not a whit less than its concern for a well instructed child, and for that reason medical school supervision has been recognized as a necessary adjunct of a school system in most civilized countries.

While medical supervision is now regarded as essential, its extent, the powers and duties of the school physician, his appointment, and the city department to which he shall be attached, remain unsettled. In settling these questions, however, there should not be a contest for victory, but a contest for truth. Whatever is done to advance medical supervision should be done solely because it is for the best interests of the child and hence for the community. Dr. J. P. Thomas says truthfully, that the most desirable method of progress is that of gradual but continuous evolution.

The work of medical school inspection and cooperation is only in its initial stage. Let us hope it will progress through gradual and continuous evolution. But, gentlemen, this and other similar questions are not self adjusting, there is need of a driving spirit; there is need of consultations; there is need of a give and take policy between not only the school doctor and the teacher, but between the various city departments concerned.

In this city, according to Doctor Darlington, the former Commissioner of Health, "the object of medical supervision over school children is twofold: First, to prevent the spread of contagious diseases; second, to correct physical abnormities, effecting among its important results, an educational economy to the State by placing the child in a physical condition where mental advancement is possible." In one respect this declaration goes too far, and in another not far enough.

That the board of health has the facilities and the machinery to prevent the spread of contagious diseases and that it does this work, cannot be contravened. Whether or not it has the right to correct physical abnormities is at least debatable.

School hygiene, however, does not confine itself to preventing the spread of contagious diseases and to correcting physical abnormities. It has a much wider scope. "Hygiene in general and school hygiene in particular," says Doctor Orthner, an Austrian authority, "are the most recent outgrowths of

[17] Stiefler, Beiträge zur Foersterschen Operation, *Wiener klinische Wochenschrift*, No. 32, p. 1151, 1911.
[18] Heile, *Münchener medizinische Wochenschrift*, No. 3, p. 129, January 16, 1912.
*Delivered before the Eastern Medical Society of the City of New York, October 13, 1911.

natural science practically applied. On the one hand, school hygiene concerns itself with the influence of the school and its government on the physical and mental development of school children, their health, and the health of the teachers. On the other hand, school hygiene concerns itself with the influence of the physical and mental state of the children on the school. The object of school hygiene is to determine the facts concerned, to discover their causes, and to find ways and means of removing observed abuses in a scientific way."

If we agree with this generally accepted definition of the scope of school hygiene, then detection and restriction of contagious diseases and correcting physical abnormities are but a small part of the duties of those intrusted with the health of school children.

School hygiene is prophylactic, constructive, and remedial. It is prophylactic when it guards against and preserves children from myopia, scoliosis, and contagious diseases. Guarding children against myopia and scoliosis will necessitate, among other things, an inquiry into the natural and artificial illumination of schoolhouses, the typographical get up of school books, the proper school furniture, and the proper manner of sitting and the use of the eyes in reading and writing, in school and out of school.

In the prevention of contagious or infectious diseases and their dissemination, exclusion from school of the affected—absolutely necessary though it be—is but a step in the right direction. Is there anything in the ventilating, heating, and drainage of the schoolhouse, anything in the care and use of wash basins, in the cups and water that is imperfect and deleterious to health? But such inquiries are not enough. As Professor Hueppe says, mere prophylactic measures are not sufficient. Uncombined with constructive and remedial work, it is still possible to raise a generation of human wrecks, who will not be able to meet the demands of the age. We must, therefore, urge recognition of constructive hygiene.

On the constructive side, school hygiene demands among other things that physical training be recognized as important as mental training; that the causes of overburdening, if they exist, be scientifically fixed and then removed; that the physiological age of a child and not its chronological age should determine its admission into school; that children should be classified as to capabilities; that home work should be regulated; that there be sex enlightenment, that inquiries be made as to the effect of coeducation, of instruction in the open air, etc. Should the unfed be fed and the unwashed be bathed in school? Sooner or later there will be a call to settle the question of a shorter summer vacation which is now engaging the attention of some educators.

The children in this city have in all about ninety-six days of vacation, not including the Saturdays and Sundays of the school year; they have about ten weeks in the summer, which are included in the ninety-six days. Many children are now attending summer schools in our city apparently without harm. But it is *apparently* only. We have no medical statistics on the subject to refer to. A shorter summer vacation may be fraught with danger or it may be beneficial.

Should the intermission of one hour between afternoon and morning session be prolonged? Should these serious questions be settled by scientific men and in a scientific way, or should parents, or custom, or boards of education settle them?

Let us take one of the foregoing statements and discuss it in more detail, and let it be the admission of the child to school.

When do children become of school age?

The *law* says children may attend a kindergarten class at four years of age, they may attend a regular school at six years, and they *must* attend between seven and fourteen years of age.

Custom says they should go to school at six, and, in some sections of the city, as much earlier as possible.

Hygiene says they should go to school when they are mentally and physically fit to do the work required, irrespective of chronological age; that the child should receive a fair start from the first.

Where do you, gentlemen, stand on that question? Shall the laws of the State, the laws of hygiene, or custom prevail?

In a report of the Commissioner of Education of the United States for 1907, Professor Thorndike, of Columbia University, shows that in 752 communities in the United States of 4,000 population, and over, nineteen per cent. of all children attending school were in the first year, but only 13.7 per cent. in the second. Why this falling off? Why is it necessary for five per cent. of the children to drop out for readjustment, when a medical examination could have determined in the majority of cases the child's unfitness? Why wait until a child breaks down? In Stuttgart, Germany, the difference was less than two per cent. in 1904. Could not we in this country do just as well?

Professor Thorndike's figures prove that a strict medical examination should take place before children are admitted to school, not for the purpose of statistics and record, but for the purpose of rejecting children in order to give them time to acquire the necessary physique. Or, should these children attend but three hours a day instead of five?

In at least one city in Europe, about six months before a child is sent to school, it is examined by a school physician. In case a speech defect is discovered the child attends a class for speech improvement. It is true these children attend the class but a few hours a week, and are not regularly enrolled, but the point I wish to emphasize is that, in this city at least, one handicap is removed before the child enters school.

According to Doctor Harrington, medical inspector of schools in Boston, there were at Copenhagen eighteen per cent. of the boys sickly on entering school. This percentage rose to thirty after two years of school life and reached forty per cent. at puberty. In Germany, one fourth of the number of pupils are physically below par; nervousness among children in these schools increases from ten per cent. in the lower grades to sixty per cent. in the highest grade. A Danish commission found that twenty-nine per cent. of the boys and forty-one per cent. of the girls are sickly. In Sweden the percentage of

illness rose from five in the first school year to thirty-six in the second year, and to forty in the fourth year. At Rugby School, England, one thousand boys, from thirteen to fifteen years of age, showed 36.5 per cent. under height, 47.1 per cent. below normal weight, 42.3 per cent. below normal chest measurements, 49.1 per cent. of the aggregate cases had acquired deformities, 15.7 per cent. had albuminuria. Of 432,937 children examined in Massachusetts, 22.3 per cent. had defective vision, and 6.3 per cent. had defective hearing. Do these figures not show the necessity of medical supervision and the adoption of ways and means for removing or ameliorating these disabilities?

Who shall have the medical supervision of schools? Physicians, of course. Shall they be officials of the school system or officials of the department of health?

If the duty of the school physician outside of the detection of contagious diseases is to be advisory and preventive; if he is to help teachers and principals in the treatment and training of children by expert advice, based on personal observation; if he is to assist in determining the point of mental fatigue, beyond which a child cannot go without harm to itself; if he is to determine the causes of the increase of myopia as the children advance in school; if he is to visit classrooms to *study his problems*—then there is needed a cooperation between school and doctor quite different from that which prevails at present under systems devised by boards of health in this country.

As no one can serve two masters equally well at the same time, as the doctor's relation to the school department in his new duties will be closer and more intimate than to any other city department, as his recommendations in most cases will concern the school authorities more than the authorities of the department of health, it is quite obvious to which department he should be assigned. This work calls for trained physicians and for mature judgment. Even if we did not know of the experience of other large cities, common sense would indicate that the young and inexperienced physician, now usually assigned to the schools, with no training for this higher kind of work, could not possibly measure up to the right standards. This is no discredit to the young physician; this is not an attack on him; the appointment of young and inexperienced physicians is due to a miscomprehension of the scope of school hygiene.

The school physician and the school teacher need not clash. Their work should be complementary; they should mutually supply each other's lack, and *they will*. The teachers, the sentinels of hygiene, will help the physician by reporting the existence of any hygienic irregularities, and the physicians will help the teachers in solving some of their problems, which are frequently of a hygienic nature.

The school physician should be the medical counsel of our youth, pleading for their hygienic interests. In order to do this work his training should extend beyond the hygienic treatment of children, it should include psychiatry; for he may be called upon to determine whether inattention and defective apperception are due to physical causes or not. He should not be permitted to give medical treatment, except in emergency cases. His most important duty is to see that sick children are placed under proper medical care, and his least important duty is to prepare statistics.

He should, however, have the power and the facilities to follow up cases, which he can do through the visiting teacher, a new institution which the board of education proposes to introduce into the system.

In almost all of the regulations that I have seen concerning school physicians, they are not allowed to give direct orders to the class teachers; they must act through the head of the school, and in matters of general importance, through the board of education. Their reports, as a rule, go to the educational authorities, who act as distributors to other interested departments. As there will be many school physicians, organization will be needed, but as that is merely a matter of administration it will cause no trouble. Beside the general practitioner, certain specialists will be needed to study the problems related to their special line of knowledge. We have already one medical specialist in the educational department who examines the mentally defective, and the board of education has asked for another for the same purpose, and for a specialist on anemic children. In the case of the deaf attending our schools, a specialist gives his services without compensation. But under all circumstances the school physicians should be affiliated with the schools, not only outwardly and casually, but permanently and in an organizing capacity.

What can the family physician do in the training and the education of children? Should he blame the school alone for the ills he finds when called professionally? Should he cry overburdening, too much work, too little recreation in school? Should he condemn, off hand, certain school practices without any or little knowledge of them, accepting the word of a child or of a negligent parent on the defensive? Or would it not be better for the family physician to help in the training of children by training the parents? Filth, dark rooms, poor nutrition, insufficient sleep, some occupations demanded by the parents, private lessons, overindulgence, too much excitement produced by attendance at theatres, at parties, and by card playing, unnecessary absences from school, and the indifference of parents, rich and poor alike, are some of the leading causes of retardation and the so called overburdening.

The family physician is one of the great factors in the training of children, if he chooses to be. Why should he not make it a habit to inquire about the children attending school at every visit to a family having such children. Gentlemen of the medical profession, your word, your warnings, your advice will be listened to and obeyed when our word falls frequently on deaf ears!

Medicine and pedagogy are interdependent sciences; they are more closely related than appears at the first analysis. I have shown you how the doctor can assist the teachers and the teachers the doctor. By wisely instructing and carefully training the child, the teacher becomes the ally of the doctor in his highest aspirations—the rearing of a strong

and virile race, thus enabling each individual to put forth the maximum of effort for the betterment of his country.

Now, what can be done by the Eastern Medical Association to further this movement? Because of your standing in the community and your professed interest in its welfare, you will be listened to. Knowing this, I venture to suggest that you form a committee on school hygiene; that you induce other medical associations to do likewise; that you throw the whole weight of your influence in favor of a proper, scientific attitude toward school hygiene, and that you labor to have an elective course in school hygiene established in the medical colleges and an obligatory course in the training school for teachers.

As medicine and pedagogy, the doctor and the teacher must work hand in hand; the more the one attempts to serve the other the better it will be for both. "We are indeed the administrators of a great trust."

169 West Eighty-eighth Street.

RECURRENCE OF SYPHILITIC MANIFESTATIONS AFTER COMBINED SALVARSAN AND MERCURIAL TREATMENT.

By Louis Neuwelt, A. B., M. D.,
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A number of recurrences of syphilitic symptoms after the administration of salvarsan having been recorded, I desire to report the following case as being interesting and worthy of record, since in this case both salvarsan and mercury had been administered and still the return of luetic manifestations occurred.

Case. Patient, J. S. G., nativity United States, aged twenty-three years, salesman by occupation, was first seen March 13, 1911. While travelling, he exposed himself to an infection eight weeks previously. About six weeks thereafter he noticed what he called a "pimple" on the penis, which had gradually increased in size. One week after that he noticed a rash on his face, neck, and chest which gradually spread downward. The corona Veneris was marked.

Examination: The face, neck, and upper chest showed a typical, copper colored, macular rash, front and back. The lymphatic glands of the neck, as well as the epitrochlear and inguinal glands were slightly enlarged. Behind the corona penis there was a typically indurated chancre of the size of a quarter dollar.

On March 23, 1911, the complement fixation tests of Wassermann and Noguchi were applied and both resulted positively. The penile lesion failed to show any spirochetas in two tests. Nevertheless, the case was so typical that at no time was there any doubt as to the diagnosis.

Treatment: On March 25, 1911, salvarsan 0.6 gramme in 8 c.c., iodipin (ten per cent.) was injected intramuscularly into the right buttock. The patient reacted very well, the highest temperature the following day being 100.4° F. with pulse 82 and no pain. There was a marked Herxheimer reaction.

On March 28th, the rash faded considerably and he felt very well. The induration of the chancre was markedly diminished.

April 5th, the rash had completely disappeared and the chancre was smaller, being now the size of a dime. The patient now being anxious to leave the city and resume his business, he was put on mercurial inunctions of unguentum hydrargyri cinerei, using about as much as the size of a hazelnut on one of the six parts of the body daily. In addition he received from time to time between April 9th and April 28th, six injections of salicylate of mercury in albolene (ten per cent.), each ten minims intramuscularly.

April 28th, another intramuscular injection of salvarsan 0.6 gramme in iodipin (ten per cent.) was given into the left buttock, to which he also reacted very well.

May 1st, the chancre was completely healed, leaving a smooth scar.

From May 15th to July 10th, he received at irregular intervals (on account of his business) ten salicylate of mercury, intramuscular injections, each ten minims of ten per cent. salicylate of mercury in albolene.

August 5th, he returned from the road, complaining of a sore throat. Examination revealed oval yellowish patches on each of the faucial pillars, about the size of an almond, and mucous patches on the inner surface of both cheeks which were undoubtedly luetic in nature.

August 8th, Wassermann reaction and modifications were again positive. In view of the fact that there was a recurrence while the patient was under mercurial treatment, I again administered salvarsan, this time adopting the alkaline intravenous method, prepared according to the directions of the circular enclosed with the drug. He received 0.6 gramme salvarsan into the median cephalic vein. To this he reacted very kindly, the mouth lesions healing in a week.

As the patient was compelled to go on the road again, I prescribed tablets of hydrargyri tannas, each 0.06 gramme four times a day, to be taken by mouth, which he took regularly until December 8, 1911. December 19th, the Wassermann and Noguchi tests were negative. He is now taking saturated solution of sodium iodide, ten minims, three times a day.

The Wassermann and Noguchi tests in all three instances were taken by the same serologist to prevent differences of interpretation.

The further progress of the case will be watched and reported.

2424 Seventh Avenue.

A SUMMARY ON THE TECHNIQUES EMPLOYED IN THE ADMINISTRATION OF SALVARSAN.

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Subcutaneous, Intramuscular, Percutaneous and Intravenous Methods—The Acid, Alkali, and Neutral Media, Suspensions, Emulsions, Advantages and Disadvantages.

Since the discovery of salvarsan, numerous methods have been advanced for its successful administration. This seems to have been one of the chief stumbling blocks in the earlier days. In administering this remedy, or in fact any remedy, it is always the aim to simplify as much as possible the technique, to prepare and give it in its most efficacious form, the avoidance of unnecessary disability, of prolonged confinement, and pain. The first series of patients seem to have been the victims of considerable pain, suffering, and discomfort;

many were incapacitated for a varying length of time, others who were or were not benefited developed conditions of diversified characters, such as necrotic areas, sloughing, abscesses, thrombi, emboli, paralysis, renal, optic, and aural lesions, and even died; moreover, with these unfortunate occurrences, absorption of the remedy in hundreds of cases was exceedingly slow, which tended to hinder the efficacy of the drug, with the consequence that many physicians were at first inclined to disparage its value when the blame properly belonged to faulty means of administration.

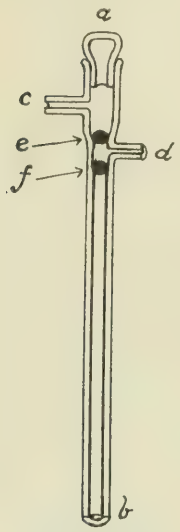


Fig. 1.—Wechselmann's device.

It has been somewhat over a year since Geheimrat Ehrlich gave to the medical world the results of his remarkable discovery of arsenobenzol, and it is gratifying to note the many improvements and modifications made since in its administration, so that to-day, if properly injected, the patients may go directly to their homes, or the process may even be carried out in the home. The injection is absolutely painless. Finally, after the treatment of thousands of cases, the profession has been convinced of its efficacy in that treacherous malady whose ravages are felt throughout the entire world, that its discovery marks an epoch in the history of medicine, and that in properly selected cases it outweighs by far the older methods, such as mercury internally, or used by injection, inunction, or fumigation.

The three familiar methods employed in the administration of salvarsan are the subcutaneous, the intramuscular, and the intravenous. These may be subdivided into the different forms in which salvarsan may be prepared for its respective injection. A percutaneous method has also been employed.

THE SUBCUTANEOUS METHOD.

The subcutaneous seems to have had but a limited popularity and has been practically abandoned. This is self evident—it is more or less of a painful procedure, if not immediately following the injection, frequently a few days later. Bad after effects were entirely too numerous, the dose unreliable, and absorption too slow. To quote Tomasczewski, "It was supposed that the violent reactions were due to the acid or alkaline character of the solution, and the fact was lost sight of that the real cause of these reactions lay in the nature of the remedy itself. Naturally, the irritating properties of salvarsan must appear very prominently when a concentrated suspension is introduced subcutaneously, a method which does not present as favorable conditions for absorption as the intramuscular. This was, indeed, found to be the case. After subcutaneous injections of the neutral emulsion there occurred in from two to three per cent. of these cases, and according to some authors, even more frequently, areas of very characteristic softening with extensive tissue necrosis from four to ten weeks after injection." The main advantages maintained are that it is less painful than the intramuscular, and should symptoms of intoxication arise the substance could be more easily removed.

The subcutaneous and intramuscular methods offer the same preparations of salvarsan for injection and will be discussed under the latter head.

THE INTRAMUSCULAR METHOD.

The intramuscular method offers a more favorable means and was the method generally employed in the beginning. The clinical results of thousands of cases treated in this way are most gratifying, the local reactions, however, in a large number (although in proportion not quite as numerous as seen in the subcutaneous), were unsatisfactory and often discouraging; so that lately, owing to the decided advantage of the intravenous, the intramuscular method is also slowly being abandoned. Patients were subjected to violent pains and suffering, to many complications, and, indeed, what has been

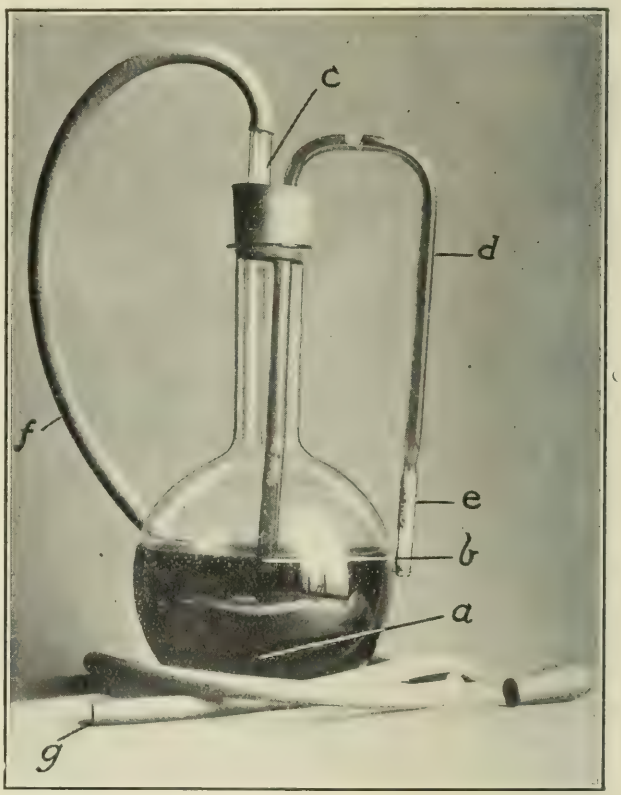


Fig. 2.—Kilbane's apparatus.

said with reference to the disadvantages of the subcutaneous method also holds true here, as slow absorption, unreliable doses, etc. In his experience, Hata found that the muscle of chicken became coagulated and formed a "centre" from which gradual absorption takes place. Cases have been reported where the remedy became encapsulated, thereby being rendered inert. The severity of the local reaction is dependent upon four factors, namely—the patient; the dose; the site of injection; and the mode of preparation. Naturally a strong, robust, muscular individual will endure an intramuscular injection far better than an anemic, undeveloped, and nervously inclined person. Certainly absorption

of any remedy depends largely upon a good circulation, consequently, to expect favorable results from this procedure, it becomes necessary to have the proper subject and not to take all syphilitics as a class. It must not be forgotten that mercury when injected intramuscularly in the proper way and sufficient dose, has cleared up secondary manifestations surprisingly fast, as well as influencing



FIG. 3.—Likes's and Schoenrich's armamentarium.

more or less the Wassermann reaction. Personally, we have had this experience with hundreds of cases in previous years. With reference to the dose in connection with the local reaction, views are conflicting. Some observers have seen little or no reaction with apparently large doses, while others witnessed severe reactions, a rash, and other lesions, with comparatively small doses. We are inclined to believe that in many instances the physical condition of the patient was overlooked, by giving too large doses to physically worn and delicate individuals, in the efforts to bring about a rapid and permanent cure. Therefore, the dose must be in harmony with the physical condition of the patient as well as the extent of the malady. With reference to the site of injection, it will suffice here to say that injections in the neighborhood of the sciatic nerve, and those made too superficially, were responsible for a large proportion of the unfavorable local reactions, especially that of pain. On the other hand, the intramuscular method offers the advantage of simplicity, like almost any injection into the muscle, requiring but a few minutes to prepare and inject, and the few implements necessary for sterilization, so that it may be employed in the city or country, either in the office of the physician or the home of the patient. It may be prepared several hours before injecting, making it possible to convey it some distance. Therefore, it may be advised where the intravenous method is not available or for some reason or other contraindicated.

Intramuscularly, salvarsan has been administered in an alkaline, neutral, and acid medium; in suspension, emulsions, and ointment base. Salvarsan, when dissolved in water, furnishes an acid solution—*biacid solution;* with the addition of one molecular proportion of sodium hydroxide, furnishes a *monacid solution;* with the addition of two molecular proportions of sodium hydroxide, furnishes a *neutral suspension* of the free base; with the addition of three molecular proportions of sodium hydroxide, furnishes an *alkaline suspension;* with the addition of four molecular proportions of sodium hydroxide, furnishes an *alkaline solution.*

However prepared, the substance is perishable, and emphasis must be made regarding the importance of its preparation immediately, or shortly before use. Furthermore, all utensils must be thoroughly sterilized and preferably dry.

The original Alt method consisted of an alkaline solution and was prepared as follows: The powder



FIG. 4.—Likes's and Schoenrich's method of injecting salvarsan.

is rubbed up with ten c.c. of sterile water, to which is added normal sodium hydroxide solution until only a slight residue remains. More sterile water is added, sufficient to make twenty c.c., of which ten c.c. is injected into each buttock. Technical advances and improved methods have in the course of further working produced a preparation which is less toxic, more soluble, more staple, and as regards to purity has been classed by Ehrlich as *hyperideal*. Whereas it originally required twenty or thirty or even more c.c. of saline with large quantities of sodium hydroxide to effect solution, now, with the modified product, a few c.c. of saline with slight excess of alkali will produce a perfectly clear, yellowish fluid. Tomasczewski, in his experience in Lesser's clinic, advises the improved method of Alt, considering it the most practical as well as efficient intramuscular method, namely, salvarsan, the contents of one ampoule, is dissolved in about eight c.c. of sterile saline; 2.5 or three c.c. of normal sodium hydrate is added, which is sufficient to form a *cloudy alkaline solution*. In some of our earlier cases, before we adopted the intravenous method, we employed the foregoing formula, and found it superior to the other preparations of salvarsan for intramuscular injections. Infiltrations were slight, if any, with a degree of pain which varied from slight to considerable.

Junkermann modified the Alt method. He takes six c.c. of sterile water with the powder in a separating funnel, and in order to facilitate solution he introduces a number of small glass beads and shakes the mixture thoroughly. After solution has been effected a fifteen per cent. solution of sodium hydrate is added by drops until the resulting precipitate is again dissolved. The beads are finally washed with a few c.c. of sterile water to avoid losing any of the preparation.

For a while methyl alcohol came into use, and Ehrlich advised moistening the salt with it or with glycol, then triturating with fifteen c.c. of sterile water and from two to three c.c. decinormal sodium hydrate solution. If alkali is in excess, one per cent. acetic acid is added, enough to neutralize. As it has been found that methyl alcohol is not without danger it has been abandoned.

The object of the neutral emulsions was primarily to reduce the pain, also the infiltrates usually so pronounced in the acid and especially alkaline media. Theoretically, this seemed very feasible, and in fact for a while was strongly recommended. Experience has shown, however, that much depended upon absolute neutralization, which was by no means easy to effect, as it required skill and experience, and unless the solutions were freshly prepared in a hospital or a specially equipped laboratory, the possibilities of defective technique, or too large a volume of fluid, became very imminent. Wechselmann and Michaelis were the first to introduce this method. Wechselmann dissolved the powder in one or two c.c. of a fifteen per cent. solution of sodium hydrate. To this is added glacial acetic acid by drops until a fine yellow precipitate forms. This is suspended in few c.c. of sterile distilled water and tested with litmus paper, then carefully neutralized with decinormal sodium hydrate or a one per cent. acetic acid solution as necessary. The neutral suspension is now centrifugalized in order to remove the sodium acetate, which has formed during the process of neutralization. The supernatant fluid is withdrawn and the remainder is suspended in from four to six c.c. of sterile saline.

Michaelis dissolves the powder in hot distilled water and adds enough sodium hydrate to obtain a perfectly clear alkaline solution. Phenolphthalein is added to serve as an indicator for subsequent neutralization with one per cent. acetic acid. The latter when added causes a fine yellow precipitate of salvarsan.

Blaschko obtained a neutral suspension by using the amount of sodium hydrate computed to exactly neutralize the hydrochloric acid in a given amount of dihydrochloride. The modus operandi is similar to that of Ehrlich. The powder is triturated in a mixture of sterile saline and sodium hydrate sufficiently to make a ten c.c. solution. Levy-Bing and Duroeux in a series of cases employed the method of Blaschko, but found it unsatisfactory on account of the local complications and the difficult technique.

Schober publishes the method of Doctor Ravaut, laboratory chief in the Hôpital St. Louis, Paris (also published in *Presse médicale*, December, 1910), as follows: Dissolve the salvarsan in twenty c.c. sterile and chemically pure physiological saline solution in an Erlenmeyer flask by the aid of heat over an alcohol flame. Gently shaking the flask, sodium hydrate (about one third the strength of the liquor natrii caustici) is added drop by drop, until there is complete neutralization. As an indicator, litmus or phenolphthalein is employed.

According to Citron and Mulzer, salvarsan may or may not be moistened with alcohol at first. It is then placed into a fifteen c.c. syringe and dissolved in five c.c. of hot water. To this is added forty drops of a ten per cent. calcium carbonate solution and the mixture is thoroughly shaken. This is now injected into the buttock.

Jessner makes an emulsion of salvarsan by triturating the powder with an eight per cent. solution of sodium bicarbonate. This method seems to have had but a limited popularity.

Pick triturates the powder in a porcelain dish with nine to ten drops of the official fifteen per cent. solution of sodium hydrate. The desired amount, five to ten c.c. of sterile water or saline, is then added slowly, with constant stirring. The resulting fluid is now carefully neutralized with acid or alkali as necessary.

In the form of an acid preparation, salvarsan may be dissolved in water (the biacid aqueous solution, one to ten), or suspended in an oil. The first mentioned was introduced by Taege and Duhot, who recommended its use. As with some of the other methods, this also acquired unpopularity. Alt and Hoffmann maintained that the acidity had a tendency to affect the heart. In Lesser's clinic late exanthems with unfavorable local reactions played a conspicuous part. Some authorities warn against its use owing to the possibility of acidosis with consequent death. Hata states that it is very slowly absorbed, hence therapeutically inefficient. Presence of annoying pains shortly after the injection also seldom failed to accompany its use. One of the advocates was Spiethoff, who after a series of

experiments with the alkaline injections, and the acid injection after Duhot, maintained that the latter was more efficacious.

Taege places the powder in a sterile test tube and adds glycerin in the proportion of two drops to one decigramme, and triturates together with a glass rod. This forms a homogeneous mass. As much of the freshly boiled water, while hot, is added as desired and the mixture again stirred with a glass rod. The remaining fluid is clear and ready for injection.

Duhot rubs up the powder with one half c.c. of methyl alcohol in a small glass mortar, and adds from four to six c.c. sterile saline according to the dose.

The suspension of salvarsan in oily media was first recommended by Kromayer, Volk, and others. It was their aim to simplify the technique, which up to that time was rather complicated, also to diminish the pain. Indeed, one of the advantages of this method are the economy of time and simplicity in its preparation. Secondly, if kept away from the light it may possibly keep longer than when prepared by the previously mentioned methods. Although this method met with considerable favor, and was highly recommended by its advocators, yet the objections slowly became manifest. As in the other cases, the oil suspensions may also be free from immediate pain, but invariably show a reaction in a few days, often requiring a sedative. Any powder, in order to be therapeutically effective when injected into the muscle, should either be in solution or, when in suspension, be in a *very fine state of division.* This is not always the case with salvarsan, which when suspended in oils has the tendency to become lumpy or gravitate too rapidly to the bottom of the syringe. Consequently, the needle may become clogged, or the remedy not be satisfactorily distributed in the muscular tissue. Hence the possibilities of indurations, infiltrations, painful swellings, or sloughing, and defective absorption. Attracted by the simplicity of this method, we employed it in a limited number of cases, but found that while the therapeutic effect was good, the local reaction was entirely too severe.

Kromayer triturates the salvarsan with liquid paraffin in a dry mortar and adds sterile water so that one c.c. of emulsion would represent 0.1 gramme of salvarsan. He began with small injections and finding that they were well tolerated finally gave a full dose, and states that the pain was not greater than an ordinary mercury injection.

Volk suspends the salvarsan in olive oil. He maintains that a vegetable oil is more readily absorbed than a mineral. He preferred the subcutaneous injections, whereas Kromayer followed the intramuscular.

Burke uses a ten per cent. wool fat in olive oil emulsion, as this quantity has been found sufficient to hold salvarsan in suspension, and the oil better tolerated by the tissues. He uses one needle and two syringes. The first syringe is filled with sterile water and connected to the needle, and the puncture made; part of the sterile water is then forced into the tissues, and after waiting a minute the plunger is withdrawn. This draws the water that has been injected back into the syringe, and if a vessel has been punctured the aspirated fluid is blood stained and the emulsion is not injected. If the aspirated fluid is clear, the first syringe is disconnected, leaving the needle in place, and the second syringe containing the remedy connected to the needle and injection then made. Owing to the large percentage of painful injections, which he attributed to part of the salvarsan being dissolved in the water containing the injection (wool fat containing thirty per cent. water), which, being an acid solution is rarely free from pain, Burke modified his original method by changing to anhydrous wool fat, and, instead of injecting the sterile water as referred to above, he substitutes olive oil containing ten per cent. anhydrous wool fat.

Iodipin as a base was recommended by Pollitzer. This preparation contains iodine in oil of sesame. Being a vegetable oil and sterile it is alleged to be superior to the mineral.

Schindler recommends a mixture of lanolin and iodipin. He states this vehicle to be more stable, but refuses to publish the proportions. Under the name of *joha* this preparation is marketed by a druggist in Berlin.

Pasini condemns the acid, alkaline, and neutral preparations as not being altogether painless. He says that salvarsan is hard to suspend in olive oil and paraffin. He makes a paste by triturating salvarsan with a few drops of alcohol. This paste is rendered alkaline by an alcoholic solution of sodium hydrate, then neutralized with acetic acid. Finally suspended in equal parts of wool fat and liquid petrolatum.

The technique of Wolbarst consists of dissolving salvarsan in ten c.c. of hot distilled water, and subsequently neutralizing as nearly as possible with a four per cent. solution of sodium hydrate.

Using the skin as an absorbing medium was suggested by Hans Leyden, who introduced his "percutaneous method." The essential point here is the proper preparation of the skin so that when salvarsan is applied, absorption readily takes place. The skin is thoroughly washed in order to clean, free it from fat, open the pores, and increase the circulation. Almost any part of the body may be selected, although he suggests the breast, abdomen, or back. He recommends alcoholic soap, fine sand, boiled water, and finally ether. Salvarsan is prepared with glycerin and gently rubbed into the skin with the bare hand which has previously been thoroughly cleaned. In patients whose skin was not prepared, salvarsan was not absorbed, but crumbled in the fingers. In the other cases, however, absorption was perfect. The process lasts about ten minutes.

INTRAVENOUS METHOD.

With the introduction of the intravenous method, we have at our command a method which surpasses all those preceding. Its superiority is an acknowledged fact, and now since the technique has attained such a high degree of perfection, it has been generally accepted as *the method.* Any one who has had experience with the various methods would certainly be inclined to condemn any procedure but the intravenous. The advantages are many: It is absolutely painless, during or after the

injection; there are no infiltrations which may lead to bad after effects; since the system is saturated in a short time, the remedy has a more powerful toxic effect upon the spirochætæ; the dose can be regulated with a greater degree of accuracy and reliability; the elimination being quicker, permits the administration of a second dose earlier than by any other method. The modus operandi, while not exactly simple, is by no means very difficult. Unless the physician has had experience in this particular line of work and has at his office the proper facilities, with available resting quarters, the operation should be preferably carried out in a hospital, since the least break in the technique may lead to disastrous results. The cardinal points are, first, that the fluid when ready for injection should be absolutely clear, slightly alkaline, and of a golden yellow color. It should be free from adventitious particles, like cotton fibre, and when injected be at body temperature. Second, the saline should be made from distilled water and chemically pure sodium chloride, then filtered and boiled. Third, that thorough sterilization of all implements is imperative is well understood and does not need further elaboration. Fourth, the needle must be in good condition, sharp, and free from rust, and be skillfully inserted directly into the lumen of the vein. During the process of injection care should be taken so that no fluid escapes into the subcutaneous tissues. The method advocated originally and still in use by many operators, of dissection and exposure of the vein, we find entirely superfluous. To successfully insert the needle *directly* into the vein requires but little skill and practice, and it is only perhaps in an exceptional case, where the veins are obscure, that venesection becomes necessary. The dissection and exposure of the vein prolongs the procedure, necessitates the use of a local anesthetic, and the resulting "tell tale" scar will be exceedingly objectionable to most patients.

Iverson, Schreiber, and Weingart were the first to employ this method

Iverson first administered the combined intravenous and intramuscular injection, the object being to have a rapid effect upon the spirochætæ, and at the same time to have a continuous action of the medicament. He first gives the intravenous, which is rapidly absorbed and excreted with destructive action on the spirochætæ; second, the intramuscular, which is absorbed and excreted more slowly (eight to fourteen days). The action is not as violent, but of longer duration.

Whereas, in the preceding methods the difference rests in the various ways of mixing the powder, here, on the contrary, its preparation follows one standard formula as suggested by Ehrlich. The directions, which accompany every ampoule of salvarsan and to which reference has repeatedly been made in the current medical literature, will be omitted here. The fluid may be injected by aid of the force of gravity, or by a syringe. In either case the technique is more or less similar to that of a saline infusion.

Schreiber mixes the salvarsan in a graduated glass cylinder of 250 c.c. capacity, with glass stopper and narrow neck. He uses a simple twenty c.c. Luer syringe with a two way stopcock, one which leads to the salvarsan and the other to the vein. The needle is bayonet form with a small thumb plate.

Schober, of the Hôpital St. Louis, Paris, prepares his solution as if for his intramuscular method, with the exception of adding a slight excess of alkali in order to perfect complete solution, and enough saline to make the required quantity. His apparatus consists of a Florence flask perforated at the bottom, to which is connected the rubber tubing which leads to the needle. The stopper of the flask is perforated, which leads to a rubber compression bulb, pressure on which naturally induces the flow of the solution.

Wechselmann employs a device which is better understood illustrated than explained. The apparatus (Fig. 1) has four outlets, *a, b, c, d*. At *a* there is a glass stopper. The extremity *b* is placed into the salvarsan solution. To *c* is connected the rubber tubing to which the needle is attached, and to *d* a piston syringe is connected by means of rubber tubing. By manipulating the syringe the small ball valves *e* and *f* work automatically. The glass stopper at *a* is hollowed, which acts as a possible air receptor. The apparatus is first filled with saline. After all air has been expelled and all is in good working order, it is placed into the beaker containing the salvarsan.

Stapler improvises a "glass needle." He takes a broken platinum needle about two and a half centimetres long with medium size lumen, and fuses it to a small calibre, through a thick glass tube over a Bunsen burner, so that about 1.5 centimetre of the needle projects. The advantages he asserts are: That it is easily ascertained whether or not the needle has properly penetrated the vein by the immediate appearance of blood in the glass tube; second, the recognition of the absence of air; third, that the thick glass against the skin serves as a support to the steadiness of the needle. The needle is connected with rubber tubing which in turn is connected to a graduated gravity infusion apparatus in which the salvarsan is prepared.

A simple gravity apparatus is that suggested by Ballanger (See New York Medical Journal, April 29, 1911). He constructs two graduated flasks, one containing physiological salt solution and the other salvarsan. By means of rubber tubing these flasks are connected at the bottom to a three way stopcock. Each rubber tube is fitted with a window. The procedure is simple, the air having been expelled with the saline, the stopcock is turned to admit the flow of salvarsan.

In order to maintain the proper temperature of salvarsan when injected, Uhle and Mackinney have improvised a "vacuum burette." It consists of a smaller bottle, of 300 c.c. capacity, within a larger bottle, joined at both extremities. There is a space of about one quarter inch between the two bottles, which is exhausted of air. The upper end of the inner bottle extends into the form of a neck and is fitted with a glass stopper. The lower end consists of a pipette and stopcock to which are connected the rubber tubing and needle. The burette is filled with 200 c.c. warm saline, enough of which is permitted to flow through the rubber tube in order to expel all air. A concentrated solution is now added

and enough saline to make up the required quantity.

Stühmer simplifies the technique by constructing an apparatus, the manipulation of which necessitates the service of only one man; a piston syringe with a two way stopcock (T shape). To one end is connected the needle, to the other a short rubber tube that leads to the salvarsan. The syringe is manipulated with the right hand, whereas the left guides and steadies the needle. He has a special wire device in which the beaker containing the salvarsan rests on an angle. This is placed next to the syringe.

Kilbane describes a very simple apparatus which eliminates the pouring and repouring of the solution (Fig. 2). It consists of a 300 c.c. flask graduated at twenty c.c. and at 250 c.c., and a tight rubber-fitting stopper with two holes. Into one hole is placed a short glass tube projecting two inches above the stopper. The lower end of this tube is flanged to prevent the tube from dropping from the stopper when the flask is inverted. Into the other hole is placed the long curved tube with the outer end plugged with cotton, the cotton acting as a filter. The inner end of this tube extends almost to the bottom of the flask. This tube is intended to act as a vent. To the shorter tube is attached one end of a three foot length of rubber tubing, and to the other end of the rubber tubing is attached the needle. The salvarsan is mixed in the flask, after which the stopper is inserted, the rubber tube attached, and the flask inverted.

Bayly constructs an apparatus which consists of a container surrounded by a hot water jacket. The fluid is injected by the force of gravity.

Rytina employs an apparatus consisting of a fifty c.c. syringe, with an asbestos plunger. To this is connected a T shape stopcock which connects with the needle and a solution jar by rubber tubing. The solution jar has a graduated capacity of 200 c.c., with a metal cap having two openings, and a special sliding device. Into the larger opening is fitted the funnel, while the smaller receives the inlet tubing.

The apparatus employed by Wolbarst is a modification of Iverson's method. It consists of an Erlenmeyer flask, having a capacity of 500 c.c. The flask is fitted with a rubber stopper, covered by a nickel plated cap. Two glass tubes, one short, the other long, pass through the stopper and cap. Both tubes are bent outside the flask, to which rubber tubing is attached. The needle is connected to one tube, whereas to the other is attached a rubber compression bulb. A glass stopcock is fitted to the rubber tubing that leads to the needle, while the tubing leading to the bulb is fitted with a cotton air filter inclosed in a glass tube. The entire modus operandi is extremely simple and practical.

The apparatus employed by the authors is also very simple, and consists of a graduated syringe, with metal plunger and slip on joints. Syringes or joints fitted with leather or rubber washers will not permit of proper sterilization, the syringe soon becoming leaky and no longer air tight. A detachable two way stopcock, two pieces of rubber tubing about 30 centimetres in length, a glass rod, pipette, and 250 c.c. graduate minum glass, and two medicine glasses (Fig. 3). The ampoule of salvarsan is placed in one of the medicine glasses previously filled with alcohol. The powder is prepared in the graduate according to the official directions. The advantages of the graduate are, first, mixing the powder in this receptacle prevents pouring and repouring, all of which helps to contaminate the fluid. Second, being of thick glass, and being used immediately after sterilization, it maintains the heat of the salvarsan solution more uniformly and longer than a thin beaker, or it may be conveniently placed in a basin of warm water during the process of injection. Third, it is simple, inexpensive, and can be purchased in almost any drug store at any time. The stopcock is connected to the syringe, and the rubber tubes to the stopcock. By introducing the tube ends into the medicine glass, which has been previously filled with saline, the syringe and rubber tubes are filled with the latter, and so manipulated as to expel all air. To one rubber tube is attached the needle, and the other is placed in the salvarsan solution. Thus the operation is simple; one operator holds the needle very steadily, whereas the other manipulates the syringe (Fig. 4).

While the writers in this article have not attempted to mention every method advanced for the administration of salvarsan, the leading and more important ones, and particularly those which have had more or less general use, have been described. We hope that this summary of methods and technique will be found useful to those interested in this new and highly efficient remedy, as well as call attention to the superiority of the intravenous method now almost universally adopted.

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RANULA.

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Ranula means a cystic tumor beneath the tongue, due to obstruction and dilatation of the sublingual or submaxillary glands or of a mucous gland. The cause of the obstruction may be some congenital condition, entrance of some foreign body causing an occlusion of duct, pressure from growths outside of duct, or mucus which has hardened and often contains the salts of calcium. The plugging is generally gradual in its formation excepting in the acute form, which comes on suddenly during mastication, when the salivary duct becomes blocked by particles of food or some foreign body. The acute form is very painful, the secretions being pent up to such an extent that relief is sought at the hands of the surgeon. As much as six ounces have been removed by the author in one acute case. Ranula most often occurs in adults, but is sometimes found in children. Beside the sublingual and submaxillary there are also the incisive ranula, which comes under the frenum of the tongue and causes it to spread, and ranula of Nuhn and Blandin, situated under the tip of the tongue (Keen). The treatment consists in removing most of the wall and suturing the edges of what is left to the mucous membrane. A salivary ranula, many authors will tell you, requires excision, and can be done in most cases *per os,* and a submaxillary ranula bulging externally should be removed by operating below the jaw.

The history of this case shows that cure was effected by opening on the inside:

Case. W. D., aged twenty-four years, occupation, general utility man. Family history negative. He had the ordinary diseases of childhood. Evidence of tumor fifteen years ago; swelling gradual for about ten years when it ceased increasing in size until November, 1910, when it became so large that it interfered with his breathing and deglutition. He complained of headache, night sweats, loss of weight, and when seen by me, November 28, 1910, was suffering from septic infection. I opened from the inside and removed over four ounces of calcareous deposit and washed the cavity with a weak iodine solution. De-



Fig. 1.—Showing appearance before operation; photograph was taken November 28, 1910.



Fig. 2.—Appearance on February 28, 1911.

cember 12, 1910, he returned to the Sisters' Hospital in a worse condition than before, temperature 104° F., semi-delirious; pulse 120, and in great agony. Another incision was made on the inside, when five ounces of foul smelling pus escaped. The wound was kept open and cavity irrigated with iodine solution at different intervals until January, 1911. There has been no recurrence since the above date. The patient was seen by me November 1, 1911. Patient cured.

428 Porter Avenue.

A CONTRIBUTION TO THE STUDY OF THE PHYSIOLOGY AND PATHOLOGY OF THE SKELETON ON THE ORAL EXTREMITY OF THE THORAX (STETHOGRAPHIC METHOD).

By C. M. Desvernine, M. D.,
Havana, Cuba,

(*Concluded from page 753.*)

Nothing is more demonstrative in that sense than the results of the autopsies of Nagely, Schmorl, Burckardt, etc., and equally so the sagacious clinical investigations of Kelsch, in the French army, pointing to the entirely different future of the frequent preinfection, according to the resisting qualities of the living soil. Kelsch says:

The rabid and carbuncular virus triumphs over all resistances, they possess all the pathogenic power, they are selfefficient. A wholly opposed formula becomes the etiology of phthisis. Its virus cannot elude the consent of the organism to perpetrate its damages, reduced to itself it is generally doomed to impotence. There is no other

disease in which the resistance of the vital forces to the pathogenic motor, assumes such an important rôle as it does in phthisis. There is no other disease where the



FIG. 19.—Felix Z.; thirty-one years; fibrous phthisis; conjoint movement in expiration; 5 *K V*, weak as regards position of the thorax, with an exaggerated respiratory amplification on the right side.

quality of the individual is so decisive for the microbial enterprises, and finally, there is no other disease where it is less admissible to conclude directly from the lower animals to our species, to soar so high, without further information, from the tuberculosis which is inoculated in the rabbit to the phthisis spontaneously developed in man. We are all more or less bacilliferous, second causes turn us tuberculous. These are as dreadful for the masses as the microbe. It is to their concurrence that the harmfulness of the last is subordinated, and, since that concurrence is absolutely accidental and avoidable, the transmissibility of phthisis presents itself with a character of contingency uncommon in diseases susceptible of transmission, and not fitting at all to that terrible contagiousness with which the enthusiasm of the present moment gratifies itself.

The opinion of the eminent French physician is fully corroborated by a finding of Professor von Hansenmann at the post mortem of a woman, forty-two years old, where he discovered, in a dilated bronchus, the tuberculous agent in full exuberant saprophytic life, without the least vestige of invasion of the cavity walls, or of the lymphatic glands. In the bronchial cavity there were found lumps formed by pure cultures of Koch's bacillus, without showing any signs of degeneration. Tested on the guineapig, their virulence was manifest.

Clinical observation, the supreme judge of all pathogenic formulas, has long ago declared that chronic pulmonary phthisis is the end of a long malady and not the beginning. The truth of that sentence, ratified by recent experimental investigations, shows the capital importance of the knowledge of every organic deterioration capable of creating the required morbid opportunities, and, in that sense, no other is so efficient, among the local ones, as the anomaly of the superior skeleton of the thorax, so exactly described by Freund.

Hereto the means employed for the clinical diagnosis of Freund's costal malformation, are: Palpation, which is useful when the disorder is very accentuated, puncture, at the place of election of the ossifying process. Immelmann once succeeded in fixing on the radiographic plate the shadow of the ossified cartilage.

In any case, those exploratory means may detect the malformation only when it is extreme and with all its consequences in full sway, but they do not furnish any indication whatsoever as to the functional possibilities of the organs in question, prior to that advanced period.

Of course, costal rigidities due to other causes can be detected also by the method described by us.

If, then, the cadaveric examination substantiates the accuracy of the signification attributed by us (rigidity of the first ribs) to the conjugated reduplication, more or less complete, of the movement provoked in the upper extremity of the thorax,

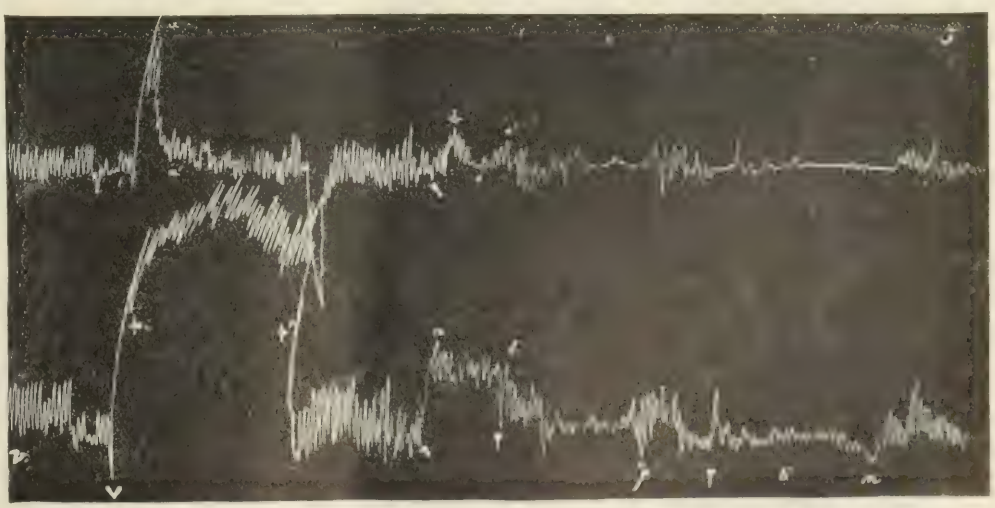


FIG. 20.—Carlos T.; twenty-four years; latent; fixity of the right apex. The thoracic reaction, by flexion of the lower extremities, is incomplete and does not persist on the right side, *a-a'*. Very ample and steady on the left, *P P'*. Through rotation of the head to the left, conjugated movement of the infraclavicular regions, unequal; very slight on the right side (upper tracing *b*) as compared with the left (*a*, *b*, lower tracing). Through rotation of the head to the right, the movement is coequal (*c*); 5 *K V*, negative on both sides.

by the action of the sternocleidomastoid muscles, the clinical exploration of the chest will be benefited by having at its disposal the means to determine the *status* of the functional capacity of the superior costosternal skeleton, a factor of the greatest importance in the struggle of the respiratory organs against tuberculosis.

It being proved by rigorous investigations that the deterioration of that function increases the predisposition of the pulmonary apices to the specific infection, intensifying the morbid stimuli to such a degree that they impart to the pathological process a course rapidly progressive, or at least an extraordinary tenacity, it is evident that an early knowledge of the costal functional defect, whichever may be its nature, will conduce to the knowledge of the imminent danger, thus permitting us to dictate, in due time, the strictest rules of individual prophylaxis.

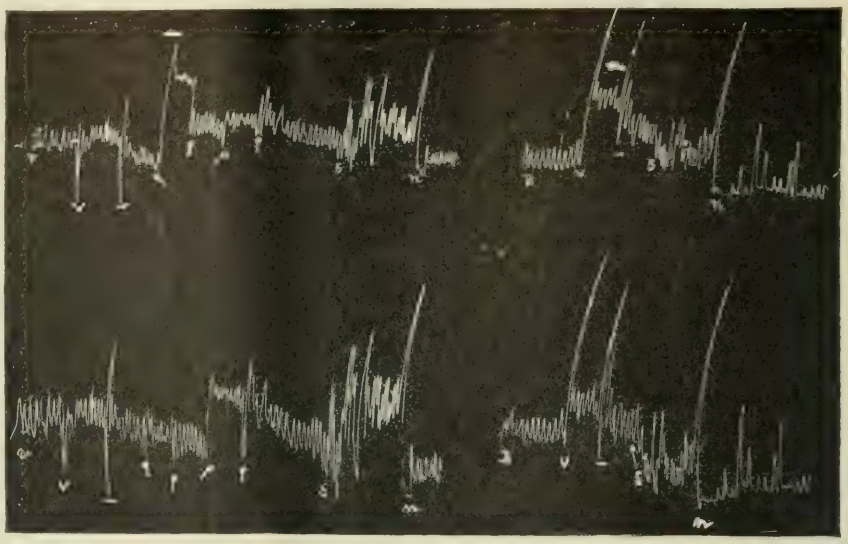


Fig. 21.—Gonzalo D.; twenty-nine years; latent tuberculosis; reaction, by flexion of the lower extremities (*v*) absent in both apices. Very irregular by abdominal compression (*5*) with great increase of the respiratory amplitudes. By cephalic rotation, good expansion. Left side (lower tracing) showing tendency to remain expanded. The base reacts less than the apex during flexion of the lower extremities. Effects of abdominal compression, very weak and in expiration, on left side.

Should the inflamed apex be evident it will be necessary, under the circumstances, to formulate at once a most severe treatment, without imprudent delays, no matter how early it may have been detected, no matter how slight it may appear, and no matter how favorable may be the other organic conditions.

Another modality of bilateral conjoint movement took place during expiration. We observed it twice in persons of the male sex, one being fifty-one years old, and the other fifty-eight.

Both had a long history of lung trouble with unmistakable signs of bilateral fibrotuberculous phthisis. Pulse, temperature, and nutrition were normal, and there were very few bacilli in the expectoration.

Fig. 19 refers to one of the cases, with more advanced lesions on the right side; greater retraction of the chest, deviation of the heart to the right, and ascent of the liver.[4] Other instances of the reactions described are represented in Figs. 20, 21, 22, 23, and 24.

[4]Since these lines were written Bachmeister, of Freiburg, (*Deutsche medizinische Wochenschrift*, No. 30, 1911) has recently succeeded developing in the rabbit, through intravascular inoculations, all the varieties of strict apical tuberculosis by previously reducing the transverse diameter of the upper aperture of the thorax, increasing downward the inclination of the first ribs, and flattening the costovertebral concavity. This deformity, which does not occur spontaneously in the lower animals, was produced through the application on young animals of a wire ring on the first ribs, so placed as to hinder their movements and normal development. Through the resulting stenosis, in the course of time, the first ril

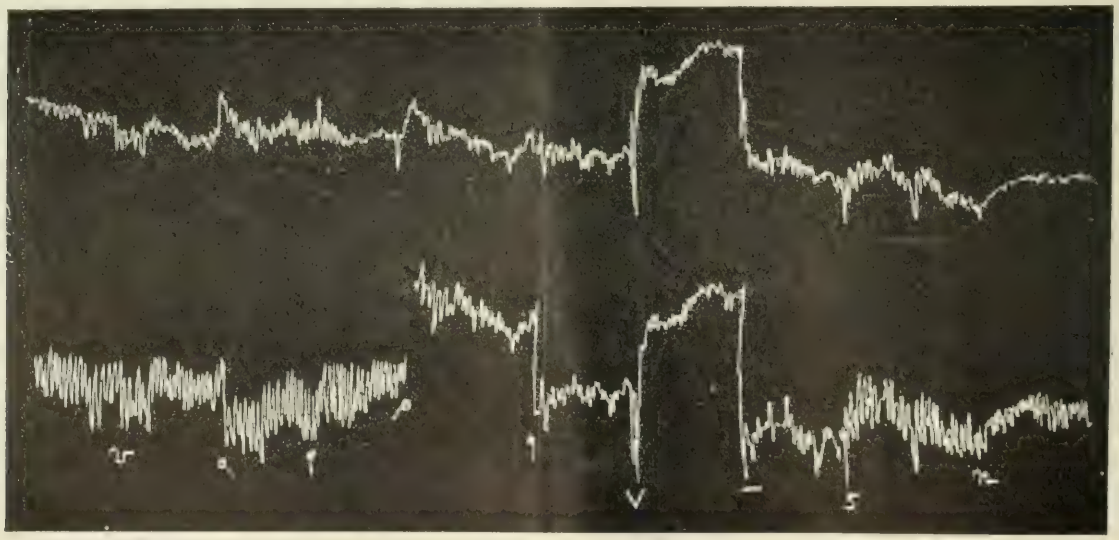


Fig. 22.—Luis L.; thirty-seven years; manifest phthisis; condensation of right apex. Right side passive to cephalic rotation and abdominal compression. Good reaction on both sides by flexion (*v*) of lower extremities.

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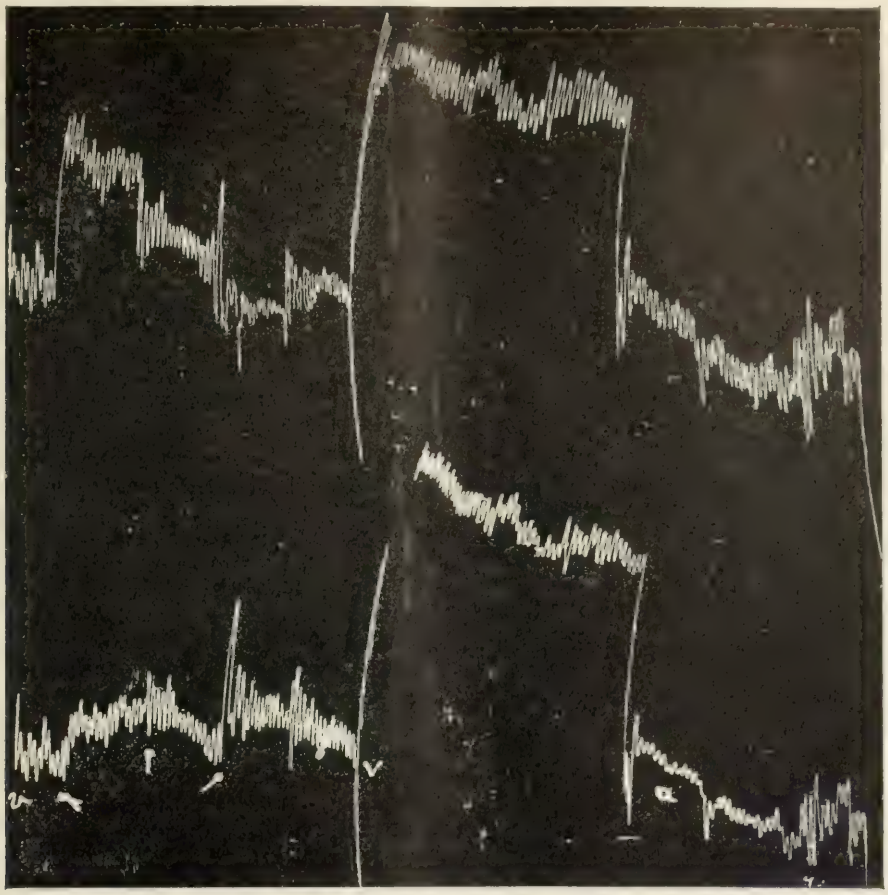


FIG. 23.—Left apex adherent (lower tracing) during cephalic rotation, expanding well by flexion of lower extremities (*v*). Compression of the abdomen (*7*) negative.

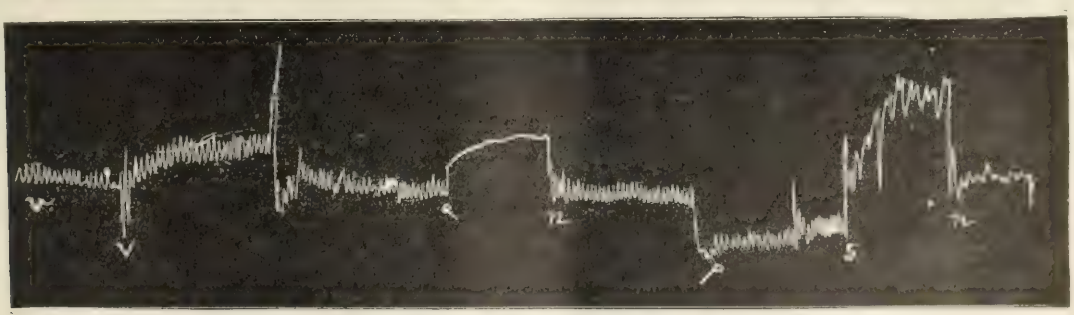


FIG. 24.—Manuela S.; thirty-seven years; incipient tuberculosis; on right apex, through flexion of the lower extremities, the effects are insignificant, while by abdominal compression (at 5) the reaction of the thorax is positive, although very laborious. During cephalic rotation to the left, the expansion is very limited, with disappearance of the respiratory movements. During cephalic rotation to the right, the tracing descends with reappearance of the respiratory movements.

compresses the apex of the lung, at its "base" (Schmorl groove, in man) thereby disturbing the circulation of the same. In one of the rabbits thus prepared and which subsequently was infected through the inguinal glands, the resulting lung tuberculosis was confined strictly to the region of the apex pressed in by the rib, the lesions not presenting the histological characteristics of the bacillary processes of hematogenous origin.

In no case could Bachmeister develop directly apical tuberculosis by submitting the deformed animals to the inhalation of infected material—justly remarking, in this connection, that the proof of an aerogenous direct infection does, likewise, not as yet exist in the case of man.

As it is, we have now the experimental demonstration that the deformity of the upper chest extremity, described by Freund, and any other conditions bringing on analogous effects, are the mechanical predisposing causes of the localization of the bacillary disorder of hematic and lymphatic origin, with its starting point in peripheral foci.

Abstracts and Reviews.

SURGERY OF THE BONES.

By JOHN B. MURPHY, M. D.,
Chicago.

At the sixth annual meeting of the Undergraduate Medical Association of the University of Pennsylvania, April 11, 1912, Dr. John B. Murphy, of Chicago, delivered an address upon the Surgery of Bones. In introducing the subject, Doctor Murphy stated that the principles upon which this branch of surgery is based were chiefly those of physiology and embryology. The pathology, indeed, was of comparatively little significance. A matter of great importance was the way in which bone grew and could be reproduced when lost. He compared osteogenesis, in its several morphological components, to the growth of a tree, the trunk of the tree being represented in bone by the medulla, and the leaves, at the other extreme, by the periosteum. All the tissues of bone had osteoblasts; in the child, in particular, there was present an enormous number of osteoblasts, with correspondingly great reproductive potency. Throughout life, however, the medulla always carried the greatest number of osteogenetic elements, a matter of importance for the reproduction of bone tissue in fractures, necrosis, etc. In the long bones the epiphyseal line also represented an osteogenetic force, and these bones were influenced, in addition, by the secretion of the thyroid gland—a fact now established both through clinical experience and by experiment. The lecturer referred to experiments by von Eiselsberg, in which, figuratively speaking, a litter of dachshunds was made to develop to greyhound size by administration of thyroid preparations. Stress was laid on the fact that in the formation of joints in the embryo, there is no communication between the free surface of the joint and the subendothelial tissue. The fibrous capsule, unlike the subendothelial tissue, is never a primary seat of infection, though it has to do with the nutrition of the latter.

Reproduction of bone was necessary, the speaker said, under the following circumstances: 1. In the congenital absence of bones; 2, to supplant bone destroyed by infection, as in acute infectious osteomyelitis; 3, to replace the bone tissue lost through nonmalignant neoplasms of bones, such as osteitis fibrosa cystica; 4, to supplant malignant, encapsulated growths, such as chondrosarcoma and giant cell sarcoma; 5, after trauma, with resulting interruption to the blood supply to bones and its consequences.

Bony tissue might be replaced either with that taken elsewhere in the patient's anatomy or with bone obtained directly from other patients or kept in cold storage. Periosteum obtained from young people, properly spliced with the remaining tissues in a patient, would reproduce bone, at least for a part of the distance which it covered. Correspondingly, contact of periosteum with transplanted bone would be essential if growth of new bone were to take place. Under proper conditions anywhere from two to twelve inches of bone would grow between separated fragments. The reason for this necessity of periosteum was, that the implanted bone played only a passive rôle. With its Haversian canals, canaliculi, and other characteristic features, it served as a mold or model. Each Haversian canal became filled with capillaries which carried on their walls both osteoblasts and osteoclasts. A ring or lamella of new bone was thus formed all along the canals; but the living force which gave rise to all these changes was the periosteum. If bone was implanted where there was no osteogenetic force, no reproduction of bone would take place. This was the case with the ivory splint; the latter was of no value as a support of capillaries, but was to be regarded as purely a mechanical support.

After these introductory remarks Doctor Murphy took up the practical side of the question, describing the results he had obtained in the treatment of bone defects through the application of the foregoing principles. From this point on the lecture was illustrated with slides thrown upon the screen. The first illustration was a skiagraph showing a fracture of the phalanx, in which the process of repair was aided by means of an ivory peg. Succeeding slides were on Colles's and Pott's fractures, both of which, the speaker said, were among the fractures most commonly followed by poor functional results, owing to imperfect reduction. The latter, however, was more serious when the results were poor, owing to the resulting impediment in locomotion. The interosseous ligament between the tibia and fibula was referred to as the most important factor upon which functional results depended in Pott's fracture. When this ligament was torn, there was a tendency for the astragalus to work upward like a wedge between the two bones of the leg. In the treatment of Pott's fracture the foot must be abducted as much as possible, held in this position, and, at the same time, flexed to the highest degree. The wedge action of the astragalus was far more difficult to control than the remaining deformity, and required operation; the author made an incision and drove in an eight penny nail to hold the tibia and fibula together. The slipping forward of the tibia on the astragalus (anterior luxation) was also referred to as a dangerous condition in Pott's fracture. It might be readily recognized in dressing the fracture, from the fact that the placing of the foot at an acute angle with the leg became impossible where posterior luxation of the astragalus was present. In dressing this condition the posterior tibial artery was in danger. This was illustrated in one of the speaker's cases, where loss by gangrene of the great toe and a portion of the second toe resulted. The difficulty with such a condition was that no secondary operation was possible if the result were poor.

Two other cases referred to by Doctor Murphy were of tabetics, in whom the conditions present, in one instance somewhat resembling Pott's fracture, and in the other mistaken for a "sarcoma of the hip," were correctly diagnosticated, in spite of the apparently negative history, through the entire lack of pain in the joints and the Wassermann reaction.

With regard to nonunion in cases of fracture of the neck of the femur, the speaker stated that, while such unfavorable results had commonly been at-

tributed to absence of osteogenetic force in this locality, he had witnessed four consecutive cases in which the failure to unite was due to the presence of torn portions of the joint capsule between the fragments. He explained, with the aid of the slides, how, in operating in these cases, he made a U shaped incision over the great trochanter, sawed through the latter, displaced it temporarily to allow access to the joint, and later brought it back in position; by this procedure the cutting of important muscles in the hip region was avoided.

Speaking of pathological fractures of the patella —particularly when the seat of tuberculosis—Doctor Murphy referred to a method of turning down a portion of the quadriceps extensor tendon, after removal of the diseased bone, and attaching it to the ligamentum patellæ. Slides were shown illustrating the perfect functional results obtainable by this procedure.

Another important line of work spoken of from the practical side was that of bone regeneration. Since mere freshening of the surfaces of the segments of a bone often failed to promote union, the speaker was led to the employment of an intramedullary splint of bone; this gradually melted in to the bony tissues with which it was surrounded, so that it could no longer be recognized. In an experience with it, comprising numerous cases, the author found it to be uniformly successful in producing firm fixation, unless infection occurred. Ox bone proving a failure, human bone had necessarily to be brought into use. Skiagraphs were shown of a humerus in which nonunion was remedied by the introduction of a piece of tibia.

Another method of bone surgery dwelt on was that illustrated by a case of luxation of the head of the humerus which, coming under observation four months after the accident, was no longer reducible. At operation the humeral head was freed from surrounding tissues, detached from the shaft, and after clearing out the glenoid cavity, placed in the latter, and fastened with a nail to the nearest portion of the humerus. The segment thus transplanted reunited and afforded improved functional efficiency. Similarly, a case was referred to in which, owing to disease of the head of the femur, the trochanter major was detached and made to take the place of the head.

Osteomyelitis and chondrosarcoma of bone were then mentioned as conditions in which reproduction of bone is desired. Thus a case of chondrosarcoma of the upper end of the tibia, with a two years' history, in which, after excision, the space left was filled by a piece from the tibia of the opposite side, was referred to. Excellent skiagraphs of osteitis fibrosa cystica, a condition said to be capable of diagnosis by the x ray picture alone, but at first mistaken for a syphilitic disorder, were exhibited. In one such case the speaker took out eighteen centimetres of the shaft of the femur, as well as the entire head, and obtained complete reproduction of the parts removed. A case of sarcoma of the angle of the jaw was also described, in which the entire mandible was taken out to the midline anteriorly. An artificial mandible of silver was inserted in its place; a portion of it had soon to be removed, and a sinus persisted for six weeks, but the final result was excellent. The jaw was referred to as the only place in the body where a foreign body such as silver could be substituted for bone, become encapsulated, and remain indefinitely.

The remainder of the lecture was taken up with a discussion of affections of the joints and the part played by surgery therein. The points chiefly emphasized were: 1. The responsibility of the medical man to see that during acute inflammations of joints the limb segments were kept in the proper position to avoid deformities and functional disabilities, such as might result from ankylosis in a faulty position. 2. The avoidance of drainage tubes in joint involvements, since in ninety-six per cent. of cases the establishment of communication between the synovial cavity and the air would be followed by ankylosis. 3. The fact that in metastatic synovitis, effusion was a manifestation merely of an *approximation*, and not an admission of microorganisms to the joint cavity. 4. The value of Buck's extension in the early stage of synovitis. 5. The treatment of Volkmann's contraction by section of the capsule clear across the anterior surface of the elbow, and elongation of the tendons.

Therapeutical Notes.

Use of Sulphurated Oils.—Huerre, at a meeting of the Société de thérapeutique, Paris (*Revue de thérapeutique médico-chirurgicale*, March 15, 1912), stated that since sulphur, as such, is generally poorly tolerated by the skin, he had sought to combine it with various oils, and had found that a combination with castor oil gave the best results. By heating oils with sulphur to 160° C., a true compound—a sulphurated oil—is formed, which is advantageous in that it may readily be associated with substances in general use in dermatology, such as chrysophanic acid and pyrogallol. Salts of mercury may also be easily incorporated in the oil.

Treatment of Tracheobronchial or Pulmonary Cough.—Robin (*Bulletin général de thérapeutique*, January 15, 1912) remarks that in these cases steam inhalations are useful, but advises, as better Renaut's pills:

℞ Extracti opii, ... gr. ¼
Extracti stramonii, ... gr. 1/12
M. Ft. pilula No. 1.

Sig.: Take three pills a half hour apart. Use at the same time dry cups on the chest, front and back, or mustard plasters, and very light applications of iodine or the actual cautery.

Treatment of Leg Ulcers.—Beldan is credited in *Nouveaux remèdes*, January 24, 1912, with the following ointment:

℞ Olive oil, }
Oxgall, } ..... 15 grammes;
Honey of rose, ... 8 grammes;
White wax ..... 4 grammes;
Powdered sugar, ... 2 grammes.
M. ft. unguentum.

The ulcer should be washed with a hot solution of boric acid, night and morning, and the ointment then applied. Cover with gauze or thin muslin and apply a few turns of bandage with fair degree of tightness.

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THE FEE SPLITTING PRACTICE.

The various allusions to, and articles upon the fee splitting practice in the lay press, have caused a well known and highly respected member of our profession, Dr. C. A. L. Reed, of Cincinnati, to inquire into the actual status of the question and to publish in *Pearson's Magazine* for April the results of his inquiry. We must frankly admit that, with those who characterized the allegations as libelous, we had always held the medical profession above such practices—excepting, perhaps, the few black sheep common to all callings. It is with profound regret, therefore, that we learn how deeply we were mistaken. Doctor Reed ascertained that fee splitting prevailed in Chicago to a very great and appalling extent; that in Minnesota "the practice of giving commissions, that is of selling patients, was rather widespread throughout the country"; that in Louisville the practice had become "very general," though discountenanced by the great majority; that in San Francisco it prevailed "among the lower classes of the profession"—whatever that may mean—with every now and then "a man of higher degree" succumbing to the venal seduction. New York proved to be protected by the high standards of her leaders, though some East Side doctors were "addicted to it"; New Orleans sent the comforting report that, while its occasional perpetration was far from being unknown, the practice had no footing Other cities are not mentioned.

Doctor Reed concludes that the practice cannot be denied. "It must be admitted. Only," he hastens to add, "it is not the practice, it is not the vice of the profession, but of a minority of its members." The accomplices in this form of dishonesty in which the trusting patient is victimized by his "faithful adviser" are shown to include practically the whole gamut of professional work. While surgeons are "the bright and shining marks for this species of piracy," consultants in other departments, ophthalmologists, neurologists, laryngologists, and general practitioners, "are being levied upon by this unbridled rapacity."

So grave a professional disease demands a remedy, not only to prevent its spread, but also to insure its destruction. Referring doubtless to the medical societies, it is advised by Doctor Reed that each offending member "be made to stand out each by himself, known and pointed to as a pariah by the community to which he sustains a parasitic relation," and that the member's conviction be given the widest publicity; moreover, that State licensing boards be empowered to revoke licenses of the condemned and that medical schools drop from their faculty rolls any member so convicted.

It is our firm conviction that such drastic measures will not prove necessary. Were that side of the question which takes into account the guilty physician's own conception of his act analyzed, we are certain that in most instances it would be found that a lack of understanding of the great wrong done and its many debasing, not to say criminal, sides, would be found to account for his initial step in the evil path. We believe in the moral worth of all our colleagues—even of those who have fallen by the wayside—and that the guiding hand of kindness would reap a harvest where harshness would fail. Were Doctor Reed, through the far reaching agency of the medical press, to make clear unreservedly the immoral, dishonest, and degrading features of the acts condemned, and *all* the medical societies of the country rule that *hereafter* any member—be he consultant or family physician—shown to be guilty of such practices, be dismissed, we should, we are convinced, witness the immediate return of nearly all of the erstwhile sinners to the fold of men of honor who still—thanks be to God—constitute the vast majority of our profession. The rest, unworthy of their presence among us, would then merit no leniency or consideration.

FEDERAL PUBLIC HEALTH BILLS.

Aside from the Public Health and Marine Hospital Service personnel bill, to which we recently referred, two bills relating to Federal Health activi-

ties are before Congress, or, more correctly, before the Senate. One is known as the Smoot bill, the other as the Owen bill; though very different from the original Owen bill, which provided for a department of health, the head of which was a physician to be a member of the President's Cabinet. The present Owen bill provides for an independent public health service, with a director who is not to have a seat or representation in the Cabinet. The only reference to the qualifications of this director is contained in the clause: "All appointments within the health service, including the head of the service, shall be made without discrimination in favor of or against any school of medicine or of healing." It also provides for the transfer to this new service of the present Public Health and Marine Hospital Service, of part of the present Bureau of Chemistry of the Department of Agriculture, and of the Division of Vital Statistics of the Census Bureau; also for the establishment of a Bureau of Child Conservation and Divisions of Sanitary Engineering, of Publications, and of Personnel and Accounts. Thus there are to be six bureaus or divisions dealing with technical, and one division dealing with administrative matters.

It is interesting now to inquire what part physicians are to have in the management of these six divisions; nothing is said on this point aside from the foregoing prohibition against anybody being discriminated, either for or against, on account of his adherence to any school of medicine or of healing. The head of the present Public Health and Marine Hospital Service is, and will probably always be, a physician, but no provision whatever is made for recruiting this service as constituted at present; the organized medical service is apparently expected to be discontinued with the death or resignation of the present officers. The probabilities are that the heads of the other five bureaus and divisions will not be physicians. The present (acting) head of the bureau of chemistry is an agricultural chemist and none of those prominently mentioned for the permanent head of the bureau are, so far as we are aware, even graduates in medicine. The bill provides that the head of the Bureau of Vital Statistics shall be a skilled statistician; this would have the effect, ordinarily, of excluding a man having more than at most a nominal connection with the medical profession. It is highly improbable that the heads of the bureaus or divisions of sanitary engineering, child conservation, and publications would be physicians. When it is further considered that no provision is made for the director to be a medical man, it is evident that the medical profession could not reasonably expect to have more than one of the seven principal officers.

Moreover, the placing of the three bureaus to be transferred upon a complete equality (with the sole exception that in the absence of the director the acting directorship is to go first to the chief of the medical bureau) will not be relished by the medical profession. The present Public Health and Marine Hospital Service comprises a comparatively large body of commissioned physicians, specially fitted by long training for a great variety of public health work; in addition, there are a number of highly trained scientists in the hygienic laboratory.

The medical profession receives an entirely too insignificant representation in the proposed public health service. The position of director is not one of sufficient dignity to be attractive to men capable of making a success in the ordinary walks of life; he is not to be a member of the Cabinet, or even to be represented in it, while the proposed salary is less than that received by dozens of men in the medical corps of the army and navy.

The provision that all appointments in the health service, including the head, shall be made without any discrimination in favor of, or against any school of medicine or of healing has attracted the attention not only of physicians, but of broad minded laymen. This provision means, if anything, that the various sects of medicine and healing will demand recognition from the Federal Government, just as they have demanded and received it from most of the States and recently in the Canal Zone.[1] Thus little is left of the original Owen bill. What is now offered is little less than insulting to the medical profession of America.

The Smoot bill contains practically the same provisions for enlarging the health activities of the Federal Government as does the Owen bill, but does not provide for the transfer of part of the Bureau of Chemistry of the Department of Agriculture. It does, however, provide for an assistant secretary in the treasury department, who is to devote all of his time to public health work, which would furnish Cabinet representation for the latter. The medical bureau (the Public Health and Marine Hospital Service) is made the predominating bureau, and to this it is proposed to transfer the division of vital statistics. This would insure the continuance of the Public Health and Marine Hospital Service, which has not only served the public faithfully, but which has done much to uphold the dignity of the medical profession in its governmental relations. The Smoot bill is therefore by all means to be preferred to the garbled

[1] See letter from Doctor Davin, NEW YORK MEDICAL JOURNAL, January 27th, p. 206.

and emasculated Owen bill, which is essentially a different measure from that which received some support from the medical profession.

HUMAN AND ANIMAL TUBERCULOSIS.

The Royal Commission on Tuberculosis was appointed to inquire and report with respect to tuberculosis: 1. Whether the disease in animals and man is one and the same; 2, whether animals and man can be reciprocally infected; and, 3, under what conditions, if any, transmission of the disease from animals to man takes place, and what circumstances are favorable and what unfavorable to such transmission.

The commission, in its final report, just issued, distinguishes three types of tubercle bacilli, recognizable by their individual characters, the human, bovine, and avian types. The human type, although so named, is not the only one found in cases of tuberculosis in man; it is the organism present in the majority of such cases, but in some cases of the human disease the bacilli are of the bovine type, and in others the bacilli have special characters distinguishing them from each of the three principal types.

The human bacillus readily produces a fatal tuberculosis in guineapigs, chimpanzees, and monkeys, but causes, even when administered in large doses, only slight and nonprogressive lesions in cattle, goats, and pigs. Its effect on rabbits is not uniform. The bovine tubercle bacillus produces a fatal tuberculosis in cattle, rabbits, guineapigs, chimpanzees, monkeys, goats, and pigs. This shows that guineapigs, chimpanzees, and monkeys are all highly susceptible to the effects of either the human or the bovine tubercle bacillus in that the disease produced in these animals by both types is anatomically and histologically identical.

The results of inoculation of the avian tubercle bacillus into animals are in marked contrast to those obtained from inoculation of the bovine and human bacillus. Fowls are very susceptible, but among the mammals the rabbit and mouse are the only two species in which the avian tubercle bacillus causes progressive tuberculosis, while the calf, pig, monkey, guineapig, horse, cat, and rat act alike to the bacillus, which in them never produces the progressive form.

The exact differentiation of the three types of bacilli is rather difficult and the differences are not permanent and stabile, for example, they cannot be differentiated biochemically. But the human tubercle bacillus can be distinguished from the bovine kind by its more ready growth in artificial media, and by the results of inoculation in rabbits, calves, cats, pigs, and goats.

While the commission was thus able to report on experiments with bovine and avian tubercle bacillus, for obvious reasons they were not able to speak of experiments on man, and no opportunity presented itself of examining cases of accidental infection, in which the bovine tubercle bacillus entered the human body through the skin and set up a generalized disease. But the commission states that they have investigated many instances of fatal tuberculosis in man in which the disease was undoubtedly caused by a bacillus of the bovine type and by none other.

As to avian tuberculosis, the commission has in no instance found the avian bacillus in the lesions of tuberculosis in the human being. They conclude, therefore, that the unmodified avian tubercle bacillus is a negligible factor in the production of human tuberculosis.

Only exceptionally the human bacillus is derived from the cow and goat in milk, and it is probable that only when these animals receive a large dose of human tuberculous material that the bacillus escapes into the blood stream of the animal, reaches the milk sinus, and thus becomes eliminated with the fluid.

As to the bovine bacillus, the commission states that only rarely has a pulmonary lesion in adult man yielded this bacillus, but the results from abdominal tuberculosis have been very different, especially with regard to children, in whose cases about fifty per cent. showed the bovine bacillus and that type alone. Not only are bovine tubercle bacilli apt to be abundantly present in milk where there is tuberculous disease of the udder, but also in cows presenting no evidence whatever of disease of the udder *in vivo* or post mortem. Furthermore, as milk may be easily infected by contamination with the feces or other discharges of such animals, the committee is convinced that measures for securing the prevention of ingestion of living bovine tubercle bacilli should be adopted.

PENSION HYSTERIA.

Professor Bernhard, in a lecture delivered recently in Berlin before the German Association of Iron Founders, dwelt on some of the dangers of pension legislation. The masses, it would seem, have the idea that every illness and every accident must lead to a pension. The attention of the people has consequently become morbidly concentrated on the processes going on in their own bodies; and "pension hysteria" has resulted. Appearing sporadically, this affection has gradually developed into an epi-

demic, which seems especially evident in the industrial regions of Germany. In consequence of the accommodating attitude of the law courts this enervating concomitant of artisan insurance has attained such dimensions that, instead of the production of vigorous and happy human beings, a natural degeneration is threatened. Through excessive paternalism the idea of protecting artisans is actually resulting in injury to them. It seems the German people must now combat the mischievous practice under which sickness pension and accident pension have been so bound up with one another that "pension hysteria" has become a national disease.

THE ARNOUX SIGN OF TWINS.

Le Lorier in *Journal de médecine de Paris* for March 30, 1912, recalls that Arnoux once described a sign of twins, which indeed does not replace expert palpation, but which is useful as corroborative evidence. In a bulletin of the *Société médicale du huitième arrondissement,* issued September 20, 1908, Arnoux noted that, as the hearts of twins never beat with absolute synchronism, the listener, if his stethoscope is applied at a point about midway between the two hearts, will sometimes hear an apparent unison, at other times a distinct rhythm of four beats. The double and quadruple rhythms alternate with great regularity. The effect, as Arnoux remarked, is almost exactly that of two horses harnessed abreast, the shoes now giving an effect of one horse alone, now showing distinctly that there are two animals. Some nicety of auscultatory skill is required to elicit the effect, but this is worthy of acquirement, as genuinely pathognomonic signs are so rare that we must do our best to add to their number whenever possible.

RÖNTGEN RAYS FOR AN ENLARGED THYMUS.

In a communication to the *Société médicale des hôpitaux,* noted in *Semaine médicale* for April 3, 1912, Ribadeau-Dumas cited the case of an infant attacked with dyspnea and threatened suffocation due to an enlarged thymus gland. The mother being opposed to surgical intervention, the Röntgen rays were tried, with excellent results as to the symptoms as early as the second application. The child succumbed to an intercurrent attack of measles, when an autopsy disclosed that the thymus had notably diminished in volume under the Röntgen ray influence. The physician believed that the rays should henceforward be always tried in such cases before resort to active surgery.

Medical Law.

X. THE PHYSICIAN AS WITNESS.

In the recent case of Williams v. State 144. Southwestern Rep. 622, the defendant, upon an appeal from a conviction of murder in the first degree, urged among other things that the trial court erred in permitting a physician, who examined the deceased the morning he was found dead on the stairway, to testify as to his opinion as to the character of the instrument that was used in inflicting the wounds. The appellate court found that the witness was a physician of long standing and had examined the wounds, and that the testimony was properly admitted.

A distinction will be noted between this case and those referred to in recent numbers of the JOURNAL, in which similar opinions were not permitted. In those cases the manner in which the injuries were received were material questions to be determined by the jury, and the witnesses were accordingly not permitted to assume the functions of the jury.

The case of State v. Rasco, 144 Southwestern Rep. 449, is similar in its legal effect. This was also a murder case. The decedent was found in his home, shot, and his wife and children were also killed, apparently by being struck on the head by a blunt instrument, and the house was burned. Upon the trial, physicians who had examined the bodies testified that, in their opinion, the wife was killed by being struck on the head with some blunt instrument. This was approved by the Supreme Court.

One of the doctors also testified that he found no remains of the children, excepting portions of the bones of the bodies. He testified further that the brain does not readily yield to fire, that it seems to incrust, and that the internal portion remains intact if the brain is left in the body. He was then asked whether, in his opinion, if the skulls of the children had not been crushed or fractured, the fire would have destroyed all of the brain tissue. The doctor replied that he should have expected to find the brain intact, even if the skull was almost burned. He was then asked this question: "Absence of the brain matter, then, and your failure to prove it. State what, in your opinion, was the cause of your not being able to find it." This question was objected to as not tending to prove any issue in the case and as being incompetent and immaterial. The objection was overruled, whereupon the witness answered as follows: "Well, I do not know what was the cause, but from knowing—from seeing the other brains—the heads of the others, with the brain intact, largely had not been destroyed, I would conclude that, from some cause or other, the skulls of these children had been crushed or destroyed in order that the fire would get to the brain, and my judgment would be that the brain was torn asunder—torn apart in some way. The destruction was partial there, or else the fire would not have consumed the brain. It would have been incrusted down, like the other two. That would have been my judgment."

Counsel for the defendant objected to this answer, and asked that it be stricken from the rec-

ords, which motion was denied. The Supreme Court, in passing upon this ruling, expressed the opinion that the motion should have been granted and the matter stricken out, not because the subject matter of the inquiry was improper, but because the answer hardly amounted to a scientific opinion. Mr. Justice Ferriss, speaking for the Court, said:

It is little more than a guess on his part, and is based entirely upon the assumption that the skulls were not wholly burned when, in fact, it appeared in evidence that the skulls of the children were entirely consumed. He does not, however, impute the destruction of the skulls to a blow administered by any person. He simply concludes that "from some cause or other the skulls of these children had been crushed or destroyed." This might have been from a blow, or it might have been caused by falling timbers during the progress of the fire, or it might not have occurred at all. It hardly amounts to the dignity of testimony, and we cannot conceive that it could have made a serious impression on the minds of the jurors.

XI. PRIVILEGED COMMUNICATIONS.

The case of Frazier v. Metropolitan Life Ins. Co., 141 Southwestern, Rep. 936, illustrates an unsuccessful attempt by an insurance company to introduce statements of the physician of the insured which would otherwise be privileged, but which the company claimed to be admissible because of a waiver.

The policy, which was dated May 31, 1909, provided that the insurer assumed no obligation thereunder, unless the insured was then "in sound health."

The company set up as an affirmative defense that at and prior to the date of the policy, the insured was suffering from tuberculosis, which caused her death some four months later, and that the condition as to her being in sound health amounted to a material misrepresentation, rendering the policy void. Upon the trial, the company introduced in evidence the doctors' certificates contained in the "proof of death," each of which had endorsed thereon a statement over the signature of the beneficiary that it should be considered as part of the proof of death under the policy in accordance with the conditions of the policy. The certificate of one of the doctors stated that the cause of the death of insured was tuberculosis, and that she had had that disease since January 1, 1909.

It appeared that the insured died at the home of her mother, the beneficiary, on September 11, 1909, at one o'clock in the afternoon. The mother being in immediate need, sent to the company's local superintendent, with a view to arranging for early collection of the policy. He came about an hour and a half after the death of insured, bringing with him the blank proofs of death, and induced the mother to sign the "claimant's statement." He then left her, but returned in about two hours, bringing the doctor's certificates, and told her to sign them, showing her where to sign. He did not state that he read the certificates to her, or stated to her their contents. The mother's testimony tended to prove that when the agent returned with the doctors' certificates, she did not have her glasses at hand, and did not and could not read them; that he did not read them to her nor tell her what they contained, but merely pointed with his finger and told her where to sign.

Upon the trial the company, in addition to offering the doctors' certificates in evidence, attempted to have the attending physician of the insured testify as to her condition. This was objected to as privileged and the objection sustained.

Judgment was rendered for the plaintiff from which the company appealed, and on the appeal contended that the physician's testimony was competent because the privilege had been waived. Mr. Justice Caulfield, in referring to this feature of the case, said:

Waiver depends solely on the intention of the party against whom it is invoked. . . . The language relied upon in the policy to constitute a waiver is as follows: "Proofs of death under this policy shall be made upon blanks to be furnished by the company, and shall contain answers to each question propounded to the claimant, physicians, and other persons. . . . All the contents of such proofs of death shall be evidence of the facts therein stated in behalf of, but not against, the company." This language fails to express any intention of the insured to waive the privilege in question. It does apparently contemplate that the answers to be propounded to the physicians thereunder might be read in evidence upon a trial; but what such answers shall relate to is not stated. Nothing appears to indicate that they might disclose information acquired by the physician from the insured while attending her in a professional capacity, and necessary to enable him to prescribe for her as a physician; nor that they were to relate to the medical history or cause of death of the insured. The insured might well have believed, from the nature of the instrument which was to contain the answers, that they would be confined within the proper scope of mere "proofs of death," and relate to nothing else than the fact of death. We are of the opinion that the language of the policy discloses no intent to waive the privilege accorded by the statute or to consent to anything inconsistent with the retention of such privilege.

But the defendant asserts that, even if the foregoing is true, the plaintiff did waive the privilege in question because the proofs of death contained disclosures by the doctors of a privileged nature. It is sufficient to say of this that the plaintiff had no knowledge whatever of the contents of the doctors' certificates. The state of the evidence is such that her lack of knowledge may be treated as conceded. And it is clear that disclosures made without her knowledge cannot be used to fasten a waiver upon her. Waiver presupposes both knowledge and acquiescence. Haysler v. Owen, 61 Mo. 270.

In New York, the statute throws a further protection around communications of the sort by expressly providing that a waiver to be effective must be made in open court, on the trial of the action or proceeding; and that a paper executed by a party prior to trial, providing for such waiver shall be insufficient as such a waiver.

News Items.

New Officers of the State Medical Society.—At the annual meeting of the Medical Society of the State of New York, held in Albany on April 16th, 17th, and 18th, the following officers were elected to serve for the ensuing year: President, Dr. John F. W. Whitbeck, of Rochester; first vice-president, Dr. W. S. Gleason, of Newburgh; second vice-president, Dr. W. F. Campbell, of Brooklyn; third vice-president, Dr. R. Paul Higgins, of Cortland; secretary, Dr. W. R. Townsend, of New York; treasurer, Dr. Alexander Lambert, of New York; counsel, James T. Lewis, Esq., of New York; delegates to American Medical Association, Dr. Wendell C. Phillips, of New York; Dr. Dwight Murray, of Syracuse; Dr. James P. Warbasse, of Brooklyn; Dr. L. H. Neuman, of Albany, and Dr. Julius Uhlmann, of Buffalo.

Bronx Medical Association.—This organization, of which Dr. Charles Graef is president, will hold its next meeting on April 25th. The subject for discussion will be Abortion. The following papers will precede a general discussion: Abortion and Premature Delivery, by Dr. Herman J. Boldt; Abortion and the Law, by A. C. Vandiver, Esq., counsel for the county society; Abortion: Its Social and Ethical Aspects, by Dr. Charles Edward Nammack.

The Medicolegal Society will hold its monthly meeting in the parlors of the Waldorf-Astoria on Wednesday, April 24th. The subject of the evening will be the Responsibilities of Old Age and the Questions of Capacity to Judge of Right and Wrong. Among those who will read papers and take part in the discussions are Dr. I. L. Nascher, Dr. T. D. Crothers, and Dr. William Benham Snow. All members of the medical and legal professions are invited.

University of Virginia Medical Men Organize a Society.—This society was formed during the past winter, of medical men residing in New York city, who have studied medicine at the University of Virginia. The object is scientific and social, and also to promote the interests of the Alma Mater. It will be known as the University of Virginia Medical Society. The officers elected were: President, Dr. William B. Trimble; secretary and treasurer, Dr. B. P. Riley; executive committee, Dr. W. B. Trimble, Dr. B. P. Riley, Dr. R. G. Reese.

Clara Barton Dead.—Miss Clara Barton, founder of the American Red Cross Society, died at her home in Glen Echo, Md., on Friday, April 12th, in the ninetieth year of her age. It was largely through her efforts that the American Red Cross Society was established in this country, and she was president of the organization for twenty-three years, retiring in May, 1904. Long before this society had been founded, however, Miss Barton had become famous for her work on the battlefields in the Civil War, the Franco-Prussian War, and during the Spanish-American War, although nearly eighty years of age, she went to Cuba and directed the work of the society on the field.

The Health of Chicago.—During the week ending April 6th, there were reported to the Department of Health of Chicago 758 deaths from all causes, exclusive of stillbirths, corresponding to an annual death rate of 17.3 in a thousand of population, as compared with a rate of 15.8 for the corresponding period in 1911. Of the total number of deaths 147 were due to pneumonia and 106 to tuberculosis. Nine hundred and three cases of contagious diseases were reported during the week, of which 140 were measles, 225 scarlet fever, diphtheria, 127, and tuberculosis, 147. During the first three months of the year there were 2,066 deaths from pneumonia, an increase of 138 over the preceding year; 1,098 deaths from tuberculosis, an increase of 45 over last year, and 37 deaths from influenza.

Vital Statistics of New York.—The death rate of New York city during the past month was 16.01, as compared with a rate of 17.60 for the month of March, 1911. The number of deaths from all causes reported was 7,030. The mortality from communicable diseases, with the exception of measles and pulmonary tuberculosis, showed considerable decrease, especially marked in influenza, bronchitis, pneumonia, and diarrhea. The mortality from accidents was decreased by 111 deaths. The number of deaths from organic heart and kidney diseases showed an increase, as did also the mortality from cancer. The births reported numbered 11,463, a decrease of 180 from the number reported in March, 1911, while on the other hand the number of marriages recorded increased from 3,412 to 3,426.

State Lunacy Laws Revised.—A bill revising the insanity law of New York State, signed by Governor Dix on April 4th, provides for a change in the title of the State Commission in Lunacy, which will hereafter be called the State Hospital Commission. The State Board of Alienists in New York city will be known as the Bureau of Deportation, and instead of three members, there will be a medical examiner. Medical or lay deputies may be appointed at salaries of $5,000 each. The scope of the bureau has been enlarged, and it is now charged with the duty of examining deportable aliens, whether insane, idiotic, epileptic, or feeble minded. An important change provides that "citizens" of the State are eligible for treatment in the State hospitals, while the old law provided that "residents" were eligible.

A Memorial to Dr. A. O. J. Kelly.—Announcement is made that a gift of $1,000 has been made to the University of Pennsylvania by the friends of the late Dr. A. O. J. Kelly to establish a prize in clinical medicine, as a permanent memorial of Doctor Kelly's services to the institution. Doctor Kelly was assistant professor of medicine in the university at the time of his death in February, 1911.

Tennessee State Medical Association.—At the closing session of the annual meeting of the Tennessee State Medical Association, held in Chattanooga, April 9th, 10th, and 11th, Nashville was selected as the place for holding the next meeting. Officers for the ensuing year were elected as follows: President, Dr. O. Dulaney, of Dyersburg; secretary, Dr. Perry Bromberg, of Nashville; treasurer, Dr. W. C. Bilbro, of Murfreesboro; vice-presidents: for East Tennessee, Dr. W. J. Matthews, of Johnson City; for Middle Tennessee, Dr. Zell Shipley, of Cookeville; for West Tennessee, Dr. G. R. Livermore, of Memphis.

The Mississippi Medical, Dental, Pharmaceutical, and Surgical Association, an organization of practitioners of African descent, will hold its annual session in the city of Jackson, April 24th and 25th. The association is trying to bring and bind together for mutual cooperation and helpfulness the men and women of African descent who are legally and honorably engaged in the practice of the cognate professions of medicine, dentistry, pharmacy, and surgery. Those intending to read papers will please send subject to Dr. J. H. Howard, secretary, Holly Springs, Miss. The association is worthy of all encouragement, owing to the unusual opposition it meets from unscrupulous quackery. D. W. Sherrod, M. D., is president.

The Tuberculosis Preventorium's New Home will be formally opened on Thursday, April 25th. Among those who have accepted invitations to be present and inspect the new buildings are Governor Wilson, of New Jersey, Comptroller Prendergast, Borough President McAneny, Charities Commissioner Drummond, Health Commissioner Lederle, Commissioner Hebberd, of the State Board of Charities, Dr. Abraham Jacobi, Dr. Herman M. Biggs, Dr. William H. Welch, of Baltimore, Dr. James Alexander Miller, head of the Tuberculosis Clinics of New York, Dr. Alfred F. Hess, Dr. Claude L. Wheeler, and Dr. Charles F. Bolduan. During the past two years the preventorium has been conducted in two small cottages on the Brisbane farm at Farmingdale, N. J. During this time 400 children have been saved from tuberculosis, and there has not been a single case of illness among the inmates of the institution, who sleep in the open air throughout the year. The new buildings were erected at a total cost of $150,000, and a maintenance fund guaranteeing $58,000 a year for current expenses has been started, of which $45,000 has already been pledged.

Physicians in the Titanic Disaster.—In the list of passengers on the steamer *Titanic*, which foundered in midocean on April 15th, after collision with an iceberg, appear the names of five physicians, Dr. Henry W. Frauenthal and Dr. Alice Farnham Leader, of New York, Dr. W. E. Minahan, of Fond du Lac, Wis., Dr. Washington Dodge, of San Francisco, and Dr. James C. Jenkins, of Hartwell, Ga. Doctor Frauenthal, whose name appeared in the list of those rescued by the *Carpathia*, graduated from Bellevue Medical College in 1890, and is chief surgeon to the Hospital for Deformities and Joint Diseases. With him was his bride, whom he had gone abroad to marry. Doctor Leader, also among those rescued by the *Carpathia*, graduated from the Women's Medical College of Pennsylvania in 1884 and is one of the best known women practitioners in New York. Doctor Minahan was accompanied by his wife and daughter, who were saved by the *Carpathia*. He graduated from Rush Medical College in 1891. Doctor Jenkins graduated from the Medical Department of the University of Georgia in 1897. The chief surgeon of the *Titanic*, Dr. W. F. N. O'Loughlin, resided in Dublin. He was a licentiate in 1870 of the Royal College of Physicians of Ireland and of the Royal College of Surgeons of Ireland. He was the senior surgeon of the White Star line, having been in the service for thirty years. Assistant surgeon J. E. Simpson, who was also on the steamer, had been in the service for some years. As we go to press it seems probable that all the physicians named, except Doctor Frauenthal, Doctor Dodge, and Doctor Leader, went down with the steamer, though it is possible they were rescued by other vessels.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

April 4, 1912.

1. CHARLES F. WITHINGTON: Visceral Purpura and Angioneurotic Edema.
2. CHARLES GREENE CUMSTON: Early History of Suprapubic Cystotomy.
3. W. E. PAUL: Freud's Psychology as Applied to Children.
4. CLARENCE J. BLAKE, JAMES J. PUTNAM, and MYLES STANDISH. Memorials to Oliver Fairfield Wadsworth.

1. Visceral Purpura and Angioneurotic Edema.—Withington presents a very fair review of the literature on this subject and adds two cases of his own, both of which ended in spontaneous recovery.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

April 6, 1912.

1. JOHN B. MURPHY: Surgery of Bones, Joints, and Tendons (*To be continued*).
2. CHARLES P. GRAYSON: Chorus Girl's Vocal Troubles.
3. HENRY B. HEMENWAY: Therapeutic Use of Citric Acid and Citrates.
4. C. A. SIMPSON: Infantile Eczema.
5. ALFRED C. REED: Chronic Constipation.
6. WESTON P. CHAMBERLAIN: Tropical Diseases in the Philippine Islands. Work Performed by the United States Army Board.
7. JUDSON DALAND: Diagnosis of Pain in Upper Abdomen.
8. FRANK T. HOPKINS: Acute Mastoiditis, Sinus Thrombosis, Superficial Brain Abscess; Recovery.
9. CHARLES S. WILLIAMSON: Value of Loeffler Method of Sputum Examination.
10. BERTRAM M. BERNHEIM: Emergency Cannula. Transfusion in a Thirty-six Hour Old Baby Suffering from Melæna Neonatorum.
11. FRANK SMITHIES: Simplified Technique for the Application of the Glycyltryptophan Test to Gastric Contents.
12. MAURICE B. AHLBORN: Simple Method for Making Carbon Dioxide Snow.
13. M. R. PRIN: Simulated and True Maxillary Empyema of Dental Origin.
14. D. E. JACKSON: Electric Wiring for Using Direct Street Currents in Laboratories.
15. WILLIAM KRAUSS: Slide Drying Attachment for Centrifuges and Aluminum Staining Dish.
16. LOUIS WEBER: Pipette Filler.
17. L. G. HEYN: Acute Articular Rheumatism Treated by Rectal Administration of Sodium Salicylate.

2. Chorus Girl's Vocal Troubles.—Grayson calls attention to the professional hardships of the chorus girl, her special liability to vocal damage, and the difficulties of training her voice. The large majority of these artists suffer from chronic laryngitis, more or less pronounced. In the management of these cases the writer agrees to the importance and value of the "silence treatment" so useful in the control of tuberculous laryngitis, but appreciates the impossibility of a six weeks' or two months' rest in the middle of their season. The next best is the renunciation of the conversational use of her voice, and the sparing of her singing voice. To this latter end, if the score calls for notes beyond her easy reach, she must avoid or "fake" them. Gentleness should be the distinguishing mark in the direct or local treatment of the singer's throat, combined with simplicity. The writer here pauses to criticise the employment of cocaine, and the suprarenal preparations in the vocalist's larynx, as being goading spurs to a group of already tired nerves and muscles, and the use of electricity and strychnine except late in the treatment. No magic single remedy or combination is known to the writer. It is on the simple astringents that he relies to check the catarrh and remove its effects, preferring alum and zinc chloride, the former in an atomized two or three per cent. solution, the latter in a one or two per cent. solution used as a spray or on an applicator, preferring the Burgess atomizer on account of its long, smooth tip and its finely divided spray.

5. Chronic Constipation.—Reed reduces all cases of chronic constipation to two types, where the irritability or motile ability of the intestinal wall is decreased or in abeyance, and that in which the normal stimulus to defecation is lacking. A peculiar form of this trouble is that in which spasmodic contraction of entire sections of the intestine occurs at once, without the recurring relaxation rings which characterize normal peristalsis, and with no forward movement of the bowel, as seen in lead poisoning, neurasthenia, and in melancholia, and indicated by the character of the feces, which are hard and of small diameter. This is relieved by belladonna combined with a carminative, or the use of oil enemas. Decreased normal stimulation of the bowel may be due to the use of overconcentrated foods, or a diet lacking in those indigestible parts of the food (cellulose and refuse) which exert a mild irritant action on the bowel while passing unaltered. In these cases regular habit in going to stool, exercises developing and stimulating the abdominal muscles, massage, copious water drinking, and a diet containing much cellulose and waste (coarse fibrous vegetables like spinach, carrots, cauliflower, lettuce, corn, beets, turnips, and fresh fruits). When these latter do not relieve, the use of agaragar is suggested. In all cases a careful routine examination of the feces is advised, in patients with intestinal disorders, as this may reveal anemia, unsuspected infection with intestinal parasites, etc.

9. Value of Loeffler Method of Sputum Examination.—Williamson carefully describes the history and technique of this method. He finds that the Loeffler method, under ordinary laboratory conditions, show tubercle bacilli in thirty-seven per cent. of sputa, that would not be found by any other method. The entire process requires only about twenty or twenty-five minutes and is not infrequently less than that required for the examination of simple smears. Finally a more accurate estimate of the progress of a case is obtained by this method of examining the sputum.

MEDICAL RECORD.

April 6, 1912.

1. ARTHUR M. JACOBUS: Physical Examination for Correct Diagnosis and Honest Treatment; References to Inexcusable Errors
2. RALPH REED: Sexual Education of the Child.
3. H. J. FARBACH: Specific Treatment of Pyosalpinx.
4. JOSEPH B. BISSELL: Fracture and Dislocation of Upper End of Humerus.
5. JAMES M. WINFIELD: Salvarsan as a Cure of Syphilis.
6. FELIX VON OEFELE: Clinical Technique for Enzymes.

1. Correct Diagnosis and Honest Treatment.—Jacobus makes a plea for increased care and better diagnostic methods, and a protest against the omission of a thorough physical examination in cases where such would be necessary to make a correct diagnosis. The law on malpractice as interpreted by Mr. Justice Vann requires a physician to use his best judgment, but does not hold him liable for a mere error of judgment, provided he does what he thinks is best after careful examination. It is this last point that is emphasized, and Jacobus believes it to mean that the patient shall be partly or entirely nude, from head to foot, so that all external parts and all internal organs may be reached. In addition to this is an examination of the urine, blood, sputum, gastric contents, feces, vaginal and

urethral discharges, and spinal, pleuritic, or other effusions, as suggested by the symptoms or as may be required to form a correct diagnosis. He further advises that every physician should appreciate his own possibilities and limitations in each case, and, when necessary to a successful issue, should seek the aid of an expert or specialist, that any deficiency may be made good, not only for the patient, but for one's own future use and improvement.

2. Sexual Education of the Child.—Reed realizes that the problem of the sexual education of the child is but a single phase of that broader problem, the sexual education of the adult, the success of the former depending in large measure upon the latter. The writer considers the question as to who shall undertake the sexual education of the child. His personal opinion is that, at least in the case of young children, it should be the mother, stimulated to undertake this education by her physician, who in many cases will have to overcome prejudices on the part of the parents. The writer decries the "purity" books, and books of the What a Young Girl Should Know type, as being "filled with vague and mystifying phrases, which mean absolutely nothing to those who do not already know what is sought to be hinted at." He cannot see how the child can appreciate the mysterious shift of scene from plants to man when plant reproduction is used as an illustration. A strong plea is made that the medical profession shall not remain indifferent to its duty in this matter nor relinquish the problem to others who are less able to solve it. The writer concludes with histories of three cases which illustrate some of the points brought out.

3. Specific Treatment of Pyosalpinx.—Farbach bases his paper on the results of twenty-five cases of acute and chronic variety. Happy results from the use of the vaccines and serums in complicated and chronic gonorrheas in the male, suggested this line of treatment in the first pyosalpinx presenting itself. The pain and pelvic tenderness were materially less on the third day after the first injection, and in less than one month the patient could assume any position without the least pain or inconvenience. The writer advises the employment of a multivalent antigonococcic serum in full dose, two to four c.c. every three or four hours until reaction occurs, and then as soon as possible he makes an autogenous vaccine for future treatments; at the same time he employs all the medicinal, hydrotherapeutic, and mechanical means used in these conditions.

4. Fracture and Dislocation of Upper End of Humerus.—Bissell, in this paper, emphasizes three points: In a fracture dislocation at the shoulder joint the fracture usually occurs after the dislocation, and is caused by ill advised and unskillful efforts at reduction; for operations under proper conditions and for proper purposes the shoulder joint exhibits great tolerance; the shoulder joint possesses a remarkable ability to adjust itself to a great amount of damage and injury, eventually recovering its functions. To illustrate these points the writer presents the histories of nine cases.

5. Salvarsan as a Cure for Syphilis.—Winfield, after ten months' observation and experiment in the use of this remedy, feels justified in sounding a warning against its indiscriminate use. He finds that it is not indicated in all cases of syphilis. He believes its use in routine office work unwarranted, and that there is considerable risk in giving this drug to office or dispensary patients, in view of the serious accidents that have followed its use when every possible care and precaution had been observed, and the patients had enjoyed the protection of every hospital facility. From the study of 100 cases he concludes that although salvarsan is a powerful antisyphilitic, it does not cure the disease any more surely than mercury, but it does relieve the clinical symptoms more quickly than any known remedy, and is especially useful when there is need for haste. One or more doses of salvarsan cannot insure a cure, and every patient, within three months after receiving the remedy, should have a course of mercurials; by this method the duration of treatment can be reduced one half. All cases under antisyphilitic treatment should be checked up with the Wassermann and other serological tests. Where prompt effect is desired the intravenous method of administration is the one of choice; the divided doses of the oily emulsion is the safest method, in the opinion of the writer, for office or dispensary administration.

6. Clinical Technique for Enzymes.—Von Oefele introduces his subject with the statement that all the fluids of the body contain more or less of enzymes and for the determination as to the state of health or sickness, it is necessary that we be able to estimate the amount of enzymes in comparison with the normal. He divides the enzymes into five groups: Reductases, oxydases (oxygenases and peroxydases), albumin splitting enzymes, carbohydrate splitting enzymes, and fat splitting enzymes. The reductases he considers as unimportant and excludes them in the presentation of the clinical tests. The technique for the application of the tests for the recognition of the four other enzymes is given in detail, the tests being especially good for gastric contents comprising regurgitated intestinal contents, for duodenal contents, or for feces. Color impurities which impair or render impossible the application of other tests do not interfere with the technique presented by the writer.

BRITISH MEDICAL JOURNAL

March 30, 1912.

1. J. L. Bunch: Skin Rashes in Children.
2. M. Morris: Late Syphilitic Glossitis Treated with Salvarsan.
3. G. G. S. Stopford-Taylor and R. W. Mackenna: Experience with Salvarsan.
4. F. H. Edgeworth: Chronic Purpura.
5. R. Row: Leishmania Donovani and Leishmania Tropica.
6. R. Parker: Epithelioma of Hand and Glands.
7. R. M. Hewitt: Acute Poliomyelitis.
8. G. F. Cross: Acute Anterior Poliomyelitis.
9. C. W. G. Bryan: Vaccine and Serum Therapy [illegible]

3. Experience with Salvarsan.—Stopford-Taylor and Mackenna have had an experience of sixteen months' use of salvarsan, and find that it is of greatest value in the primary and tertiary stages. In the second stage the response seems to vary with the nature of the lesions, none yielding more rapidly than the condylomata, none more slowly than the adenitis. They have also found it of value in the early stages of tabes. Its influence upon the Wassermann reaction is variable. They have found no great toxicity of the remedy and are unwilling to consider it dangerous if given in

moderate doses and refused in the hopeless cases. They examined the urine for arsenic after the different modes of administration, and were able to find it in the first urine voided after intravenous injection, and they noted that a full dose given thus was completely eliminated in from seven to nine days. When given intramuscularly in olive oil, traces of arsenic were found in the urine as long as twelve weeks after the injection. They believe that the best permanent results are to be obtained by repeated small doses of salvarsan combined with mercurial treatment.

4. **Chronic Purpura.** — Edgeworth reports three cases of this rare disease, in two of which it was due to a chronic low grade infection with the pneumococcus. In one of these two cases it was the sole manifestation of pneumococcal infection, and the blood culture was the only means by which the etiology was discovered. Between chronic purpura and hemophilia there are the following distinguishing points: Hemophilia is congenital and hereditary, while purpura is neither. In the former there is a diminution of coagulability of the blood, but the clot, when formed, contracts; in purpura coagulation is normal, but the clot does not contract. In hemophilia the blood platelets remain about normal, while in purpura there is a marked diminution in their number.

6. **Epithelioma of the Hand.**—Parker cites an interesting case of a growth of this nature on the dorsum of the hand at the base of the index and middle fingers. The man's occupation brought him into the atmosphere of coal dust, and Parker thinks there is a possible similarity between this case and the epitheliomata of chimney sweeps. Though he removed all the diseased area and the involved glands, the patient subsequently died from a metastasis into the spinal cord.

8. **Acute Anterior Poliomyelitis.**—Cross reports an outbreak of this disease in the rural districts about some small villages. Though there was no connection between the three groups of the disease as regards location, there was definite evidence of contact between several of the cases in each group. In one group all of the cases were in children attending the same school. There were no known cases of paralysis in animals or fowls in any of the regions. Flies were abundant and there were fleas in three of the houses. In nearly all instances there were other children in the houses, and in spite of the evidence of direct contact there was but one house in which there was a second case.

9. **Serum and Vaccine Treatment in Eye Diseases.**—Bryan continues his discussion and takes up the value of various sera. Those which seem to have the greatest value are diphtheria antitoxic serum, antipneumococcic, and antigonococcic sera. These are all specific, and while there are other specific sera there are none which have much effect. The use of nonspecific or "paraspecific" sera has been tried, with success in some cases, notably in conjunctivitis, corneal ulcer, traumatic, and postoperative infections. The serum used has been that of Roux. Deutschmann's yeast serum has also brought good results in such severe affections as sympathetic ophthalmia, even without removal of the exciting eye. It has been highly beneficial in a very great variety of ocular infections. Its action as well as that of the other nonspecific sera is explained on the basis of their being what has been called "leucostimulants." The nonspecific sera are without doubt of very great value in many widely different conditions, and the two mentioned would seem to be particularly beneficial.

LANCET.

March 30, 1912.

1. F. A. Bainbridge: Paratyphoid Fever and Meat Poisoning (*Lecture III*).
2. W. Einthoven: Forms of the Human Electrocardiogram.
3. A. Adams: Ruptured Kidney.
4. D. Kennard: Salvarsan in Syphilis.
5. W. E. Fothergill: Classification in Gynecology.
6. H. A. Adie: Sex of the Larvæ of Mosquitos.
7. W. E. McKechnie: Abscess of the Lung and Liver Cured by Postural Drainage.
8. D. Stewart: Pulmonary Embolism as a Sequel to Diphtheria.
9. H. T. Thompson and J. Sinclair: Telegraphists' Cramp (*Part I*).

1. **Paratyphoid Fever and Meat Poisoning.**—Bainbridge concludes his series of lectures with a critical consideration of the distribution, epidemiology, and mode of food contamination and transmission of both *Bacillus suipestifer* and *Bacillus enteritidis*. He summarizes the main points in regard to meat poisoning under the following headings: 1. *Bacillus suipestifer* and *Bacillus enteritidis* are rarely found in the healthy human gastrointestinal canal. Their usual habitat is the intestine of certain of tht lower animals; *Bacillus suipestifer* occurs chiefly in pigs and at times in mice; *Bacillus enteritidis* is found frequently in rats, occasionally in cattle, and rarely in other animals. 2. In outbreaks of meat poisoning due to *Bacillus suipestifer* the meat has generally become infected after the death of the animal; in the majority of cases it is derived from pigs. Intravital infection also occurs. 3. In outbreaks due to *Bacillus enteritidis* the meat has been obtained from animals sick prior to slaughter in most cases. Doubtless there are some cases in which the contamination does occur after slaughter. The meat is usually derived from cattle. 4. There is but little evidence that ptomaines play any important part in meat poisoning. The majority of the outbreaks are due to the consumption of meat infected with either of the two organisms considered. In conclusion of this series of lectures he states his belief that paratyphoid fever and meat poisoning are distinct diseases, caused by different bacilli, which, though closely allied bacteriologically, can be distinguished by appropriate methods. The distribution of the organisms which cause the one is quite different from the distribution of the other. Paratyphoid is spread by human carriers, whereas meat poisoning is occasioned by food derived from infected animals or contaminated after death of the animals. The clinical pictures of the two diseases are in general quite dissimilar.

2. **Electrocardiogram.**—Einthoven offers us an interesting, but very highly technical paper on the different forms of the human electrocardiogram which should be of value to those working on the problems of heart physiology or pathology, but which does not lend itself to presentation in the form of an abstract.

5. **Classification in Gynecology.**—Fothergill reviews the previous classifications and laments the

want of any suitable arrangement which is at once both scientific and simple. What is required is a natural basis of arrangement and one based on pathological rather than anatomical conditions. He offers the following: 1. Developmental errors, to be subdivided into A, congenital errors, and, B, errors in development at puberty. 2. Vascular changes, including active and passive hyperemia, varicosities, and hemorrhage into the pelvic organs and tissues. 3. Mechanical lesions. 4. Results of infection, which are to be subdivided into the infections by the several organisms. 5. Progressive conditions, which include overgrowths, cysts, and neoplasms. 6. Retrogressive conditions, which occur mainly in connection with the menopause.

6. **Sex of the Larvæ of Mosquitos.**—Adie believes that it is possible to tell the sex of the larvæ of the anopheles as early as the third day. On each side of the sixth abdominal segment there is a brownish oval tumidity in the males. This can be seen with a two thirds lens and is found to be the pear shaped testis in its hard sac. On dissection it is found to be connected by a vas with a vesicula and a ductus and to contain spermatozoa both formed and unformed. Twenty-four prognostications have come out right on the completion of metamorphosis.

7. **Abscess of the Lung and Liver.**—McKechnie reports a case of this condition in a child. The abscess lay in the dome of the liver and had perforated through the diaphragm and lung into a bronchus. The involved organs were firmly bound together by adhesions. Drainage was very poor and was accomplished only through the process of expectoration and cough. The child had been ill for five years and nothing had given any relief. McKechnie adopted the plan of having the child lie on a table with his whole body dependent vertically, being supported by his legs only. While in this position he was made to strain and cough and was thus able to empty the cavity completely. This was repeated several times daily. The secretion became rapidly less, and in the short space of six weeks the abscess was healed and recovery was complete.

AUSTRALASIAN MEDICAL GAZETTE

February 17, 1912.

1. Clifford Allbutt: Neurasthenia.
2. T. Montgomery Mosher: Treatment of Mental Diseases in the Early Stages.
3. G. H. Hogg: Ocular Hygiene of Schools.

February 24, 1912.

4. A. G. Butler: Disease of Man Spread by Insects.
5. H. Roger Cope: Three Interesting Surgical Cases.
6. H. H. Parkinson: Stramonium Poisoning.

March 2, 1912.

7. J. Ashburton Thompson: Experimental Leprosy.
8. F. Hamilton Kenny: Criminal Abortion.
9. R. N. Rockett: Case of Ruptured Kidney.

1. **Neurasthenia.**—Allbutt divides neurasthenia into the cerebral, spinal, cardiovascular, visceral, urogenital, and traumatic forms. In large institutional records the cerebral cases make up about thirty per cent., the cerebrospinal about fifty per cent. The number of traumatic cases varies and depends very much on the classes or occupations of the patients. Allbutt considers each of these forms in turn and then goes on to say that we know nothing accurately of the pathology of neurasthenia. It is often accompanied by vasomotor instability, but this is rather incidental. A case should not be pronounced one of simple neurasthenia until every other possibility has been exhausted. Latent organic disease, such as visceral carcinoma, larval Graves's disease, subtle changes of an organic kind in the brain or spine, neuritis, Addison's disease, latent gout, secret causes of mental depression or anxiety, obscure metabolic perversities of the kind often attributed to "liver," the secret use of drugs, the abuse of tea, coffee, or alcohol, oral sepsis, eye strain, the grumbling and discontent of selfish and undisciplined persons, or of self deceivers and malingerers, have to be excluded. Treatment is a very serious business. Months of methodical and incessant attention may be impaired by some want of foresight, or some lack of personal ascendancy in the physician or his assistants. It may prove desirable to treat all patients in sanatoria. The first essential is a closely accurate examination of the patient, for a trivial disorder may enchain the patient in a vicious circle, not to be broken until the disorder is removed, such as a displaced viscus, a faulty eye, a chronic rhinitis, a fissure of the anus, or piles. Allbutt then recommends Weir Mitchell's treatment varied according to individual peculiarities, followed by hydrotherapeutic and electric treatment. Suggestion is of far less service than in hysteria, but may be incidentally useful. Drugs play a subsidiary part in treatment. Exercise, physical and moral education are of great importance.

6. **Stramonium Poisoning.**—Parkinson reports a case in which a child, four years old, was poisoned by a half cupful of fresh infusion of stramonium leaves. Four hours after receiving the drug the child became restless and noisy. An hour later he was unconscious and very restless, throwing his arms and legs about wildly. His face was flushed, his temperature 98° F., his pulse about 200, his respiration shallow and very rapid, his pupils widely dilated. Apomorphine and enemata were administered, and the child was placed in bed with hot bottles to the body. Five hours later the child regained consciousness, but was still very restless, occasionally giving a loud scream. The temperature had risen to 99.2° F., the pulse had fallen to 130, the pupils were moderate in size. Diarrhea started during the night. Nothing wrong was found in the urine twenty-four hours after the drug was taken, and the child was practically well forty-eight hours after taking the poison.

PROCEEDINGS OF THE ROYAL SOCIETY.

March 12, 1912.

1. F. W. Twort and G. L. Y. Ingram: Isolating and Cultivating *Mycobacterium enteritidis chronicæ pseudotuberculosæ bovis*, Jöhne, and Preparation of a Diagnostic Vaccine for Pseudotuberculous Enteritis of Bovines.
2. E. A. Newell Arber: Fossil Flora of the Forest of Dean Coalfield (Gloucestershire), and Relationships of the Coalfields of the West of England and South Wales.
3. F. W. Edridge-Green: Simultaneous Color Contrast.
4. T. Graham Brown: Alleged Specific Instance of the Transmission of Acquired Characters.—Investigation and Criticism.
5. R. Kirkpatrick: [illegible]

1. **Pseudotuberculous Enteritis of Bovines.**—Twort and Ingram found that the acid fast bacillus present in cases of pseudotuberculous enteritis of bovines (Jöhne's bacillus), which fails to grow outside the body on the ordinary artificial media,

can be cultivated on media containing the dried and powdered growth of certain acid fast bacilli which have been previously killed, especially the timothy grass bacillus and the human type of tubercle bacillus. They proved that the bacilli thus cultivated would reproduce the disease in inoculated animals, and prepared vaccines from them.

CENTRALBLATT FÜR ALLGEMEINE PATHOLOGIE UND PATHOLOGISCHE ANATOMIE.

February, 1912, No. 3.

1. G. L. v. Heumen: New Method for the Rapid Staining of the Medullary Sheath and Axis Cylinder.
2. R. Koritschoner: Mycotic Aortitis.

February, 1912, No. 4.

3. F. Heimann: Histological Studies of Myomata of the Female Genital Tract.
4. A. Katase: Unusual Case of Teratoma of the Lung.

2. Mycotic Aortitis.—Koritschoner reports in brief the clinical symptoms of a case and then gives in some detail the autopsy findings. There was a severe cellulitis of the back of the right hand with enlargement of the axillary nodes on that side. The left pleural cavity contained four litres of blood which pushed the heart to the right. In the aorta near the left subclavian there was found an opening six to seven mm. in diameter, that communicated directly with the left pleural cavity. Microscopical examination near the edge of the perforation showed a thickening, due to an endarteritis. At the torn place there was a marked inflammatory infiltration. The muscle cells showed degenerative changes, and indications of a beginning calcification were present. The conditions present in the wall of the aorta at the tear were those of a severe inflammation of the media and adventitia, due to an infection by streptococci. This led to a phlegmonous infiltration with complete destruction of the layers of the wall with ultimate rupture of the aorta. As the valves of the heart showed no changes the condition evidently was not secondary to an endocarditis following the infection of the hand, but was a localized focus resulting from the bacteremia.

4. Unusual Case of Teratoma of the Lung.—Katase gives a brief review of reported cases of mixed tumors of the lung and then adds in detail a description of a case that came under his observation. All three layers of the blastoderm were represented, the ectoderm by skin epithelium and its appendages, neuroepithelium, retinal tissue, spinal ganglion cells, and nerve fibres; the mesoderm by a large amount of nonstriated muscle, hyaline cartilage, fatty and connective tissue; the entoderm by mucous glands, pancreatic tissue, and elements of the gastrointestinal type.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

February 22, 1912.

1. F. Kraus: Motions of the Esophagus under Normal and Pathological Conditions.
2. H. Kümmell: Indications for Surgical and Medicinal Treatment of Diseases of the Stomach and Their Operative Result.
3. Hinz: Surgery of the Pancreas.
4. Schumburg: Germicidal Action of Alcohol.
5. Retzlaff: Atophan Therapeutics in Gout.
6. G. Beyerhaus: Clinical Experience with Codeonal.
7. F. Bering: Joint Diseases in Acquired Syphilis.
8. Walther Fischer: Congenital General Anasarca.
9. Max Senator: Etiological Relation between the Nose and Joint Rheumatism.
10. Franz Fischer: Treatment of Large Skin Defects on the Extremities.
11. E. Zweig: Septic

12. H. Nakano: Quick Staining Method of *Spirochæta pallida* in the Tissues.
13. Otto Juliusburger: Castration and Sterilization in Criminals and the Insane.

March 7, 1912.

14. H. Strauss: Carbohydrate Cures in Diabetics.
15. Eduard Sonnenburg: Suture or Drainage of the Abdomen in Peritonitis.
16. H. Kümmel: Indications for Surgical and Medicinal Treatment of Diseases of the Stomach and Their Operative Results.
17. R. Kraus: Results of Treatment of Bacillary Dysentery with Antitoxic Serum.
18. Axel Borgbjärg: Motility Disturbances of the Stomach.
19. J. Boas: Motility Estimation of the Stomach.
20. M. Mirowsky: Retention of Water in the Treatment of Diabetics with Oats.
21. Erwin Thomas: Classification of the Forms of Myxedema.
22. L. von Liebermann and F. von Fillinger: Resistance of Erythrocytes in the Normal and Sick Persons, with a Simple Method for Its Estimation.
23. Max Hirsch: Schultze's Method of Resuscitating Asphyxiated Newborn Infants.
24. Theodor Hausmann: Spontaneous Displacing of the Colon: Causes and Diagnosis by Palpation.
25. Hans Haenel: Domicile and Noise.

4. Germicidal Action of Alcohol.—Schumburg demonstrates that in absolute and denatured alcohol we have an important medium for disinfection of the hands as well as of the skin. Military surgeons especially should keep this in mind in case of war. Soap should not be used before the application of alcohol.

5. Atophan Therapeutics in Gout.—Retzlaff reports on his results with atophan, a phenylchinolin carbonic acid, in gout. He gave for four or five days from two to three grammes of atophan and found that the inflammation receded, the pain became less, and the general condition of the patient improved. Should the dose produce stomach trouble he advises the use of about one teaspoonful of sodium bicarbonate. Sodium bicarbonate should always be combined with atophan in case of inflammation of the kidneys.

6. Clinical Experience with Codeonal.—Beyerhaus endorses the use of codeonal, a combination of codeine (0.02) and sodium (0.15) diethylbarbituricum, as a narcotic in patients suffering from slight psychoses. Its effects are not so reliable as those produced by one gramme of trional, two grammes of chloral, or half a gramme of veronal. Its indiction is insomnia produced by severe coughing spells and bodily pains.

12. A Quick Staining Method of Spirochæta Pallida in the Tissues.—Nakano describes a method of staining *Spirochæta pallida* which, when begun in the morning, will make it possible the next evening to make a microscopical examination of the spirochetes. His method is the following: The tissue is immersed for about fifteen minutes in a ten per cent. formalin solution, and cut up into pieces about one millimetre thick, which are placed for about three or five hours into ninety-five per cent. alcohol. They are then washed in running water for ten minutes and placed in a 1.5 per cent. solution of silver nitrate and put in an oven at 50° C. for about four or five hours. They are then again washed in a solution containing pyrogallic acid (3.0 grammes), ten per cent. formalin solution (5.0 grammes), and distilled water (100 grammes), and again placed in the oven for about eight hours at 50° C. A washing with ninety-five per cent. alcohol, absolute alcohol, and xylol, will make the pieces ready to be imbedded in paraffin.

18 and 19. Motility Disturbances of the Stomach.—Borgbjärg states that careful examinations

of the motor functions of the stomach are of greater import than those of secretion. The test meal as proposed by Bourget-Farber consists of 250 c.c. oatmeal gruel, fifty grammes boiled chopped meat, fifty grammes wheat bread with butter, eight cooked prunes, and a tablespoonful of cooked cranberries. There are four groups of retention periods, when after five, six, eight, or twelve hours ten c.c. residue is found in the stomach. The twelve hour or continual retention is usually caused by an organic pyloric stenosis, but can also originate from a spastic stenosis, in ulcer, and sometimes in gallstones. The six and five hour retention is usually found in organic diseases of the stomach (carcinoma, ulcer, gastritis), but also in dyspepsia with or without excessive secretion; finally, in asthenia.—Boas speaks of the chlorophyll method of motility examination of the stomach. His method consists in adding to 400 c.c. water twenty drops of chlorophyll. This solution is absolutely odorless and tasteless and will, if given in a green glass, be taken by the patient without objection. He thus is able to find out the time it takes for the fluid to pass through the stomach if the water is taken mornings upon an empty stomach. After thirty minutes the stomach with normal motility should contain only from fifty to sixty c.c. This fact can be used as an index for the motility of the stomach. Boas has used it during two years in over 130 examinations.

23. Schultze's Method of Resuscitating Asphyxiated Newborn Infants.—Hirsch warns against Schultze's method which, he says, is in most cases contraindicated. Schultze himself gave in his article, which appeared in 1866, certain indications and contraindications for his method which have been disregarded, thus producing many fatal results.

PRAGER MEDIZINISCHE WOCHENSCHRIFT

March 7, 1912.

1. Max Hirsch: Substitutions for Mineral Water and Drugs.

March 14, 1912

2. Alexander Skutetzky: Drug Treatment of Acute Infectious Diseases.
3. Oskar Klauber: Ten Years of the Leipzig Association.

March 21, 1912.

4. R. Imhofer: Peculiar Case of Carcinoma of the Pharynx.
5. Robert Bass: Theory of Specific Effect of Drugs.

2. Drug Treatment of Acute Infectious Diseases.—Skutetzky demonstrates that, through rational and timely treatment by drugs of the symptoms in acute infectious diseases we can give the patient relief and also preserve his life, although we have no specific remedies or treatment for the disease itself.

ZENTRALBLATT FÜR CHIRURGIE

March 30, 1912.

1. A. Henle: Satisfactory Substitute for Esmarch's Bandage.
2. A. Hofmann: Reply to Frankenstein's Article on the Making of the Incision in the Operation for Appendicitis.
3. F. Neugebauer: Primary Calculus of the Liver.

1. Substitute for Esmarch's Bandage.—Henle's substitute is a bandage made of steel wire.

ZENTRALBLATT FÜR INNERE MEDIZIN.

February 24, 1912.

Georg Grund: On the Chemical Changes in Degenerated Muscle.

Chemistry of Degenerated Muscle.—Grund cut the sciatic and anterior crural nerves of one side in four dogs, and three months later compared the chemical composition of the muscle tissue of the corresponding limb with that of the muscles on the unoperated side. The percentage of ether extractives was considerably increased in the degenerated muscles, likewise the proportion of water to some extent. While the total nitrogen and total phosphorus content showed practically no variation, the ratio of albumin-phosphorus to albumin-nitrogen rose from 0.85 to 1.39. From these and previous experiments the author concludes that although during starvation all the proteins of muscle tissue suffer to a like extent, on the contrary in muscular degeneration the special phosphorus free proteins of muscle—myosinogen and myosin—are broken down to a relatively greater extent than the phosphorus containing proteins. This corresponds with the relative increase in nuclear substance observed in the histological study of degenerating muscles.

March 2, 1912.

J. Kemen: Researches upon the Action of Radium.

Action of Radium.—Kemen administered radium by inhalation and internally in a series of human subjects. He was unable to recognize the progressive storing of radium emanations in the blood during the inhalation, as described by Gudzent; the emanations in the blood proved equally strong through the entire period of inhalation, and amounted to one fifth of the quantity present in the inspired air. Fifteen minutes after stopping the inhalation no appreciable strength of emanation remained in the blood. After single doses of radioactive water taken internally the emanations could be detected in the blood for two and one half to three hours. With the latter method the strength of emanations introduced into the blood proved to be far higher than by the inhalation method.

CLEVELAND MEDICAL JOURNAL.

March, 1912

1. D. H. Dolley: Systematization of Morbid Processes in Relation to the Nervous System.
2. E. O. Houck: Treatment of Septic Abortion.
3. R. G. Hoskins: Adrenal Glands.
4. S. H. Monson: Buphthalmia.
5. T. Sollman and P. J. Hanzlik: Gastrointestinal Absorption of Drugs.
6. A. G. Hyde: Causes and Control of Insanity.
7. F. D. Snyder: The Prehistoric Surgeon.

1. Morbid Processes in Relation to the Nervous System.—Dolley brings forth evidence and logical reasoning in abundance upon which he bases the contention that certain widely variant abnormal conditions rest on a common anatomical basis of normal activity so far as concerns their relation to the central nervous system. Hence, their effects, the signs, and symptoms which may be directly referred to the brain, are to be interpreted in terms of activity, namely, fatigue and exhaustion. The conception is not that these morbid conditions are pathological in the ordinary sense that they are different from the normal, but that they represent normal processes carried to an abnormal, excessive degree. He opposes the common idea of the inexhaustibility of the nerve cell and shows that it is as exhaustible as are the other cells of the body. All the nerve cells from the highest to the lowest work alike: they become fatigued and exhausted; both normal and abnormal stimuli bring about these results.

Trophic stimulation as by anemia; thermal stimulation by external heat or by fever; mechanical stimulation, as surgical shock; and chemical stimulation by bacterial toxines are one and all capable of bringing about the exhaustion of the nerve cells. In the absence of disease, when the nervous activities are carried beyond the degree normal to the individual, there results some phase of exhaustion or fatigue, manifested by the symptom complex known as neurasthenia. In view of these facts regarding the occurrence of exhaustion of the nerve cells our employment of stimulants would seem to be illogical, and rest and increased nutrition seem to be the proper measures. Of all the forms of stimulation which Dolley discusses, the chemical stimulation by the bacterial toxines is the only one which can be eliminated as a factor outside of normal life. He concludes that the common factor which causes morbid states of the central nervous system is the physiological factor of stimulation. From this, work, and ultimately overwork, result.

INTERNATIONAL JOURNAL OF SURGERY.

March, 1912.

1. W. F. Campbell: Gastroenterostomy and the Gastric Function.
2. W. C. Dugan: Unique Case of Kneejoint Surgery; Compound Fracture with Delayed Union.
3. Roy Upham: Symptomatology of Ulcers of the Upper Digestive Tract.
4. W. H. Howell: Fractures of Patella.
5. A. Potter: Salvarsan; Its Action on the Nervous System.
6. W. F. Waugh: Etiology of Appendicitis.
7. J. M. Wells: Traumatic Neurasthenia.
8. J. Fenner Bell: Puerperal Insanity.
9. C. K. Johnson: Repeated Miscarriages.
10. T. Jensen: Treatment of Furuncles.

1. Gastroenterostomy and the Gastric Function.—Campbell affirms that although the immediate good results of gastroenterostomy are undeniable, the operation is often followed by unexpected complications, such as periodic vomiting of bile stained fluid, gastric distress after eating, impaired nutrition, etc. A new opening into the stomach is useless unless the pyloric orifice is stenosed or closed, as otherwise no stomach contents will pass out except through the pylorus, neither the stomach nor any other part of the gastrointestinal tract being affected by gravity drainage. His study of 100 normal stomachs brought out the fact that the organ is divided into two distinct parts, the cardiac end being used for storage only, while in the pyloric portion the food is triturated and prepared for intestinal digestion. For this reason the artificial opening should be placed as near the pylorus as possible, because here the fluidity of the food and mechanical pressure are greater. In many cases the correction of a hyperacidity will clear up an apparent stenosis, the excess acidity of the chyme injected into the duodenum causing prolonged contraction of the pyloric muscle, i. e., physiological pyloric stenosis, and in other instances the gallbladder or appendix will be found at fault.

2. A Unique Case of Kneejoint Surgery.—Dugan explains that in his case, gentle manipulations to break up recent adhesions in an ankylosed kneejoint caused the aponeurosis of the quadriceps to be torn loose from the patella. He describes the difference between delayed union and ununited fracture (false joint) as follows: In delayed union the ends of the bone are not rounded off, the medullary canal is not closed, the periosteum is normal, and there are no bursæ, while in ununited fracture the ends of the bone are smooth and rounded, the medullary canal is sealed, and bursæ are formed. The treatment of delayed union is to remove any existing cause, such as rheumatism, gout, anemia, etc., by appropriate treatment; to remove interposing tissue if present; to secure good apposition; and to prevent absolutely motion of the fragments. These measures should promote prompt union. In ununited fractures surgery is not promising. Tincture of iodine or carbolic acid may be injected at the site of fracture, or the ends of the bone may be rubbed together until bone crepitus is obtained, this often inciting effusion and formation of callus. This failing, the patient should be allowed to go about on crutches, the limb being allowed to swing, without dressings. If all these fail the bone should be exposed, enough removed from each fragment to expose the medullary canal, and the ends plated or wired in good apposition.

3. Symptomatology of Ulcers of the Upper Digestive Tract.—Upham believes that medical measures will relieve most cases of gastric ulcer, but that surgery is suitable in ulcer of the duodenum. Points of value in the differentiation of these conditions follow: Ulcer of the stomach gives rise to a burning, boring pain; duodenal ulcer to a cramping, excruciating, gaslike pain, which starts from both sides and works toward the centre of the epigastrium. In gastric ulcer nausea and vomiting follow the pain, but in duodenal ulcer these are rare. Eating provokes the pain in gastric ulcer, and the sufferer dreads to eat the simplest food, whereas in duodenal ulcer eating is a sure antidote for the pain, no matter how indigestible the food taken. Thus the patient with gastric ulcer is thin and pale, while the duodenal patients are fat and healthy looking. An epigastric point of tenderness, and one to the left of the eleventh or twelfth dorsal vertebra, are pathognomonic of gastric ulcer, but there are no tender areas in the duodenal variety. Jaundice would point to duodenal trouble. The hydrochloric acid will be found increased always in duodenal, but may be decreased, even as low as forty, in gastric ulcer. If the gastric contents contain blood, either recent or dark, gastric ulcer is likely, as in the duodenal form blood never passes into the stomach, but may be found in the stools. The suffering in gastric ulcer is constant and progressive, but the duodenal patient has periods of complete relief from all symptoms lasting for weeks.

5. Salvarsan; Action on the Nerves.—Potter states that while salvarsan intravenously is more rapidly absorbed than intramuscularly, and does not incapacitate the patient, it is more rapidly eliminated, the arsenic disappearing from the urine in five to seven days. The dose should be 0.6 gramme for men and 0.4 gramme for women. In some cases, such as sensitive women, or children, from 0.1 to 0.2 gramme suspended in a vegetable oil and given intramuscularly at daily or weekly intervals will prevent severe reaction. Cranial nerve symptoms, especially of the eye and ear, are often noted, and Ehrlich attributes these to syphilis rather than to the salvarsan, but he has not as yet proved this to be the case. By causing an acute edema of the cerebrospinal membranes salvarsan may cause con-

vulsions, coma, or death. Hemorrhagic encephalitis and incipient hepatic cirrhosis have been observed post mortem. Most of these phenomena are doubtless due to the destruction of immense numbers of spirochetes and the resulting release of large amounts of endotoxine. In advanced tabes or paralysis the remedy is not of great value, but in early cases it will check the advance of the disease, and may even ameliorate the shooting pains, bladder symptoms, and Argyll Robertson pupil. In gummata of the nervous system and skin and mucous membrane manifestations the drug is very effective. In the treatment of nursing infants the mother instead of the child should be injected.

6. **Etiology of Appendicitis.**—Waugh concurs in Robertson's view that appendicitis is seldom due to foreign bodies, flatulent distention of the colon, etc. The veins of the appendix are of large calibre, without valves, and with thin walls. The muscular coat of the appendix is a continuation of the triband muscle of the colon, contracting and relaxing simultaneously with it. These contractions constrict the veins of the appendix, cause venous stasis, and even thrombosis if the contraction is long continued. The nourishment of the appendix is interfered with, the tissue becomes engorged with venous blood, resistance is lessened, and infection rendered likely. If the spasm is mild in degree appendicular colic will result, but if severe and prolonged, gangrene will ensue. It follows that relaxation of the spasm is the rational treatment of appendicitis not subjected to operation, and the best means of accomplishing this is by giving hyoscyamus and strychnine, and employing measures to empty the bowel.

10. **Treatment of Furuncles.**—Jensen has found the use of echinacea (*Echinacea augustifolia*) almost a specific in the treatment of furuncles. The preparation used is fluid extract of echinacea, glycerin, of each one ounce; water enough to make eight ounces. If the furuncle is just starting, ten drops of phenol are injected into the area, and this is repeated three times at intervals of two days. A gauze dressing saturated with the solution is applied externally and kept wet. If further advanced the contents are evacuated and the cavity filled with gauze soaked in the mixture. Echinacea and hypophosphites internally are indicated in the same conditions. The drug is a useful dressing in any infected wound.

JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS.

March, 1912.

1. W. B. Cannon, J. C. Aub, and C. A. L. Binger: Effect of Nicotine Injection on Adrenal Secretion.
2. Paul J. Hanzlik: Quantitative Studies on Gastrointestinal Absorption of Drugs: II. Absorption of Sodium Iodide.
3. Wm. DeB. Macnider: Action of Various Diuretics in Uranium Nephritis.
4. Hugh McGuigan and C. L. von Hess: Isocalycanthine and Its Quaternary Base.

1. **Effect of Nicotine on Adrenal Secretion.**—Cannon, Aub, and Binger took longitudinal strips of intestinal muscle from cats and applied to them warm defibrinated blood obtained from the vena cava immediately anterior to the opening of the adrenal veins, before and after the intravenous injection of nicotine. The characteristic inhibition of the rhythmic contractions of intestinal muscle produced by epinephrin was taken as a measure of the amount of this body present in the specimens of blood obtained. It was found that the blood taken after the nicotine injection differed from that removed before the injection in producing arrest, slowing, or lowered tonicity of the contractions of intestinal muscle. The conclusion reached was that injections of nicotine in small amounts (from 0.0035 to 0.0075 gramme in cats) result in augmented adrenal secretion. That the inhibitory action could not be accounted for by an effect of the nicotine itself on the muscle was shown by appropriate experiments.

2. **Absorption of Sodium Iodide.**—Hanzlik investigated the absorption of this salt from the gastrointestinal tract in dogs and cats. It was found that the average absorption, quantitatively, is about the same for all divisions of the small intestine; from the stomach and colon it is about a third less. The extent of the surface with which the drug came in contact did not influence the percentage of absorption. The absorption from the intestine was at first very rapid, from fifty to seventy-five per cent. being absorbed within ten minutes; then the absorption was greatly checked or completely arrested, so that from twenty-five to fifty per cent. might remain unabsorbed at the end of two hours. It was shown that neither systemic action of the drug nor reexcretion was responsible for the stoppage of absorption. In general there was practically no relation between the absorption and variations in blood pressure unless the pressure reached a very low level (35 mm.) when the absorption was diminished. On the other hand, visible hyperemia induced locally by various drugs increased, while visible anemia diminished the absorption of iodide. Injury of the intestinal epithelium, however produced, hindered the absorption. The author accordingly concludes that the inhibition of sodium iodide absorption is a local effect, the explanation of which must be sought in some chemical change in the absorbing epithelium. The application of dilute (0.2 to one per cent.) sodium chloride to the intestinal mucosa was found to produce such an inhibition. Feeding dogs on a chloride poor diet, thus rendering the tissues in general poor in chlorides, did not appear materially to increase the absorption of sodium iodide.

3. **Action of Diuretics in Uranium Nephritis.**—Macnider's study was undertaken to determine the effect of vascular and epithelial changes, respectively, on the output of urine in nephritis, and to ascertain whether or not the renal vascular mechanism is physiologically responsive in a nephritis in which there is evidence of epithelial involvement and but little of vascular injury. Early in nephritis caused by uranium, a glycosuria and marked polyuria developed in these animals. After anesthesia, these animals became either anuric or markedly oliguric. In some the flow of urine was then increased by administration of caffeine, theobromine, digitalin, or normal salt solution, but in others it was not influenced. Histologically the vascular pathology of the kidney proved alike in the two groups, and the response of the vessels was also similar, but the epithelial involvement proved to be more severe in the animals which remained anuric than in those in which diuresis was induced

by the drugs. It was concluded, therefore, that in uranium nephritis the epithelial changes are more responsible for oliguria or anuria than the vascular changes.

THE LARYNGOSCOPE.

February, 1912.

1. Robert Barany: Vestibular Apparatus and Central Nervous System.
2. L. K. Guggenheim: Early Development of the Ear.
3. George L. Richards: Inflammation of the Frontal Sinus. A Comparative Study.
4. G. F. Cott: Latent Sinusitis.
5. Lorenzo B. Lockard: Epiglottidectomy: Epiglottidean Tuberculosis.
6. Alfred Braun: New Instruments.
7. Chevalier Jackson: Laryngeal, Bronchial, and Esophageal Endoscopy.

1. Vestibular Apparatus and Central Nervous System.—Barany located certain centres in the cerebellum by using the painless method of Professor Trendelenburg of temporarily inhibiting functions of the cerebral cortex by cooling. The cases selected were those in which a previous cerebellar operation had left only a covering of dura and thin skin, and which showed distinct brain pulsations. Repeated attempts showed that a thick skin or granulations interfered with the necessary cooling of the cerebellum, and in order to overcome this difficulty the author used ethylchloride, after other methods failed. No ill effects whatever were detected in consequence of the cooling, one patient receiving the test as many as a dozen times without detrimental result to the cerebellar reaction to stimuli, except during the test. The author believes, therefore, that this modified Trendelenburg cooling experiment may be considered an entirely harmless method of examination as far as the cerebellum is concerned, and may be used by the neurologist and psychiatrist with a clear conscience to enlighten us on the cortical function of the cerebellum, while important discoveries in relation to the ear are awaiting our disclosures. By examination, the author has been able to demonstrate that just behind the attachment of the external ear, in the cerebellar cortex, the centre for movements of the arm from the shoulder joint has its location. He has also been able to demonstrate with certainty by this method that the centre for the inward movement of the wristjoint is located in that part of the cerebellum facing the posterior wall of the pyramid of the temporal bone behind the internal auditory meatus. A new syndrome is suggested, bearing the author's name, which concerns patients who either have suffered for years from migraine, or whose nearest relatives have migraine or epilepsy. Associated with many of these cases has been a preexisting middle ear suppuration, or one still present on the affected side.

5. Epiglottidectomy in Tuberculosis.—Lockard states that tuberculosis of the epiglottis is universally recognized to be the most fatal as well as the most painful laryngeal localization of the disease, the odynophagia itself being responsible, in great degree, for the high mortality. The focus, however, is rarely a localized one, the great majority of cases being associated with, and secondary to lesions of the lungs and other portions of the larynx. Experience has taught that medicinal treatment and curettage may effect an occasional cure when there is only circumscribed ulceration or infiltration, but when the process has progressed to widespread involvement, such palliative measures are not efficacious. The injection of alcohol may temporarily subdue the pain, but its administration is infinitely more painful than the complete removal of the diseased organ, which usually results in permanent relief. In many cases, however, additional measures directed to the accompanying lesions are frequently demanded before permanent relief can be justly expected, yet odynophagia often disappears, even when other parts of the larynx are extensively involved. The objection that surgery cannot eradicate the disease, and that further infection is favored by opening the lymphatics, has by practical experience been proved fallacious. The removal of a focus may not exert a curative influence upon the larynx as a whole, but a distinctly favorable effect is invariably produced, the improvement depending upon, 1, the removal of a focus that seriously interferes with the correct treatment of the underlying conditions; 2, the lessening of the danger of extension by continuity; 3, cough and excretion of mucus are greatly decreased; 4, rest, both local and general, gained through the relief of pain, together with the resumption of normal feeding, result in a marked increase of vitality and consequent greater responsiveness to treatment; 5, marked subsidence of neighboring changes of a simple inflammatory nature. Amputation should be performed in every case when odynophagia or dysphagia exists and can be ascribed, if only in part, to the epiglottis; also, in every case where there is anything beyond a sharply circumscribed focus, even in the absence of odynophagia, providing there is a remote possibility of the arrest of the complicating lesions.

PEDIATRICS

March, 1912.

1. George Dow Scott: Achondroplasia.
2. Charles W. Burr: Congenital Aphasia.
3. David E. English: Infantile Mortality Due to Wrong Home Care.
4. Ewing Marshall: Sexual Responsibility.
5. E. W. Saunders, Walter Johnson, J. Wistar White, and John Zahorsky: Pertussis Vaccine as a Curative and Prophylactic Agent.

2. Congenital Aphasia.—Burr states that no case has yet come to necropsy. Permanent speechlessness in children is, in the vast majority of cases, due to deafness arising in infancy or early childhood, and the common opinion, which he thinks is erroneous, is that when it appears in the absence of deafness, it is simply a part of imbecility. He believes that there are people who never develop ability to speak, on account of disturbances confined to the speech centres, though hearing and the understanding of head words are entirely normal. Such persons are pure motor aphasics. These individuals are often classed as mentally deficient because they have never developed on account of their lack of speech. For centuries deaf mutes were regarded as imbeciles and the deafness was regarded merely as a symptom of their mental state. The motor speech centre is quite as much a peripheral apparatus of speech as the ear is a peripheral apparatus of hearing. There can be no thought without "internal speech," but there can be "internal speech" with a destroyed motor speech centre. The word imbecility is used to include all cases of defect arising in childhood, but excludes

cases in which the mind is unable to gain experience of the outside world because of disease of any of the sense organs. He then cites four patients, to none of whom was he able to teach the faculty of speech.

5. Pertussis Vaccine.—Saunders, Johnson, White, and Zahorsky have used the vaccine prepared from Bordet's bacillus in forty cases of whooping cough with the following conclusions: 1. As a prophylactic agent we have no hesitation in recommending the pertussis vaccine. While it is true that any infection will postpone or interrupt the course of pertussis, this agent alone will absolutely prevent it. The immunity is of uncertain duration, but the injections may be repeated, and it is of the utmost importance to postpone the disease until the first two years of life are past. The failures reported by other observers must be attributed to an impotent vaccine, or an insufficient dose. 2. As a remedial agent, success depends upon the promptness of administration, and the freedom of the patient from complications at the time. 3. In no case should other treatment be withheld if indicated; especially in infants, who may be spared convulsions or bronchopneumonia by the use of emetics, sedatives, and some member of the aromatic group. It is quite possible that much better results may be obtained in late cases by the use of larger doses. 4. In view of the high mortality from pertussis in young children, there should be a systematic effort to determine the duration of artificial immunity, and to keep them protected.

PENNSYLVANIA MEDICAL JOURNAL.

March, 1912.

1. J. F. McKernon: Aids to Diagnosis in Otology.
2. C. B. Longenecker: Some Considerations of the Cancer Problem.
3. G. E. Pfahler: Röntgen Rays in Diagnosis of Carcinoma of Stomach.
4. E. Zugsmith: New Sign of Ulcer and Carcinoma of Stomach.
5. X. O. Werder: Treatment of Backward Displacements of the Uterus.
6. A. R. Matheny: Intussusception in Children.
7. D. C. McMurtrie: Meeting the Needs of the Cripple.
8. T. P. Cole: Physician's Duty toward Conserving the Public Health.

3. Röntgen Rays in Diagnosis of Carcinoma of Stomach.—Pfahler has studied the value of the use of this means of diagnosis with the aid of the bismuth meal and concludes: 1. A positive diagnosis can be made in nearly every case in which an indurating carcinoma is present. 2. In some cases in which good peristaltic waves are present a negative diagnosis can be made. 3. A positive diagnosis depends upon some interference with the peristaltic waves, some encroachment upon the lumen of the stomach, some interference with the mobility, or some interference with the functions of the pylorus. These may occur singly or combined. 4. Nothing short of an exploratory operation will give nearly as much positive information, though chemical and physical examinations should not be neglected. 5. Each interpretation should be made in the light of the history and chemical and laboratory evidence. 6. The examinations must be made carefully and by a trained observer to be trustworthy. 7. In the hands of an expert the examinations are not dangerous to the patient, and to the operator only in so far as he must expose himself during the fluoroscopic examination.

4. New Sign of Ulcer and Carcinoma of the Stomach.—Zugsmith has observed that in both of these conditions there is an abnormal dulness to very light percussion in both of the second intercostal spaces, and that in the case of ulcer this disappears when the ulcer is cured. It is due, he believes, to the enlargement of the lymphatic glands lying along the sternum, which are known to drain the stomach. The sign is not present in any other condition. When present in gastric cancer it must be considered to contraindicate any surgical attempt to cure the patient.

BRITISH JOURNAL OF CHILDREN'S DISEASES.

March, 1912.

1. D. C. L. Fitzwilliams: Syphilitic Affections of Bones Met with in Childhood.
2. S. F. Rose: Ten Years as Dental Surgeon to a Children's Hospital.
3. J. Allan: Morbilliform Rash in a Child.

1. Syphilitic Affections of Bones Met with in Childhood.—Fitzwilliams says that hereditary syphilis or congenital syphilis is a meaningless term, as all syphilis is acquired, some acquiring it before birth, during, or soon after birth, others in adult life. That there is a difference between the results of the disease in early and adult life is due to the different reaction produced in young and growing tissues on the one hand, and in mature, well formed tissues on the other. Ideas obtained from the study of this disease in adults require careful revision when diagnosis and treatment are to be applied in childhood. The term syphilitic perichondritis should be substituted for syphilitic epiphysitis, as the disease ignores the epiphyses almost entirely, while showing a partiality for the shaft. This is practically always seen in children below six months of age. Syphilitic dactylitis is quite rare; it rarely develops before the second or third year and is differentiated from the tuberculous condition in that the bones never break down nor discharge, the feet are almost never involved, and it is not painful. Local or generalized periostitis is the commonest manifestation of this disease in bones, and in its local form is seldom seen before the fourth year. It is almost invariably confined to one side of the bone and does not surround it like sarcoma. The generalized periostitis spreads over the whole shaft and very seldom encroaches on the epiphyseal portion. There is no pain on handling, and shapes show definite characteristics when the tibia is involved (sabra tibia). Sometimes there is increased growth in the length of the bone. In syphilitic osteomyelitis the whole thickness of the bone is attacked and is replaced almost entirely by gummatous tissue. Craniotabes and Parrot's nodes should no longer be ascribed to syphilitic reaction, as they are due to the underlying marasmic or rhachitic condition. He has never had occasion to use "606" in children, being satisfied thus far with the older methods of treatment. He uses liquor hydrargyri perchloridi, minims five, in a drachm of cod liver oil, in addition to mercurial ointment diluted with an equal bulk of lanolin. Although the effect of treatment is extremely rapid, the child should continue to have mercury for the first two years of life.

2. Ten Years as Dental Surgeon to a Children's Hospital.—Rose avers that the average number of teeth extracted in each child is three. These extractions, beside freeing the body from a source of discomfort and pain, and possibly a

chronic septic poisoning, have a beneficial effect in preserving the remaining teeth. Rose uses anesthetics freely in these extractions. Ethyl chloride is used as a routine, and he considers it unrivaled for the purpose. In close to 6,000 administrations in the dental department there have been no deaths.

CANADIAN MEDICAL ASSOCIATION JOURNAL.

March, 1912.

1. Robert Dawson Rudolf: Low Percentages in Infant Feeding.
2. Olliver Bruce: Pulmonary Tuberculosis.
3. W. E. Ogden: Difficulties in Prognosis in Pulmonary Tuberculosis.
4. F. N. G. Starr: Surgical Aspect of Duodenal Ulcer.
5. H. B. Anderson: Accidental Extragenital Syphilis.
6. James Crawford Watt: Chronic Colitis.
7. Alan G. Brown: Chondrodystrophy.
8. J. Price Brown: Epithelioma of the Pharynx.

1. Infant Feeding.—Rudolf discusses the various theories advanced on this subject, and says that theory has run riot in infant feeding, very much to the detriment of the infant population of civilized countries. He does not discuss the question whether a child which cannot be nursed in the natural way should receive pure undiluted cow's milk, buttermilk, proprietary foods, milk mixtures, or ass's or goat's milk, but points out that a healthy infant can select and absorb the necessary amount of nourishment for the maintenance of its vitality and growth from any of these very various diets. Whatever diet is selected the child must receive sufficient in the twenty-four hours to keep it in health. An infant requires about ninety to 100 calories per kilo of body weight per day when it is on the breast, and about 110 to 120 calories per kilo when artificially fed. A due amount of protein, fat, and carbohydrates must be present; the exact proportion does not seem to matter so much, as long as there is sufficient of each. After the first few days of life it is better to overfeed than to underfeed a healthy child; in the former case the infant will probably reject the excess, but in the latter he has no redress and must fail. In severe cases of alimentary disturbance it is often necessary to cut down the food very much, but in such cases we must remember that the patient is in the danger zone of starvation, out of which he must be taken as soon as possible. A marasmic infant can no more survive if starved than a healthy one.

3. Prognosis in Pulmonary Tuberculosis.—Ogden recounts the difficulties in the way of prognosis in individual cases of pulmonary tuberculosis, and thinks some aid can be obtained from the classification of cases into progressive, retrogressive, and alternating. Laboratory investigation of certain biological states of the blood has been of considerable clinical value in indicating the prognosis, and a fair degree of accuracy may be obtained by counting all the known factors, but the patient's own resistance may be misjudged, and if not misjudged, may vary without apparent cause.

CANADA LANCET.

March, 1912.

1. W. J. McDonald: Ulcer of the Stomach and Duodenum.
2. J. Ferguson: Imperforate Rectum.
3. E. Bryceson: Appendectomy on Shipboard.

1. Ulcer of the Stomach and Duodenum.—McDonald remarks the clearly cut symptoms usually present in gastric or duodenal perforation, which should never be allowed to occur, as the preexistent ulcer should have been diagnosticated and remedied before the condition progressed to ulceration. Hyperacidity and dyspepsia over a long period, with nausea and vomiting, epigastric tenderness, and boring pain are pathognomonic of gastric ulcer, the maximum pain occurring after eating, whereas in duodenal ulcer there is hunger pain, i. e., pain relieved by eating and reappearing three or four hours after eating, hyperacidity, pain in the right hypochondrium, and perhaps melena. Chronic cholecystitis due to gallstones is the only condition likely to be confounded with either of the foregoing, and the differentiation should be easy. In cholelithiasis the pain is in no way affected by eating, is often excruciating, requiring opiates or even anesthesia, appears suddenly, causes chills, sweats, and collapse, is referred to the right shoulder blade, and frequently leaves as suddenly as it appeared. Orthoform will relieve either gastric or duodenal ulcer pain, but has no effect in gallstone colic. Since seventy per cent. of gastric cancers are engrafted on old ulcers early diagnosis and operation would reduce the death rate from this cause. Illustrative cases are cited.

2. Imperforate Rectum.—Ferguson reports a case of imperforate rectum. There was a slight depression at the anal site and some corrugation of the skin about the area. Under chloroform a small incision was made in the centre of the depression and the tissues were gently separated with hemostatic forceps for two inches, till the bowel was reached and opened. A large soft catheter was introduced and the bowel washed out. Recovery was excellent, and sphincter control is beginning to develop.

REVUE MÉDICALE DE LA SUISSE ROMANDE.

February, 1912.

1. A. Matthey: Two Cases of Pseudomedian Harelip, One Complicated with Anencephaly.
2. B. Wiki: Relationship between Chemical Constitution and Pharmacodynamic Action of General Anesthetics and Hypnotics of the Fatty Series.
3. Ch. Thélin: Study of 441 Cases of Puerperal Fever.
4. Ch. Perrier: Unilateral Renal Tuberculosis without Clinical Localizing Signs. Cystoscopic Diagnosis.
5. Ch. Perrier: Prostatectomy in Two Sittings because of Vesical Atony and Dilatation Accompanying Prostatic Hypertrophy.

2. Hypnotics.—Wiki, after reviewing the subject of the relationship of chemical constitution to drug action in the case of general anesthetics and hypnotics, concludes that, in the light of clinical experience, hypnotics containing ketone or aldehyde groups are less trustworthy than those embodying alkyl radicals. The introduction of halogens—usually chlorine—always greatly enhances the hypnoanesthetic power of hydrocarbons of the alliphatic series. But chlorine at the same time renders them more toxic, either by its mere presence, or the position it occupies in the molecule. The toxic action of halogen containing narcotics is manifested in particular upon the heart and vasomotor centre, while similar drugs devoid of halogens are much less toxic in these respects, as may be realized by comparing chloroform with ether, hydrated chloral with paraldehyde, and dormiol with hedonal. Isopral appears, however, to form an exception to the rule; this is because it is volatile, experience having shown that, all other conditions being equal, the danger attending the use

of a somnifacient drug diminishes in proportion with its volatility. From the practical standpoint isopral may thus be grouped with hedonal rather than with dormiol or hydrated chloral.

3. **Fever in the Puerperium.**—Thélin presents a statistical study of febrile reactions—above 38.1° C. (100.6° F.)—noted in the maternity hospital at Lausanne from 1903 to 1910, inclusive. The series covers 441 cases out of a total of 3,184 women delivered. In 321 cases (83.59 per cent.) the infection remained localized in the uterus, while the other sixty-three patients showed parametritis, peritonitis, pyemia, septichemia, etc. The rate of incidence of fever after abortion was approximately the same as after parturition at term. On the other hand, serious cases of infection were much more frequent and fatal after abortion than after natural delivery. No difference could be appreciated between primiparæ and multiparæ as regards susceptibility to infection. Premature rupture of the membranes, prolonged labor, and obstetrical operative procedures acted as predisposing factors to fever in the puerperium.

Proceedings of Societies.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of Wednesday, December 13, 1911.

The President, Dr. C. B. LONGENECKER, in the Chair.

A New, Simple, and Effective Tourniquet for Controlling Hemorrhage of the Scalp.—Dr. ERNEST LAPLACE said that the method here described controlled the hemorrhage absolutely. It was at hand everywhere, and offered advantages over all other methods used to-day. It consisted in applying to the patient's head a certain length of roller bandage from the chin, over the head to the nape of the neck, and a similar piece of bandage crosswise from shoulder to shoulder over the head. An ordinary quarter of an inch piece of rubber tubing seven feet long was then applied over the bandage around the head on a level with the external auditory meatus. The tubing was then stretched effectively so as to make four rounds about the circumference of the head; the ends of the tubing were then tied in a loop or clamped with forceps. The bandages which crossed at the vertex of the head were then cut at the crossing point; this made four strips of bandage, one on each side of the head, one over the forehead, and one over the occipital protuberance. These strips passing under the rubber tubing were then tied at their respective places, securing the rubber tubing in position and preventing their slipping up or down. The loops could be held by an assistant, and according as we desired it could be used to steady the tourniquet to lift it or to lower it as the case might be. By pulling down the strip of bandage in the occipital region, the rubber bands were brought under the occipital protuberance and effectively controlled hemorrhage in operations on the cerebellum. This method enabled one to perform the largest surgical interference about the scalp without the loss of any arterial blood, and with the escape of but a trifling amount of venous blood, and, as far as he knew, allowed better control of hemorrhage than any of the more complicated methods now in use.

Report of the Committee on Hospital Dispensary Abuse.—Dr. HOWARD S. ANDERS, chairman, stated that at the first meeting of the committee there was adopted a definition of hospital and dispensary abuse which should serve at once as a basis and limitation of facts, evidence, and inference. A letter of queries was then sent to the various departmental heads of hospital dispensary service for representative statements of the conditions met with and methods in use to correct abuse and for opinions concerning improvement and reform. Letters were sent to seventy-eight physicians affiliated with seventeen hospitals having medical, surgical, and special disease service. Fifty-two replies were received: some short, monosyllabic, terse, and decisive; some full and sympathetically anxious to aid in reform; others, elaborate, didactic, and opinionated; a few indifferent, and other few refusing absolutely to recognize any abuse. Taking up seriatim the four queries answered, it should be said that some of the replies did not include all of these four, so that the sum totals were not uniform:

Query 1. Was there any effort in the department over which you had control to eliminate from the dispensary those patients who were in a position financially to be treated at the offices of private physicians? If so, what? Twenty answered in the affirmative; twenty-four in the negative.

2. Did you direct your assistants to ask each dispensary patient a part of the routine questioning for the history card, as to their ability to pay a physician? Fifteen replied in the affirmative; twenty-nine in the negative.

3. If the preceding question was answered in the affirmative, did you refer such patient back to his physician; or, if he had no physician, what was your procedure? Nineteen answered affirmatively as to referring such patients back; eight negatively, and thirteen were noncommittal.

4. Would it have assisted in reducing the dispensary abuses to require applicants for treatment to establish their inability to pay for services in a medical registrar's office as a preliminary? Twenty-seven were positively favorable; nine unfavorable to such a plan.

From the results of this investigation and a study of the situation elsewhere, the committee offered the following recommendations for the solution of this vital medicosociological problem:

1. Every individual dispensary physician, head and assistants, should constitute himself a committee of one, sincerely and steadily to strive to abolish the abuse: especially should this be done by the members of the Philadelphia County Medical Society.

2. A social service department should be established in connection with each institutional dispensary, so as to ascertain those patients who were and who were not able to pay; and further, as in the work of the Charity Organization Society, to follow up the cases for thoroughness and accuracy of information.

3. It should be made a misdemeanor under State law for any hospital or dispensary receiving State financial aid to treat as free patients those who it was found are able to pay a medical fee.

4. Consequent upon the preceding suggestion, the Philadelphia County Society delegates to the next State medical convention should be instructed to induce the Committee on Legislation of that body to take up the matter of formulating such law tending to diminish or prohibit the dispensary abuse throughout this Commonwealth.

The Status of Midwifery in Pennsylvania.—Dr. S. W. Newmayer remarked that legislation for midwifery brought up problems that were in some respects akin to dispensary abuse. When it was considered that the midwives in Philadelphia attended to about twenty-five per cent. of the births, that they were the only physicians in about 10,000 births a year, received the same compensation for their services as the physician (and had not received the previous training), that many gave medical care before and after to the mother of the child, one could appreciate the seriousness of the problem. Each midwife in Philadelphia attended from two to thirty cases a month. He believed that the midwife to-day was a useless institution, but he also believed that she could be wiped out with legislation. The time not being ripe for such a radical legislation, we should consider the enactment of laws whch would protect the mother and the baby against the incompetent and daring midwife. Although Philadelphia was the city most concerned in the ultimate effects of recent legislation, Philadelphians were not consulted, except to ask the physicians here to endorse a bill framed by outsiders unacquainted with their conditions. The clause exempting midwives in practice more than ten years from examination was bad, because it was the midwife of long standing who was the danger factor. She often knew little of abscesses and was therefore overconfident; was found attending abnormal cases and often performing ordinary gynecological operations. The law gave a permanent license, which he believed was a mistake. Such procedure prevented the continuous supervision which was as important in the profession of midwifery as licensing.

Meeting of Wednesday, January 10, 1912.

The President, Dr. C. B. Longenecker, in the Chair.

Correlation of Special Diseases and General Systemic Affections; Certain Infections and Intoxications and Their Ocular Symptoms.—Dr. George E. de Schweinitz, after referring to the intimate anatomical and physiological associations which the eye had with the great systems of the body, and after making brief reference to the predominant influence of syphilis and tuberculosis in many ocular disorders, now much more readily recognized than in former times on account of the accuracy of tests which were available, and after referring to the value of tuberculin in the treatment of these disorders, when these tests demonstrated that they were of tuberculous origin, discussed, first, the various types of ocular disorders which depended upon diseases of nutrition, particularly those which had relationship to the various types of chronic rheumatism, osteitis deformans, arthritis deformans, and gout. He then referred to the distinguishing characteristic of this group of cases and compared them with those caused by the late gonorrheal infections, and referred to the importance of establishing a differential diagnosis, and to the value of bacterin in the treatment of gonorrheal inflammations of the uveal tract. He next discussed the relations of the so called intoxications to the production of optic nerve diseases, describing especially the toxic amblyopias and the probability that the lesions depended not alone upon the evil influence of the abuse, for example, of tobacco and alcohol, but upon the effects of these drugs in creating chronic intestinal catarrhs, which, in their turn, were influential in fostering the optic nerve disease. He next took up at some length the enterogenous infections, pointed out the differences between autointoxication and autoinfection, and referred to the value of thorough analyses from the standpoint of physiological chemistry, and of thorough study of the metabolism in determining the etiological factors which were potent in bringing about certain relapsing and chronic uveal tract diseases which, modern tests showed, were not due to the usual infections, namely, syphilis and tuberculosis. He made an analogy to the infections which passed through the tonsils and the pharyngeal ring, creating in distant portions of the body adenitis, arthritis, and obscure abdominal affections, with similar infections passing through these areas and causing ocular diseases. Incidentally he discussed the importance of disease of the gums and caries of the teeth in their relation to eye affections. He made an earnest plea for a more thorough study, particularly of the relapsing uveal tract diseases and optic nerve affections, than was often accorded to them, and believed that the duty of the doctor to his patient was not performed unless the same care in investigation was given to these ocular diseases as the physician gave to any obscure general condition. He insisted upon the necessity in any case of doubt, of calling in the aid of the physician, the rhinologist, the physiological chemist, the dentist, as the case required.

Dr. Aaron Brav thought that there were certain cases of affections of the uveal tract in which we could not find the cause even with repeated examinations. We had sometimes to rely upon empirical treatment. He thought the word "autointoxication" was not always wisely used. The conditions we ascribed to autointoxication were often prealbuminuric in nature, and repeated urinary examinations were essential. If, upon examination, we found albumin or casts and indican, we should think of nephritis. The therapeutic test was not always final. There were some diseases that followed a certain course, no matter what therapeutic agent was employed. They would proceed until the acme of the disease was reached and then decline without being influenced by any special remedy. We had sometimes cases of diabetes in which the only symptom was paralysis of the external ocular muscles. He had such a case at present under his care where there was a total paralysis of

the ocular motor nerve associated with paralysis of the abducens, there being no other symptoms, while the urine in repeated examinations had shown a large amount of sugar.

Dr. S. Lewis Ziegler pointed out that these infections were not always of one specific character. He had personally seen a case of mixed infection, tuberculous and syphilitic, in which the lesion existed for nine months before yielding to tuberculin injections. We must not forget that there were perversions of metabolism localized in the internal secretions, that there was a large chemical laboratory producing irritating substances which were distributed through the system. These conditions must be met and their proper treatment instituted.

Relation of Ear Diseases to Systemic Affections.—Dr. B. Alexander Randall remarked that diseases of the "special" organs were constantly coming to the general practitioner, and the function of the specialist was largely to "blaze the path" for the profession. Ear diseases were common, constituting two per cent. or more of those met in general practice,—at the University of Pennsylvania always five per cent. of the work of the hospital. Since the grippe epidemic they were oftener matters of life or death; while more than half were already chronic when they came instead of earlier having received adequate care. Yet their treatment was not in most cases beyond the powers of the family physician, nor did the results justify any pessimistic attitude. General disorders underlay a large proportion of these affections and must be treated as well as the local conditions; and their frequent relation to grippe and the exanthems must be oftener forestalled by hygiene such as protective covering of the ear *before* they suffered involvement. Extreme deafness was often caused by meningitis, syphilis, or toxemias. Arteriosclerosis, lithemia, or autointoxications underlay many cases; and assumptions of heredity might only cloak imperfect study. Extensions from the ear caused many endocranial and septichemic disorders; the bronchopneumonias and bowel infections of children were often associated with or due to tympanic infections; and tuberculosis might have its primary focus, surgically removable, in the ear. Typhoid, diphtheritic, and other germs had been found in the ear discharges of even otherwise indeterminate cases, and endangered the spread of these diseases, specially by the light cases. Forming two per cent. of five per cent. of mortality, ear disease should receive one per cent. of the time of the medical curriculum,—forty hours of the 4,000 as now allotted.

Dr. James H. McKee observed that the fact that the aurist saw so many of the chronic affections showed that many of the more acute cases had been unrecognized, untreated, or mistreated. The pediatrician placed grippe as probably the most frequent cause of otitis media and next to this pneumonia. In many of the cases of epidemic influenza the pneumococcus was found in the discharge from the ear.

Dr. Henry W. Cattell said that he should like to ask Doctor Randall whether he had had any experience in deafness following the use of arsenobenzol? A number of cases appeared in the literature stating that "606" had a more or less specific action upon the ear, just as arsacetin and atoxyl had upon the eye. He should also like to ask whether, along with hexamethylenamine, he had used any of the vaccines for the treatment of ear cases in which the streptococcus, pneumococcus, and other organisms, which produced this condition, were to be found?

Doctor Randall, in closing, replied to Doctor Cattell's inquiry by stating that he had been, so far, so fortunate as to see no case in which the use of "606" had caused deafness. While some cases had been reported, the number was less than he had anticipated. The syphilitic cases of the ear were very sad ones. They might yield nicely to treatment for a time, but all too soon they relapsed and the outcome was very bad, generally from neglect of treatment. This was true of both inherited and acquired cases. As to mumps, we all knew that cases of deafness followed this affection, but they could be counted on the fingers, even by men of large experience. He recalled a girl of sixteen years whose nearly total deafness followed mumps; internal ear disease was found, but close scrutiny revealed syphilitic stigmata. Smallpox had given him very few instances of otitis media. The vaccines, other than the tuberculous, he had not made much use of, and he was in doubt whether we should get a multivalent serum of much value. Thus far they had failed him entirely.

Letters to the Editor.

EXPERIMENTS WITH CAFFEINE.

New York, *April 12, 1912.*

To the Editor:

I have received several communications from your readers concerning a report of recent experiments of mine on caffeine alkaloid. It seems that in the report referred to (to which I have not yet had access) it is stated that the citrated form of caffeine was employed. This is incorrect, and I should be glad if you would call the attention of your readers to the fact. In my forthcoming monograph, a copy of which I shall send you within a week or so, I take occasion to emphasize the fact that citric acid has a demonstrable effect on the organism, and that for that very reason I used the alkaloid form.

H. L. Hollingworth.
Barnard College, Columbia University.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

The Orientation of Buildings or Planning for Sunlight. By William Atkinson, Fellow of the Boston Society of Architects. First Edition. First Thousand. New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1912. Pp. xiii-139. (Price, $2.)

As stated in the preface, the purpose of this book is to set forth the principles which ought to govern the plan-

ning of buildings with respect to sunlight, a subject to which very little attention has been given. The first chapter is given over to a presentation of the astronomical data, for the thorough understanding of which a knowledge of spherical trigonometry is necessary. The second deals with shadow diagrams, but includes some interesting results of experiments made with what the author calls "sun boxes." These were board boxes, covered with a heat nonconducting material, and having a sash glazed with one quarter inch plate glass screwed into place and fitted tightly against a felt weather strip all around the edges. These boxes were sheltered from the sun's direct rays, except on the window side, by wooden hoods or covers. Inside was placed a thermometer. In one experiment the air within the sun box reached a temperature of 115° F. with the outside air at 25° F. The third chapter is devoted to hospitals, giving in it the best orientation for ward pavilions and a plan for a new type of hospital building designed especially to meet the needs of modern medical treatment. The last chapter is concerned with the distribution of sunlight in streets, as affected by their direction and width, and the height of the buildings upon them. There are also included in the appendices, the building laws of Paris and of American cities regulating the height of buildings. This publication is a very timely one when hygiene and sanitation are attracting so much attention. The book contains much of value and can be recommended to the physician who is to work in the hospitals erected and, also, to the architects who are drawing up the plans.

A Treatise on Tumors. By Arthur E. Hertzler, M. D., Ph. D., Associate Professor of Surgery in the University of Kansas; Formerly Successively Professor of Histology, Pathology, Experimental Surgery, and Gynecology in the University Medical College, Kansas City, Mo., etc. Illustrated with 538 Engravings and Eight Plates. Philadelphia and New York: Lea & Febiger, 1912. Pp. xi-725.

Doctor Hertzler has given to the profession a book that is of distinct value to the clinician, particularly to the surgeon, in that without going into the minutiæ of the subject, he presents the points of general importance in an excellent manner. In some forty pages the author reviews the general biology of tumors. In this chapter he gives the histological classification of tumors, omitting any reference to Adami's more complicated, but nevertheless more scientific divisions. In discussing the etiology of cancer the parasitic theory is given a very fair presentation; its possibility is admitted but it is not considered as probable. Doctor Hertzler evidently holds to the more generally accepted theory of cell autonomy. A point well brought out concerning the association of tuberculosis and cancer, is that the maxima of frequency of the two diseases falls at different ages. The second part of the book, about 150 pages, is given over to the special pathology of tumors, taking up in individual chapters the various types of neoplasms. As would be expected, sarcoma and carcinoma receive the greatest amount of space. The chapter on endotheliomata gives a good presentation of these tumors. The general characteristics of carcinoma are clearly dealt with, and the discussion of the methods of treatment is very illuminating. The comments on the value of palliative measures to the patient and their danger to the operator are well brought out, the latter referring to the impression made upon the friends and relatives when such measures do not produce a cure or any marked improvement. The observation that the "number of mitotic figures is sometimes regarded as a measure of the degree of malignancy, but it is an unreliable sign" is one that should be disseminated widely among clinicians. One, however, may take exception to having the basal celled carcinoma or rodent ulcer described as a particularly benign variety of carcinoma of the skin. Many of them may grow slowly, and metastases are very uncommon, but any other termination than a fatal one cannot be anticipated. The greater part of the book, nearly 400 pages, is devoted to the regional consideration of tumors. It gives in detail the symptoms, diagnosis, pathology, and treatment of the various new growths. The first chapter, dealing with the biology of tumors and their general clinical considerations, laboratory diagnosis, prognosis, and treatment, is very good. The illustrations, both of the macroscopic and microscopic appearances, are numerous, and as a rule particularly good. They add greatly to the value of the book. The print is also large and clear. The chief criticism is directed toward the index, cross references not being as numerous as they might be. Under the heading of gumma that of the tongue is the only one mentioned. Syphilis as a main heading does not appear, but is found under the granulomata. Rodent ulcer of the vulva appears, but one has to look under "carcinoma, basal celled" before the general description can be found. The book, however, is one that can be highly recommended to the practitioner, the points of differential diagnosis are well brought out, and the treatment is very thoroughly and carefully presented.

An Introduction to Experimental Psychology. By Charles S. Myers, M. D., Sc. D., Lecturer in Experimental Psychology in the University of Cambridge. London: Cambridge University Press; New York: G. P. Putnam's Sons, 1912. Pp. vi-156. (Price, 40 cents.)

This little volume is devoted to the exposition of some of the principles of experimental psychology and the methods employed in applying them. The chapters on Memory and Mental Tests and Their Uses comprise more than one half of the work, the rest being devoted to Color Vision; Touch, Temperature, and Pain; The Müller-Lyer Illusion; and Experimental Esthetics. The subject matter under Touch, Temperature, and Pain is largely drawn from the well known article by Rivers and Head which appeared in *Brain* in 1908. Two colored plates illustrate the theories of color vision, and numerous drawings other subject matter throughout the work. The style is concise and clear, and the book is to be recommended for the purpose for which it is intended.

Infantile Paralysis in Massachusetts during 1910. Together with reports of special investigations made in 1911 bearing upon the etiology of the disease and the method of its transmission. Reprinted from the *Monthly Bulletins of the Massachusetts State Board of Health*, 4to, pp. 154, paper. Wright & Potter Printing Co., State Printers, 18 Post Office Square, Boston.

This is an exceedingly interesting monograph on an important subject. For some as yet obscure reason poliomyelitis has become disquietingly common all over the United States, and while a good deal of information has been obtained concerning the nature of the disease, practically nothing is known about the natural mode of transmission. The report before us consists of ten contributions, and deals with a number of extremely interesting points. Attempts to transmit the disease to monkeys by inoculation with the nasal, pharyngeal, and buccal secretions of human cases resulted negatively, but the authors themselves warn the reader that the experiments are not conclusive. An investigation was also begun regarding the frequency of paralysis in the lower animals. Whether or not such animal paralyses have any relation to infantile paralysis as seen in human beings, has not yet been determined, but will be the subject of extended investigations at a later date. Investigations were made to discover the relation, if any, existing between certain biting insects and the spread of acute poliomyelitis. It is suggested that the ordinary biting stable fly may be responsible for the spread of the disease. "No facts which disprove such hypothesis have as yet been adduced." The book represents a great deal of excellent work, and the various contributors deserve the thanks of the profession.

Miscellany.

The Morison Lectures at Edinburgh.—Our Edinburgh correspondent informs us that the Morison lectures before the Royal College of Physicians, of Edinburgh, were given on February 26th and 28th, and March 1st, the subject being Certain Aspects of Ataxia, by Dr. J. J. Graham Brown. After some introductory remarks he gave a de-

scription of the general arrangements in the peripheral and in the central nervous system, which form the apparatus for coordination of muscular movements, and the disturbance of which causes ataxia. He then described the various functions of the spinal cord in relation to coordination, devoting special attention to reciprocal innervation, synergia, tonus, and in particular the reversal effect of Uexküll, which he considered to be of essential importance in connection with coordination and its disorders. The pathology of tabes, in so far as it concerned the ataxic symptoms of that disease, was then briefly described. In so far as muscular sense is concerned, the lecturer held that its important components were the impressions conveyed by the afferent fibres from the muscle spindles and from the tendon organs of Golgi. These structures were described in some detail, and it was suggested that the adequate stimulus in connection with the muscle spindles was probably the action current in their fusal fibres. The lecturer then referred to the atrioventricular bundle of His, pointing out similarities in its structure to that of the muscle spindle. He strongly urged his belief that the atrioventricular bundle was in reality a mass of specialized spindles, the function of which was to act as receptors of a local reflex system for the rhythmic control of the cardiac contraction.

The second lecture was devoted to a study of the clinical aspects of muscular sense, of its performances, and of the results of its loss—ataxia and atonia. The various bedside methods used for testing muscular sense were submitted to analysis, and their advantages and disadvantages stated. After some remarks on the influence of practice and attention on conditions causing ataxic movement, the lecturer described the paths by which muscular sense impressions were conducted up the spinal cord and toward the higher centres.

The third lecture was devoted to an examination of the afferent stimuli, other than those of muscular sense, which are used in coordination and equilibration—the vestibular neurones, etc., and to the paths by which all these impressions pass to the cerebellum. A description was then given of the neurotic arrangements in the cerebellar cortex and its nuclei. Finally, the coordinating functions of the cerebellum were considered, and the clinical results of lesion of that structure detailed.

Meetings of Local Medical Societies.

MONDAY, *April 22d.*—Medical Society of the County of New York.

TUESDAY, *April 23.*—New York Psychoanalytic Society; New York Dermatological Society; Metropolitan Medical Society of New York; Buffalo Academy of Medicine (Section in Pathology); New York Medical Union; Riverside Practitioners' Society, New York; Valentine Mott Medical Society, New York; Washington Heights Medical Society, New York; Woman's Hospital Society, New York; Alumni Association of Seney Hospital, Brooklyn; Rome, N. Y., Medical Society.

WEDNESDAY, *April 24th.*—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society; Medical Union, Buffalo; New York Society of Internal Medicine.

THURSDAY, *April 25th.*—New York Academy of Medicine (Section in Obstetrics and Gynecology); Hospital Graduates' Club, New York; New York Celtic Medical Society; The New York Physicians' Association; Bronx Medical Association

FRIDAY, *April 26th.*—Academy of Pathological Science, New York; Society of German Physicians, New York; New York Clinical Society; Manhattan Medical Society; Hospital Graduates' Club, Brooklyn; Audubon Medical Society, New York.

SATURDAY, *April 27th.*—West End Medical Society; New York Medical and Surgical Society; Harvard Medical Society; Lenox Medical and Surgical Society.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending April 12, 1912:

CHOLERA—FOREIGN: *India,* Feb. 11-24, 143 deaths.

YELLOW FEVER—FOREIGN: *Brazil,* Feb. 1-29, 11 deaths; *Canal Zone,* Jan. 1-31, 1 case; *Chile,* April 11, 38 cases, 12 deaths.

PLAGUE—FOREIGN: *Brazil,* Feb. 1-15, 1 death; *Chile,* Feb. 26-March 9, 7 cases, 2 deaths; *China* (Hongkong), Feb. 18-24, 4 cases, 3 deaths; *India* (Calcutta), Feb. 11-17, 88 deaths; *Mauritius,* Jan. 19-25, 5 cases.

SMALLPOX—UNITED STATES: *California,* Feb. 1-29, 99 cases, 1 death; *Colorado,* March 1-31, 34 cases; *Louisiana* (New Orleans), Feb. 28-March 3, 14 cases; *Maine,* Feb. 1-29, 71 cases; March 1-31, 74 cases; *Massachusetts,* March 1-31, 4 cases; *Missouri* (St. Louis), March 24-31, 4 cases; *Montana,* Jan. 1-31, 43 cases; Feb. 1-29, 33 cases; *North Carolina,* Feb. 1-29, 311 cases; *South Carolina* (Charleston), March 1-31, 3 cases.

SMALLPOX—FOREIGN: *Argentina,* Jan. 1-31, 4 deaths; *Austria-Hungary* (Gallicia), Feb. 5-March 2, 1 case, 1 death; (Tyrol), March 3-9, 2 cases; *Brazil,* Feb. 1-15, 66 deaths; March 3-16, 11 deaths; *Canada* (Quebec), March 24-30, 5 cases; *Chile* (Valparaiso), March 3-9, 25 cases; *China,* Feb. 11-24, 71 cases, 50 deaths; *France* (Havre), March 10-16, 1 case, 4 deaths; *India* (Calcutta), Feb. 11-17, 3 deaths; *Italy* (Turin), March 11-17, 1 case; *Mexico,* Jan. 1-31, 4 deaths; *Portugal* (Lisbon), March 13-19, 2 cases; *Teneriffe,* March 3-9, 2 deaths.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending April 10, 1912:

Brecht, N. D., Assistant Surgeon. Directed to proceed to Seattle, Wash., and report to the commanding officer of the Revenue Cutter *Manning* for duty. **Duffy,** B. J., Assistant Surgeon. Relieved from duty at the Marine Hospital, Stapleton, N. Y., and directed to proceed to Seattle, Wash., and report to the commanding officer of the Revenue Cutter *Tahoma* for duty. **Glennan,** A. H., Assistant Surgeon General. Granted two days' leave of absence, March 29 and 30, 1912, and five days' leave of absence from April 1, 1912. **Gwyn,** M. K., Passed Assistant Surgeon. Granted fifteen days' leave of absence from April 9, 1912. **Kerr,** J. W., Assistant Surgeon General. Detailed to attend the annual meeting of the American Association of Pathologists and Bacteriologists, at Philadelphia, Pa., April 4, 5, and 6, 1912. **Knight,** C. P., Assistant Surgeon. Granted eight days' leave of absence, on account of sickness, from March 22, 1912. **Manning,** H. M., Passed Assistant Surgeon. Granted two days' leave of absence in March, 1912, under paragraph 191, Service Regulations. **Naulty,** C. W., Jr., Acting Assistant Surgeon. Granted eight days' leave of absence, from April 6, 1912. **Ryder,** L. W., Pharmacist. Granted three days' leave of absence, March 14, 15, and 16, 1912, under paragraph 210, Service Regulations. **Stiles,** Charles Wardell, Professor of Zoology. Directed to proceed to Wilmington, N. C., on special temporary duty. **Van Ness,** G. I., Pharmacist. Granted one day's leave of absence, April 1, 1912, under paragraph 210, Service Regulations. **Watkins,** J. A., Assistant Surgeon. Relieved from duty at the Marine Hospital, New Orleans, La., and ordered to proceed to San Francisco, Cal., and report to the commanding officer of the Revenue Cutter *Manning* for duty. **Woodward,** B. M., Surgeon. Granted one day's leave of absence en route to station.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending April 13, 1912:

Artaud, Frank E., Lieutenant, Medical Corps. Relieved from duty at Key West Barracks, Fla., and ordered to Fort Gibbon, Alaska, for duty. **Ballard,** James C., First Lieutenant, Medical Reserve Corps. On arrival of the *Sheridan* at San Francisco, Cal., ordered to accompany the Second Battalion of Engineers to Fort Leavenworth, Kansas. **Banister,** William B., Lieutenant Colonel, Medical Corps. In addition to his other duties, will perform the duties of Chief Surgeon, Central Division, Chicago. **Carbonell,** Arture, First Lieutenant, Medical Reserve Corps. Recently appointed, is ordered to active duty and will report to the Commanding Officer, San Juan, Porto Rico, for duty. **Dear,** William R., Lieutenant, Medical Corps. Leave of absence extended ten days. **Drake,** Percy G., First Lieutenant, Medical Reserve Corps. Ordered to Fort Andrews, Mass., for temporary duty. **Farrow,** Edgar J., First Lieutenant, Medical Reserve Corps. Ordered to Jackson Barracks, La., for temporary duty. **Ford,** H. G., Lieutenant, Medical Corps. On arrival of the *Sheridan* at San Francisco, Cal., ordered to accompany the Fourteenth Cavalry to Fort Clark, Texas. **Harris,** Jesse R., Captain, Medical Corps. Relieved from duty at Fort Gibbon, Alaska, and ordered to proceed to Seattle, Wash., for further orders. **Hoff,** John Van R., Colonel, Medical Corps. Retired from active service. **Holmes,** Robert W., Lieutenant, Medical Corps. Relieved from duty at Plattsburg Barracks, N. Y., and ordered to Fort Liscum, Alaska, for duty. **Johnstone,** E. M., First Lieutenant, Medical Reserve Corps. Leave of absence extended one month. **Jones,** Edgar C., Lieutenant, Medical Corps. Relieved from duty at Fort Liscum, Alaska, and ordered to proceed to Seattle, Wash., for further orders. **McCulloch,** C. C., Jr., Major, Medical Corps. Ordered to report on June 24, 1912, to Colonel Henry P. Birmingham, Medical Corps, President of the Examining Board, at Washington, D. C., for examination for promotion. **Phillips,** Hiram A., Captain, Medical Corps. Ordered to Fort H. G. Wright, N. Y., for temporary duty. **Pierson,** Robert H., Captain, Medical Corps. Relieved from duty at Vancouver Barracks, Wash., and ordered to Fort Gibbon, Alaska, for duty. **Pillsbury,** Henry C., Captain, Medical Corps. Granted fifteen days' leave of absence, about June 1, 1912. **Purviance,** William E., Major, Medical Corps. Ordered to report on June 24, 1912, to Colonel Henry P. Birmingham, Medical Corps, president of the Examinig Board, at Washington, D. C., for examination for promotion. **Sparrenberger,** F. H., First Lieutenant, Medical Reserve Corps. On arrival of the *Sheridan* at San Francisco, Cal., ordered to accompany the Fourteenth Cavalry to Fort McIntosh, Texas. **Whitney,** Walter, First Lieutenant, Medical Reserve Corps. Leave of absence extended ten days. **Wertenbaker,** C. I., First Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Gibbon, Alaska, and ordered to proceed to his home, and will stand relieved from further active duty in the Medical Reserve Corps, to take effect upon the expiration of leave of absence for two months and twenty-two days, effective upon arrival home.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending April 13, 1912:

Angeny, G. L., Surgeon. Detached from the *Indiana* and ordered to Receiving Ship, Navy Yard, Philadelphia, Pa. **Connor,** W. H., Assistant Surgeon. Detached from the *Princeton* and ordered home to await orders. **De Valin,** C. M., Surgeon. Detached from the Marine Recruiting Station, New York, N. Y., and appointed fleet surgeon to the United States Pacific Fleet. **Morris,** Lewis, Surgeon. Detached from the *Hancock* and ordered to the Marine Recruiting Station, New York, N. Y. **Norton,** O. D., Medical Inspector. Detached from the United States Pacific Fleet, as fleet surgeon, and ordered home to await orders. **Parham,** I. C., Assistant Surgeon. Detached from the Naval Medical School, Washington, D. C., and ordered to the Naval Station, Tutuila, Samoa. **Riggs,** C. E., Surgeon. Detached from the *Wabash* and ordered to Receiving Ship, Navy Yard, New York, N. Y. **Wilson,** G. B., Medical Inspector. Ordered to Receiving Ship, Navy Yard, Boston, Mass.

Births, Marriages, and Deaths.

Born.

Cook.—In Puget Sound Naval Station, Wash., on Tuesday, April 9th, to Surgeon F. C. Cook, United States Navy, and Mrs. Cook, a son.

Married.

Abrahams—Apfel.—In Trinidad, Colo., on Monday, April 8th, Dr. Horatio E. Abrahams and Miss Clara Sophia Apfel. **Bopp—Steneck.**—In Hoboken, N. J., on Wednesday, April 10th, Dr. Walter Frederick Bopp, of New York, and Miss Josephine Steneck. **Coudrau—Wohlbach.**—In Easton, Pa., on Monday, April 8th, Dr. J. James Coudrau and Miss Elizabeth May Wohlbach. **Deckard—Ziegler.**—In Harrisburg, Pa., on Wednesday, April 10th, Dr. Park A. Deckard, of Philadelphia, and Miss Martha M. Ziegler. **Harrison—Buyers.**—In Coatesville, Pa., on Thursday, April 4th, Dr. Henry Hill Harrison, of Mayodan, N. C., and Miss Sara Elizabeth Buyers. **Jacobs—Hodgson.**—In Athens, Ga., on Wednesday, April 10th, Dr. Merkel Henry Jacobs, of Philadelphia, and Miss Kate Eleanora Hodgson. **Sewell—Kauffmann.**—In Denver, Colo., on Wednesday, April 10th, Dr. Harry D. Sewell and Miss Mary Edith Kauffmann. **Weber—Stonebridge.**—In New York, on Wednesday, April 10th, Dr. Walter Weber, of Hoboken, N. J., and Miss Laura Stonebridge.

Died.

Blackwell.—In Newark, N. J., on Thursday, April 4th, Dr. Frederick C. Blackwell, aged ninety-two years. **Booth.**—In Cincinnati, on Tuesday, April 9th, Dr. Mary J. Booth, aged seventy-three years. **Bowron.**—In Brooklyn, N. Y., on Thursday, April 11th, Dr. Francis Watson Bowron, aged sixty-six years. **Broughton.**—In Rockford, Ill., on Thursday, April 4th, Dr. Russell Broughton, aged sixty-nine years. **Burke.**—In Dupuyer, Mont., on Tuesday, April 2d, Dr. Charles V. Burke, of Newark, N. J. **Earnest.**—In Port Norfolk, Va., on Thursday, March 28th, Dr. David F. Earnest. **East.**—In Reading, Pa., on Friday, April 5th, Dr. Albert F. East, aged thirty-nine years. **Eggleston.**—In Binghamton, N. Y., on Thursday, April 11th, Dr. H. Wardner Eggleston. **Hammer.**—In Toledo, Ohio, on Friday, April 5th, Dr. Abraham J. Hammer, aged fifty-eight years. **Hinchman.**—In McKeesport, Pa., on Tuesday, April 9th, Dr. W. A. Hinchman, aged sixty-two years. **Hix.**—In Binghamton, N. Y., on Friday, April 12th, Dr. Ira Adelbert Hix. **Hubbard.**—In Marietta, Ga., on Thursday, April 4th, Dr. Thomas Virgil Hubbard, of Atlanta, aged forty-two years. **Jewett.**—In Brooklyn, N. Y., on Friday, April 12th, Dr. Harold F. Jewett, aged forty-two years. **Lehman.**—In New Orleans, La., on Sunday, April 7th, Dr. Mark J. Lehman, aged fifty-seven years. **Lockwood.**—In Colusa, Cal., on Wednesday, April 3d, Dr. Marling M. Lockwood, aged forty-seven years. **Loder.**—In Philadelphia, Pa., on Friday, April 5th, Dr. A. Grant Loder, aged forty-seven years. **McKee.**—In McKeesport, Pa., on Saturday, April 6th, Dr. Joseph O. McKee, aged fifty-eight years. **Mackall.**—In Elkton, Md., on Thursday, April 4th, Dr. John E. Mackall, aged twenty-nine years. **Maloy.**—In Rhine, Ga., on Friday, March 29th, Dr. William Craig Maloy. **Marsh.**—In North Bethlehem, Pa., on Thursday, April 11th, Dr. James D. Marsh, aged sixty years. **Maxwell.**—In Grafton, Mass., on Thursday, April 11th, Dr. W. B. Maxwell, aged sixty-four years. **Mayeux.**—In Moreauville, La., on Thursday, April 4th, Dr. Samuel Joseph Mayeux, aged twenty-eight years. **Raines.**—In Palmyra, Mo., on Thursday, April 4th, Dr. J. D. Raines, aged seventy-three years. **Reagan.**—In Berwick, Pa., on Sunday, April 7th, Dr. George L. Reagan. **Ricord.**—In Newark, N. J., on Wednesday, April 10th, Dr. Philippe Ricord, aged sixty-eight years. **Shields.**—In Marysville, Ohio, on Thursday, April 4th, Dr. Thomas P. Shields, aged eighty-six years. **Shirey.**—In Akron, Ohio, on Monday, April 8th, Dr. J. L. Shirey.

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Original Communications.

CORRECTION OF LATERAL CURVATURE OF THE SPINE.

A Simple and Rapid Method for Obtaining Complete Correction.

BY E. G. ABBOTT, A. B., M. D.,
Portland, Me.

In a previous article on this subject, published in this JOURNAL on June 24, 1911, the statement was made that fixed lateral curvature of the spine yielded to treatment as easily as bowlegs or club feet. Further experience has led me to believe that this deformity yields far more readily than either of the others.

It was also stated that the two fundamental principles underlying the correction of such deformities were: First, overcorrection, for if motion is not established in all directions to the extreme of normal motion, the treatment is only palliative, and not curative. Second, fixation in the overcorrected position, until the parts are so thoroughly stretched and changed in their shape that the deformity will not return. That it has heretofore been impossible to correct the deformity of fixed lateral curvature is due to the fact that it has been impossible to apply these principles.

The spine is a flexible body, and the deformity of lateral curvature is due to bending it in two directions at the same time, together with a rotation of the vertebræ included in the curve. It is evident that the usual type develops with the spine flexed and the body bent either to the right or the left; but this flexion and lateral bending is accompanied by a rotation which can take place only when the body is held in a certain position, i. e., if the spine is simply flexed and pulled to one side, the rotation is exactly opposite to that which usually occurs in a lateral curvature; but if one shoulder is elevated and the other lowered, when the flexion and lateral bending takes place, and the ribs on the convex side of the body are elevated, i. e.,

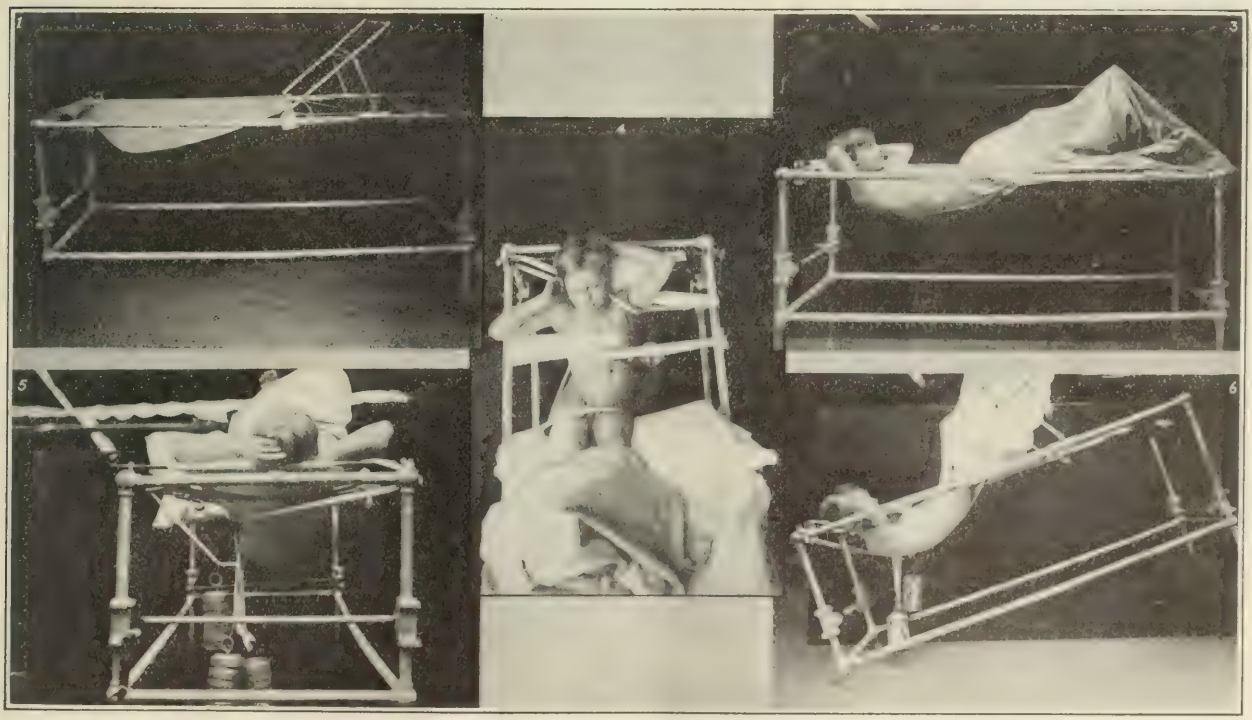


FIG. 1.—Showing frame made of gas pipe. FIG. 3.—Showing the placing of the patient on hammock, face upward. FIG. 4.—Showing the straps applied around the body to pull it into desired direction. FIG. 5.—Illustrating strap for bringing force against the anterior protruding ribs. FIG. 6.—Showing final position of patient.

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drawn upward and backward, and those on the concave side downward and forward, the vertebræ rotate in the opposite direction or in just the same direction that they do in a typical lateral curvature.

Up to a certain limit this is a perfectly normal physiological position. It is not the posture that one takes when simply bending forward and at the same time to one side; rather, it is the position

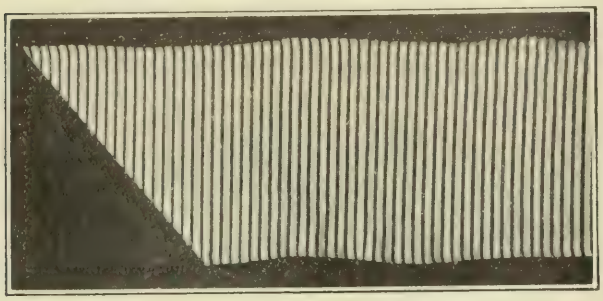


Fig. 2.—Showing cut of hammock.

assumed by a person sitting obliquely at a desk writing, just as a child sits in school, a position identical with that of fixed lateral curvature, and one which may be produced by muscular effort and which increases as the person tires.

Simply bending forward and then to one side causes the vertebræ to rotate in the direction opposite to that in which they turn in lateral curvature; but in the position assumed by the child writing they rotate in the same direction that they take in scoliosis. This fact, which is easily demonstrable by experiments, is of the utmost importance; and to the failure to recognize it is due the futility of previous efforts to correct this deformity.

It is then evident that to effect a cure the spine must be flexed, and drawn to one side by force exerted in the direction opposite to that of the fixed curve; and that together with this the low shoulder and depressed ribs must be elevated and forced into a position posterior to that of the high shoulder and bulging ribs, i. e., the patient must be placed in a position which is exactly opposite to that of the original deformity, and this with the spine flexed. By this method not only is the spine overcorrected, but the integral parts of the deformity pass through the same arc which they traversed when the deformity developed.

Lateral curvature may be lessened by lateral traction and fixation with the spine in some other position, but the rotation remains unchanged or is often increased. As, however, the rotation is the worst feature of a lateral curvature, unless the vertebræ are turned back to their normal position, it is impossible to correct the deformity.

It has been shown in the former article that it is not only possible, but easy, by forcing all the parts entering into the deformity into the position described, to restore them to their normal places; and it is upon this fact that the following treatment is based.

It seems also pertinent to state for the benefit of those who did not notice the previous article on this subject, that lateral curvature is a simple deformity, which can easily be created artificially, as easily corrected, and again established in the opposite direction with very little disturbance to the patient, as was shown in the experiments upon Mr. Stanley, the medical student, who underwent these transformations.

It is not difficult to place a model with a normal spine in the position of deformity, which is exactly the same as that of fixed lateral curvature, comprising flexion plus lateral bending plus rotation in the same direction as that of true scoliosis; but it is not so easy to place a patient with the deformity in an overcorrected position or in one where overcorrection is possible. The patient must be bent strongly forward; the low shoulder elevated; the high shoulder depressed; the bulging ribs drawn downward and forward; and lateral traction made against the lateral curve, while the plaster of Paris corset is applied.

It is very obvious that the most simple method would be to place the patient on his feet and bend him in these different directions; but in that way it is impossible conveniently to apply sufficient force to get an overcorrected position. Several methods have been tried in this work, but the following seems to give the best results:

A frame and hammock similar to those used in applying corsets in Pott's disease is employed. The use to which this apparatus is put, however, does not in any way resemble the method in vogue for applying the ordinary plaster corset.

The frame is made of gas pipe in the usual dimensions: Length, five and one half feet; width, twenty-six inches; and height, thirty inches (Fig. 1).

The front legs are so constructed that they may be shortened twelve inches, while the rear ones may be lengthened eighteen inches. Across the top



Fig. 7.—Position of patients in corsets.

at the front is a rod of half inch steel to which is attached one end of the hammock. In a similar position at the rear is a windlass with a ratchet, over which pass two cords about three feet in length terminating in loops, which slip over the extremities of another steel rod, which is passed through the hem of the other end of the hammock. By this means the hammock is held in a horizontal position and can be stretched or made to sag at will. A movable crosspiece of iron about three inches wide is placed across the frame near its centre beneath the hammock. To this crosspiece is attached a light framework about two and one half

feet long made of half inch iron, the rear end of which may be raised and held at any angle by a prop. Between the upper side rails of the frame about six inches from its forward end and just beneath the hammock is stretched a two inch strap of leather or webbing.

The hammock itself is made of light duck about a yard in length and fifteen inches in width, and is cut diagonally across its head (Fig. 2). Its ends are turned over and sewed firmly, leaving a hem through which may be passed the steel rods which hold it to the frame. When the hammock is placed on the frame, as one side is seven and one half inches shorter than the other, it is straight or nearly so on the short side, while on the long side it sags several inches (Fig. 1).

A cradle is thus formed in which a patient may be put and forced into an overcorrected position. The buttocks are placed upon the crosspiece; the head rests upon the front of the hammock; the strap supports the neck; the straight side of the hammock pushes the bulging ribs forward; the long side gives room for the depressed ribs to be pushed backward; the framework on which the lower limbs rest elevates them: and the adjustable legs allow of tilting the frame, so that the body weight will assist in forcing the patient into the desired position.

In preparing the patient considerable care is necessary in order that the corset may not irritate the skin or cause sloughing of the tissues.

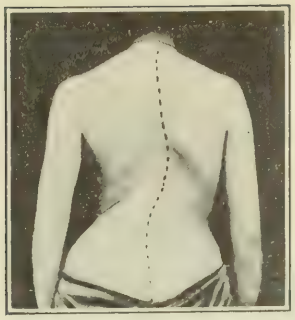
Saddler's felt is used for pads over all bony prominences. The rule followed in the Children's Hospital is to put two undervests on the patient so that the pads may be placed between them rather than next to the corset. Thus the felt is not destroyed, and it is much easier to insert more, if necessary, to bend the body in the desired direction. It is very essential to place heavy pads over the following places: Back of the low shoulder, over the sacrum, over the spinous processes of the ilium, over the prominent ribs at the front of the thorax, under both arms, and over the convexity of the ribs where the band is applied to make lateral traction. If the patient is thin, it is advisable to supplement the body covering by winding sheet wadding over the entire body surface covered by the corset.

The patient, having been prepared in the manner described above, is ready to be placed upon the frame. Here it is of the greatest importance that the most favorable position be secured, which is the same as that assumed by a person sitting obliquely at a desk. No other will produce the results.

The patient is lifted from a nearby table on which he has been prepared, and carefully placed on the hammock face upward (Fig. 3). The shorter side of the hammock presses against the bulging ribs, and the depressed ribs sag downward against the long side. The back of the neck rests across the strap of webbing, and the head lies on that portion of the hammock between the strap and the steel rod over which the hem is passed. The buttocks rest upon the iron crosspiece, which is adjustable and slides over the frame so that any length of the hammock may be used, according to the body length of the patient. Straps are now



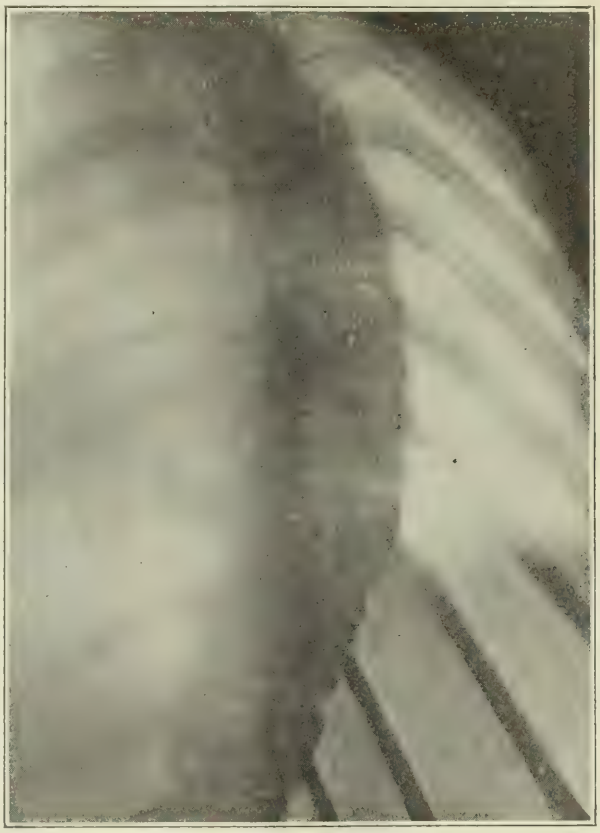
Fig. 8.—Position of patients in corsets.



Case I. Fig. 1.—First noticed deformity thirteen years ago.

applied around the body to pull it in the desired direction (Fig. 4). One is placed beneath the axilla of the low shoulder, and carried across the frame obliquely to the opposite front corner. When this strap is tightened, it not only draws the upper end of the deformed spine toward the side of the frame to which the strap is fastened, but it also elevates the low shoulder. A second strap, passed around the buttocks in the same manner that the first is passed under the axilla, is carried across the frame in an oblique direction toward the rear end and tightened. This draws the lower extremity of the body toward the same side of the frame that the axillary strap does. The next strap is passed around the patient's body over the most convex portion of the dorsal lateral curve and around the upper rail of the frame, so that when traction is made upon it the lateral curve is obliterated or a lateral curve in the opposite direction is made. The fourth strap may or may not be used. If the curve is extremely rigid and a rapid reduction of the deformity is desired, it is necessary. On the other hand if time is of little consequence, and the patient is not in good condition, the use of this extra force is not advisable. The same final result is obtained with or without it. It is put in place by first passing it round the upper rail of the frame on the side to which the buttocks and axilla straps are fastened. This strap should be at least four inches wide and of sufficient length to pass across and down over the side of the patient's body and to allow the hanging of weights upon its end. This strap is for the purpose of bringing force against the anterior protruding ribs, so that they may be forced downward against the sagging long side of the hammock (Fig. 5).

The arms of the patient are placed in the following position: The one on the side of the low shoulder is elevated as much as possible, and preferably held in that position by an assistant or nurse. The other is allowed to rest on the frame rail in a position which is a little less than at right angles with the body. Weights, if they are used (Fig. 4), are now attached to the free end of the strap which extends across the body for the purpose of forcing the ribs downward, and also to the strap which makes the lateral traction, so that it will be pulled away from the body and not left against the hammock. The frame is then tilted so that the body weight may be utilized to exaggerate the position (Fig. 6).

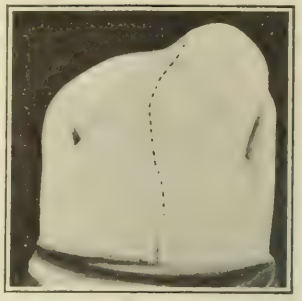


Case I. Fig. 3.—Position of spine before treatment.

If it is intended to make the overcorrection at once (and this is often possible), or if it seems better gradually to swing the parts into such a position by using several corsets, the patient is now fully prepared for the application of the plaster of Paris.

If, however, it is preferred in a difficult case to make the complete overcorrection with a single corset, it is necessary to apply a thick oval shaped pad of felt over the concave side and back of the body, so that when the window is cut in the corset this pad may be removed and the corset left in suitable shape to allow the ribs to push backward and the spine to overcorrect when pads are placed in the front and sides.

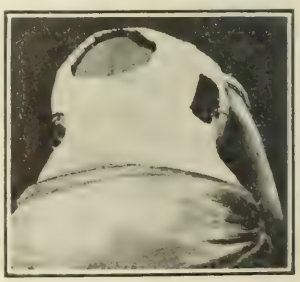
The plaster of Paris is applied in the same way as in any plaster corset, with the exception that over the elevated shoulder it is extended poste-



Case I. Fig. 2.—Flexed to show bulging of ribs.



Case I. Fig. 4.—Three weeks after corset was applied, showing overcorrection through window.



Case I. Fig. 5.—Flexed to show bulging of ribs through window.

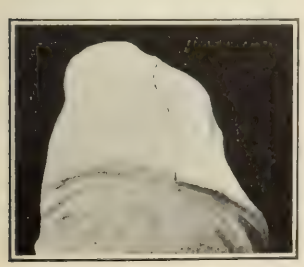


Case I. Fig. 6.—Position after corset was removed at end of ninth week. Note folds of skin which covered the bulging ribs in original deformity.

riorly up to a level with the acromion process. In trimming it, the bottom is cut shorter in front than in the ordinary corset and longer behind, in order that full flexion may be easily maintained when the patient sits or stands. At the upper end it is trimmed very high beneath the elevated arm, but is cut away on that side in front, so that the shoulder may come forward. Beneath the other arm it is trimmed low, being left high in front so that this shoulder cannot drop forward, and cut out behind so that the shoulder may push backward.

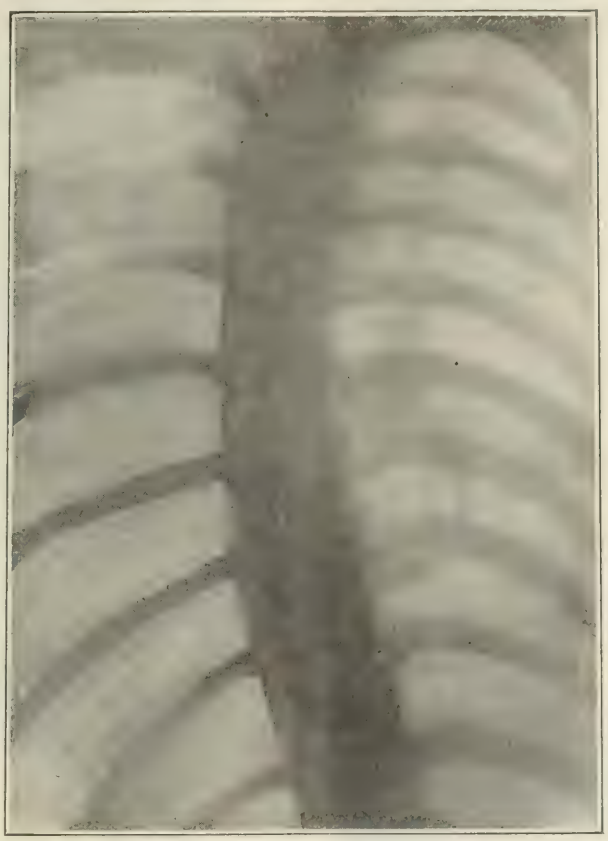
Two large windows are cut in the corset, one behind and another in front. The former is made as large as possible. It is cut out over that part of the back where the ribs were depressed, and allows them to push backward. It is also cut far enough over the side so that the spine may overcorrect laterally still further. On the opposite side, in front, a section of the jacket is removed to make the other window. This allows the ribs which bulged posteriorly to push forward. This position of the patient is neither esthetic nor comfortable (Fig. 6), yet he is able to be dressed and can easily walk about.

It is perhaps needless to say that patients, while undergoing this treatment, do better if confined in a hospital, where the necessary care can be given them and they will be under constant observation.



Case I. Fig. 7.—Flexed to show bulging of ribs on the opposite side after overcorrection.

The after treatment depends entirely upon whether the overcorrection is accomplished with one corset or whether several are used. In the former instance it is necessary to place pads of felt in the front to push the ribs back through the window cut behind, and also in some cases to put pads in the side over the convexity of the lateral curve. When the corsets are first applied, there is firm pressure over these places; but in a few days the change in the direction of overcorrection is so rapid that it is possible to pass the whole hand between the plaster and the patient's body at this point. Not until this relaxation takes place are the pads used, and then only of such a thickness as will not cause painful pressure. This procedure is repeated, until a point in the overcorrection is reached which is satisfactory; when this is attained, the corset is worn until the parts are thoroughly stretched on the short side, and those on the original convex side have had time to shorten.



Case I. Fig. 8.—Position of spine overcorrected ten days after corset was removed.



Case I. Fig. 9.—Three weeks after removal of corset.

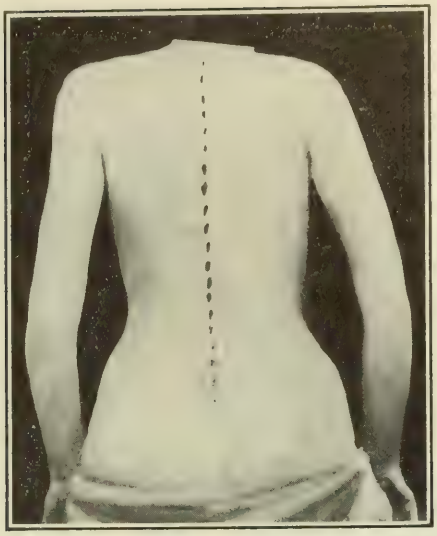
In all the patients who have been put under treatment the curve was a fixed one, and in those cases presented the spines could not be straightened by muscular effort any further than is shown in the cuts representing the original deformities. Many of the patients had been under treatment for years (corsets, braces, and exercises) with very little, if any improvement.

Case I. Girl; aged twenty-three years. Family history, negative. Deformity first noticed thirteen years ago. Was placed under treatment for a time soon after deformity was discovered. Five years later wore corrective plaster of Paris corsets for three years, but deformity continued to develop. During the following few years took corrective exercises with some improvement in general health. For a period of two years following this, again wore plaster of Paris corsets with a corrective force of seventy-five or eighty pounds pressure. Improvement slight, if any. Two years previous to entering the hospital very little in the way of treatment was done. At the time of admittance was suffering from stomach trouble, which had been severe during the last year. General condition not good. No evidence of disease, except an enormously dilated stomach.

Examination showed a marked, fixed, lateral curvature of the spine with extreme rotation and posterior bulging of the ribs (Figs. 1 and 2). The x ray showed the curve of the spine and the usual ro-



Case I. Fig. 10.—Three weeks after removal of corset. Rotation still slightly overcorrected.



Case I. Fig. 11.—Twelve weeks after removal of corset.

tation with no diseased vertebræ (Fig. 3). No preliminary treatment given. A plaster corset was immediately applied, and no more inconvenience or suffering was experienced than usually follows the application of any ordinary corset. Felt pads were inserted both anteriorly and laterally, from time to time, and complete overcorrection was obtained in three weeks (Figs. 4 and 5). The corset was worn for six weeks longer in order thoroughly to stretch the parts. When it was removed at the end of the ninth week, a left lateral curvature was formed which was even as marked in its deformity as the original right curve (Figs. 6 and 7). An x ray picture was not taken at this time, but was taken about ten days later, after exercises had been begun (Fig. 8). This radiogram does not show the extreme overcorrection, but does show the vertebræ rotated considerably beyond the normal position. Exercises and massage were given, and the patient improved rapidly (Figs. 9 and 10). A light brace was worn all the time, except when the patient was under treatment, and at the end of twelve weeks after removal of the corset she was practically in a normal position (Fig. 11). An x ray picture taken four months after removal of corset shows vertebræ in a perfectly normal position (Fig. 12). The patient has gained over twenty pounds in weight, and her general condition is much improved. Six months after the corset was removed it was possible for her to bend forward and touch the floor with her hands, and lateral motion was normal (Fig. 13).



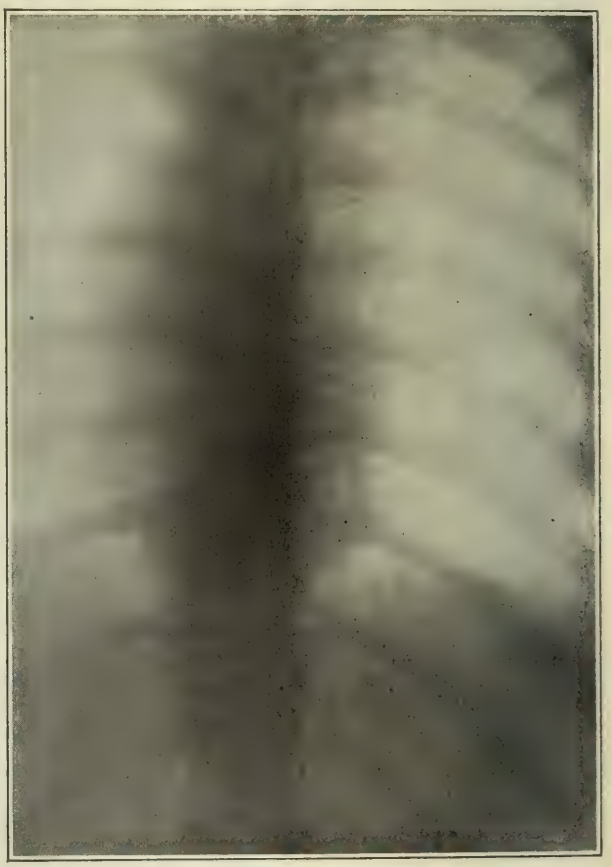
Case I. Fig. 13.—Normal motion, six months after removal of corset.

Case II. Boy; aged eighteen years. General condition good. Only treatment previous to his admittance to the hospital, exercises. First noticed deformity when nine years of age. Severe rickets during childhood, and marked enlargement of all epiphyseal ends of bones; legs bowed.

Examination showed an extreme right dorsal lateral curvature (Figs. 1 and 2) with marked rotation (Figs. 1 and 2). The x ray showed ankylosis of the seventh, eighth, and ninth dorsal vertebræ.

Patient admitted to the hospital and a loose straight corset applied, so that he might become accustomed gradually to the confinement. In about ten days this corset was removed, and another applied with the patient in the overcorrected position.

An experiment was made in this case to see if placing pads under the corset over the ribs which projected posteriorly would force them forward. Considerable force was finally used in inserting the felt, and the ribs apparently did recede from the corset. This corset was worn for seven weeks, and upon removal examination showed a slight lessening of the lateral curve, but no change in the rotation. So much force had been used that there was sloughing in several places. The sloughs were dressed, and another corset applied with the patient again in the overcorrected position. In this corset the pads were inserted in the usual place, i. e., the depressed ribs were pushed back through the window. Overcorrection was complete in five weeks (Figs. 3 and 4). The corset was worn six weeks longer, and then removed. Examination showed complete overcorrection (Figs. 5 and 6). A light brace was used to hold the overcorrection, and the patient put on exercises and massage. In three weeks time the patient was in excellent position (Figs. 7 and 8), and was discharged from the hospital. The x ray pictures taken after correction showed that the vertebræ above and below the ankylosed portion had rotated back into a normal position, and that the part which was fused had turned *en bloc* with the other.



Case I. Fig. 12.—Normal position of spine



CASE II. Fig. 1.—Position before treatment.



CASE II. Fig. 2.—Flexed to show bulging of ribs.



CASE II. Fig. 3.—Overcorrection in corset.



CASE II. Fig. 4.—Flexed showing bulging of ribs through window.

CASE III. Boy; aged fifteen years. General condition excellent. First noticed deformity when seven years of age. Nothing in the way of treatment except some light exercises taken under the supervision of the family physician. Examination showed a fixed left dorsal lateral curvature (Figs. 1 and 2). The rotation in this case was extreme, but the ribs were very little misshapen. There was no evidence of rickets, and the muscular development was normal. The condition of the patient was so good that a rapid reduction of the deformity was considered possible. A plaster of Paris corset was applied, and enough force used to overcorrect the deformity. The patient was very nervous, but suffered little, if any, pain, as there was no change in the pulse rate. Two days after the correction the boy was allowed to get up and walk about. Very little discomfort followed, and in a few days he was able to do as much as any patient wearing an ordinary corset. The corset remained in place for three weeks, and when it was removed examination showed the deformity completely corrected. It was not thought necessary to apply another, and the child was put on exercises. The improvement in motion was marked, and the patient in a short time was discharged from the hospital (Figs. 3 and 4).

CASE IV. Girl, aged sixteen years. General condition fair. First noticed deformity when four years of age. No previous treatment except a brace and simple exercises. Continued development of deformity accompanied by pain and impaired health during past three years. Physical examination showed nothing pathological, and the x rays showed no disease of the bones.

Examination showed a firmly fixed left dorsolumbar curve. The lateral bending was not extreme, but the curve was marked and very long. The ribs were deformed, and protruded posteriorly in a rather unusual manner (Figs. 1 and 2).

Patient was admitted to the hospital, and a lateral curvature corset applied. Overcorrection was accomplished on the frame. The patient was very nervous afterwards, and did not do well for a few days. After this the pain and discomfort ceased. The corset was worn for eleven weeks, and when it was removed the curve in the spine was found to be reversed. The patient received massage and exercises, but no brace was used. The overcorrection persisted in spite of vigorous corrective exercises, and the x ray showed a curve to the right and a rotation of the bodies of the vertebræ towards the convexity of the curve. Treatment was persisted in for several months before the overcorrection was overcome. The final result, however, was normal motion with the spine in a normal position (Figs. 3 and 4).

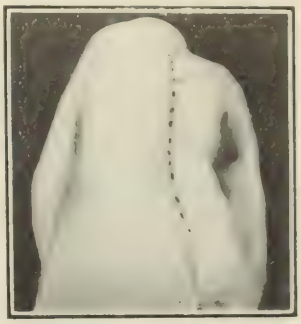
CASE V. Boy, aged fourteen years. General condition fair. When four years of age had infantile paralysis, which left him with the right lower limb and also the left spinal muscles paralyzed. His parents noticed a slight curve in the spine the following year, which rapidly developed. Nothing was done in the way of treatment, as their circumstances were such that it was impossible. The patient had been able to walk with great effort with the aid of crutches.

Examination showed a marked left lateral curvature of the spine with extreme deformity of the ribs. Not only was there a considerable displacement of the bones from their normal position, but they were also distorted in shape (Figs. 1 and 2). The right lower limb was three and one half inches shorter than the left and the only muscles not paralyzed were the psoas and the flexors of the leg. The right spinal muscles were much atrophied, and barely covered the ribs.

The patient was admitted to the hospital and a lateral curvature corset applied. Extreme force was necessary in this case even to move the spine from its deformed position, and then it was only possible to swing it as a whole in the direction of overcorrection. The sharp curve in the dorsal spine was practically obliterated, but could not be completely changed to a right curve, neither could the sharp angle of the protruding ribs be entirely corrected. Large windows were cut in the corset, and the patient was placed in bed. The changes in the direction of overcorrection in this case were most rapid. Without any assistance from pads, not only did the spine curve to the right, but the ribs also pushed forward in front through the window to such an extent that it was necessary to put a bar of sheet iron across the lower part of the opening to hold them back. As the corset loosened, a few



CASE II. Fig. 5.—Position when corset was removed.



CASE II. Fig. 6.—Flexed to show deformity of ribs on opposite side.



CASE II. Fig. 7.—Erect position [illegible] exercises.



CASE II. Fig. 8.—Flexed position [illegible] exercises.



CASE III. Fig. 1.—Erect position before treatment.



CASE III. Fig. 2.—Flexed position before treatment.



CASE III. Fig. 3.—Erect position after treatment.



CASE III. Fig. 4.—Flexed position after treatment.



CASE IV. Fig. 1.—Erect position before treatment.



CASE IV. Fig. 2.—Flexed position before treatment.



CASE IV. Fig. 3.—Erect position after treatment.

pads were inserted to prevent it from slipping, but no force was used. The corset remained in position for thirteen weeks, and when it was removed the deformity was found to have been converted completely into a right curve. This case was exceptional, in that the changes were so rapid, and the patient's paralysis prevented walking.

A light brace was used, and the spine allowed to move to a normal position (Figs. 3 and 4).

CASE VI. Girl, aged fourteen years. General condition very good. When seven years old had infantile paralysis, which left the muscles on right side of back paralyzed, also part of those on right lower limb. Two years later her mother noticed that she could not straighten the spine. Patient received some attention from the family physician, but nothing in the way of apparatus was used to prevent the curve from developing. She had been able to walk, but had a bad limp and the body was held to one side.

Examination showed a marked left dorsolumbar curve with considerable rotation of the vertebræ (Figs. 1 and 2), but very little change in the angles of the ribs. The right spinal muscles were paralyzed with marked atrophy. The right lower limb was about one and one half inch shorter than the left. Patient could not stand erect without something under the right foot. The spine was rigidly fixed in its deformity.

Admitted to the hospital, and a lateral curvature corset applied. It was impossible fully to overcorrect on the frame, although considerable force was used. She was kept in bed for two weeks, and no pads were inserted during this time. At the end of this period she was allowed to be dressed, and the overcorrection completed in two weeks. The change in the spine after she commenced to walk was very rapid. The ribs on the left side pushed back through the window, and those on the right protruded more than one and one half inch through the window cut in front, and it was found necessary to place a pad of felt and a bar of iron across the opening to prevent them from going further. The corset was worn for ten weeks, and when it was removed the deformity created on the left side was considerably greater than the original on the right. A brace was at once applied, and an attempt made to stimulate the spinal muscles by exercises and massage. In a few weeks the spine assumed the normal position (Figs. 3 and 4), but it was considered unsafe to discontinue the brace, as, because of the paralysis, there was a strong tendency for the deformity to return.

CASE VII. Man, aged twenty-two years, dwarf. Extreme rickets in early childhood. First noticed deformity



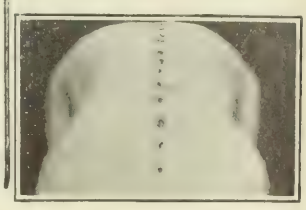
CASE V. Fig. 1.—Erect position before treatment.



CASE V. Fig. 2.—Flexed position before treatment.



CASE V. Fig. 3.—Erect position after treatment.



CASE IV. Fig. 4.—Flexed position after treatment.



CASE V. Fig. 4.—Flexed position after treatment.



Case VI. Fig. 1.—Erect position before treatment.



Case VI. Fig. 2.—Flexed position before treatment.



Case VI. Fig. 3.—Erect position after treatment.



Case VI. Fig. 4.—Flexed position after treatment.

when eight years old. Has never been able to work, and for the past two years there has been a progressive loss of muscular power in the lower limbs. General condition not good. Family history negative, as far as could be determined.

Examination showed lack of normal development in all parts of the body. The bones were enlarged, and without exception showed deformity. Heart was displaced to the right of the sternum. The lateral curvature, which was of a peculiar type, was a right dorsal, and the spine was as rigid as the femur (Figs. 1 and 2). The patient was admitted to the hospital by special permission of the board of managers on account of the urgency of the case and his undersize.

A lateral curvature corset was applied; but very little force was used, as his condition would not allow of it. It was necessary in this case to apply a very high corset, and the position of the arms was such that abrasions followed in a few days in both axillæ. On this account it was for some time impossible to insert pads to overcorrect the deformity. This case was of particular interest in that the delayed treatment gave a chance to observe how much of a change could take place in a very severe case without any padding to hold the body in position. In four weeks the bulging ribs on the right side had straightened, and the depressed ones on the left had pushed back through the window in the corset. In other words the deformity had overcorrected itself, before any pads were placed in front.

The corset was worn for three months, in order not only that the muscles and ligaments might be stretched, but also that the bones might become fixed in their new positions. When the corset was removed at the end of the third month, there was a complete change. Exercises were immediately commenced, and the patient rapidly improved, so that at the end of three weeks he could stand erect, and normal motion was nearly established (Figs. 3 and 4). The patient's gait improved, and at present he is able to do any sort of work such as is suitable for a man of his size.

Case VIII. Girl, aged thirteen years. General condition good. Congenital dislocation of left hip. Deformity first noticed, when she was seven years of age. A brace was worn for three years, but curvature steadily increased. During the past two years patient had worn a high shoe and taken light corrective exercises, and father thought she was able to stand in somewhat better position; but the



Case VII. Fig. 1.—Erect position before treatment.



Case VIII. Fig. 1.—Erect position before treatment.



Case VII. Fig. 2.—Flexed position before treatment.



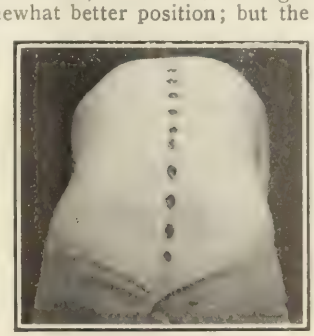
Case VIII. Fig. 2.—Flexed position before treatment.



Case VII. Fig. 3.—Erect position after treatment.



Case VII. Fig. 4.—Flexed position after treatment.



Case VIII. Fig. 4.—Flexed position after treatment.



Case VIII. Fig. 3.—Erect position after treatment.

motion in the spine had diminished. Examination showed left dorsal curvature with rigid fixation (Fig. 1). The ribs were much displaced, but there was little deformity in them (Fig. 2). Left hip dislocated, with about three inches shortening. Patient could walk with but a slight limp when high shoe was on, but with shoes removed there was a bad limp.

Admitted to hospital, and a lateral curvature corset applied. Extreme force was used in this case, as the child was in excellent condition. Complete reduction was possible on the frame, and the child was placed in bed for one week. The spine continued to change, and at the end of two weeks there was sufficient overcorrection. Only one pad was used in this case, and that simply to prevent the corset from slipping. At the end of the fourth week the corset was removed, and it was found that a right dorsal curve had been established. A retention brace was applied and the patient put on exercises. In this case the patient was held in an overcorrected position by the brace for some weeks except when taking exercises. Normal



Case IX. Fig. 1.—Erect position before treatment.



Case IX. Fig. 2.—Flexed position before treatment.

mobility of the spine was established, and the patient discharged from the hospital (Figs. 3 and 4).

Case IX. Girl, aged sixteen years. Deformity first noticed when four years of age. General health good. Patient had been under treatment for some months previous to admittance in the out patient department. It was thought that there had been a slight improvement in the standing, and the abdominal pains had ceased. The x ray showed a very high dorsal curve with extreme rotation of the ribs.

Examination showed a left dorsal curve, fixed. The patient showed the deformity through the clothing, although there was not the extreme bulging of the ribs seen in most cases of this nature (Figs. 1 and 2).

The patient was admitted to the hospital, and a light lateral curvature corset applied. It was necessary in this case to elevate the shoulder much beyond the usual level. Overcorrection was not accomplished on the frame, as the curve was so high and acute that sufficient force could not be safely applied. Pads were inserted to complete the overcorrection, and the corset was worn eight weeks. When removed, the deformity had been completely converted into a right dorsal. Exercises and massage were begun, and in a few weeks the patient could easily retain the erect position with but slight trace of the deformity left (Figs. 3 and 4).

Case X. Girl, aged seventeen years. General condition good. Deformity first noticed, when twelve years of age. Had worn a spring corset for two years. No other treatment. For past six months had had severe pains in abdomen and thorax, yet had been able to be about, and had attended school part of the time.

Examination showed a long right lateral curve of the spine involving the whole extent of the dorsal and lumbar regions (Fig. 1). Motion was very limited and painful. The deformity of the ribs was not so marked in this case as is usually found with such an extensive curve (Fig. 2); this was due to the fact that the apex was in the lower dorsal region. The x ray showed considerable rotation of the lumbar vertebræ.

The patient was admitted to the hospital, and local treatment with rest in bed given to see if some of the inflammation could not be relieved before an attempt was made to straighten the curve.

A lateral curvature corset was applied, but little attempt was made to force the spine into the overcorrected position on the frame. Large oval windows were cut in the front and back, and the patient was placed in bed. Little, if any, attention was given to the change in the deformity for two weeks, when upon investigation it was found that the spine had overcorrected itself without any assistance. Felt pads were inserted to tighten the corset and hold the patient firmly in the new position. In a week after the corset was applied the pain ceased, and the patient was more comfortable than she had been for six months previous to entering the hospital. The corset was worn for eleven weeks, and when removed it was found that the deformity had been fully overcorrected, and that the inflammation had entirely disappeared. A light brace was applied, the patient put upon exercises and massage given. The spine was very limited in its motion for some time, but gradually yielded to treatment; and when the patient was discharged, normal motion was nearly established (Figs. 3 and 4).

Case XI. Girl, aged nineteen years. General condition good. Slight attack of infantile paralysis when fourteen years old, which involved spinal muscles, and both lower limbs. The paralysis of lower extremities was of short duration, but the spinal muscles did not regain their full power. Deformity of back began six months after the paralysis developed. The muscles of the back were massaged, but no other treatment was given.

Examination showed physical condition excellent, slight paralysis of right spinal muscles, and a right dorsolumbar curve involving the lower eight dorsal and first two lumbar vertebræ.

The curve was firmly fixed, and this section of the spine could not be moved by any ordinary force (Fig. 1). There was considerable deformity of the ribs (Fig. 2), and the x ray showed marked rotation of the vertebræ at the apex of the curve.

The patient's general condition was so good that preliminary treatment was not considered necessary. A lateral curvature corset was applied, and the patient sent to her home. It was possible in this case to apply considerable pressure without any disagreeable symptoms, and the curve was reversed on the frame. After the first twenty-four hours the patient was up, dressed, and out of doors. There was very little discomfort during the entire treatment. The spine continued to overcorrect, and it was necessary in ten days to insert felt pads in order to hold the corset in position. The plaster jacket was worn for five weeks, and when removed the curve to the left was even more marked than that of the original right. A light brace was adjusted, which held the patient in the overcorrected position, and massage and exercises were begun. Free motion was easily established, and there was a decided improvement in the right spinal muscles. The patient was kept under supervision and treatment for three months, and at the end of that time it was possible for her to hold herself easily in the erect position for a long period (Figs. 3 and 4) without tiring. It was thought best, however, for



Case IX. Fig. 3.—Erect position after treatment.



Case IX. Fig. 4.—Flexed position after treatment.

her to wear a light brace on account of the paralysis in the back muscles, and she was discharged wearing one which held her in a slightly overcorrected position.

Case XII. Girl, aged seventeen years. Deformity first noticed when she was six months old. Family thought she was born with it, although not sure. General condition good. No increase in the curve during past two years. Had worn plaster of Paris corsets for a period of two years, beginning when nine years of age.

Examination showed extreme lateral curvature with deformity of ribs (Figs. 1 and 2). The deformity was so fixed that it was impossible to straighten the spine to any appreciable extent by making manual pressure against it. X ray picture taken.

Was admitted to the hospital, and a few days later a lateral curvature corset was applied. Considerable force was used to straighten the spine, and more than one half of the overcorrection was made on the frame. It was necessary to cut very large windows through the corset in this case, as the depressed ribs covered a large area. In one week's time it was possible to push the hand through between the corset and the patient's body, and the change in the direction of overcorrection was very rapid. Pads were inserted at short intervals, and overcorrection was accomplished in four weeks. The patient, however, was held in this position for eight weeks longer, as the deformity was severe and had existed such a length of time. When the corset was removed, the deformity created in the direction opposite to that of the original was found to be pretty well fixed and equally severe. Exercises were commenced, and the spine immediately responded (Figs. 3 and 4). In a few weeks it was possible for her to bend nearly to the normal limits of motion.

Case XIII. Girl, aged thirteen years. General health not good. The patient had always been frail, and for past four years had had a cough. Deformity congenital, and the x rays showed the vertebræ much misshapen. The case from early birth had been considered hopeless, and nothing had been done in the way of treatment. A good part of her life she had been obliged to lie in bed for a large portion of the time. Had never been able to attend school, as she tired very easily upon the least physical or mental exertion.



Case X. Fig. 2.—Flexed position before treatment.



Case X. Fig. 1.—Erect position before treatment.

Examination showed an extreme right dorsal curvature which was so fixed that motion was impossible (Fig. 1). The ribs were not only displaced, but were much deformed (Fig. 2). It was with some difficulty that the patient could stand while being examined, as her lower limbs were very much undeveloped. The heart was completely displaced to the right of the spine, and the apex beat was in the ninth intercostal space beneath the angle of the scapula. The bones were small, and the spinal muscles much atrophied.

Admitted to the hospital, and remained in bed with tonic treatment for three weeks. At the end of this time a lateral curvature corset was applied. A very thick covering of felt was inserted, as there was so little soft tissue over the bony framework that it was feared that sloughing would follow. Very little force was used on the frame, but ample room was left for the patient to become overcorrected, if possible to wear the corset. Large windows were cut, so that ample room might be given for the ribs to change. The patient was placed in bed with the expectation that she could not stand the treatment. For a few days she experienced much discomfort, and respiration was interfered with; but in a week there was a marked improvement. She was kept in bed for three weeks, and nothing further was done toward overcorrecting during this time. She was then allowed to sit up, and finally was dressed and allowed to play with the other children. From this time on she improved in her general condition, and the changes in the deformity were most rapid. Felt pads were inserted from time to time both anteriorly and laterally, and in eight weeks overcorrection was completed. The patient, however, was so comfortable, and her general health was so much better, that it was decided to keep the corset on for a month longer. At the end of this time it was removed, and the deformity was found to be a left dorsal curve. A brace was immediately applied, and very light exercises and massage were begun. The patient responded rapidly to treatment, the muscles developed, and the spine was allowed to assume a normal position in a short time (Figs. 3 and 4). At the time of discharge of this patient from the hospital nearly normal limits of motion had been obtained.



Case X. Fig. 3.—Erect position after treatment.



Case X. Fig. 4.—Flexed position after treatment.

Case XIV. Girl, aged eighteen years. General health good. Father first noticed deformity of the spine, when she was eleven years of age. No apparent cause; but she lived in the country, and at that time was walking two miles to school, and carrying a heavy load of books with one hand. The family physician's attention was called to the matter; but, as the curve at that time was slight, he did not consider it of enough importance to receive any treatment. Five years later another physician was consulted, and plaster jackets were applied and worn for two years. Since then nothing had been done in the way of treatment.

Examination showed a right dorsal curve of the spine, firmly fixed, also a slight lumbodorsal curve to the left (Fig. 1). The x ray showed the usual rotation in opposite directions, and marked change in the ribs (Fig. 2). Physical examination did not reveal anything pathological.

A lateral curvature plaster of Paris corset was applied, but complete overcorrection was not obtained on the frame. The position in this case was not easy, as the curve was high, and the left shoulder was elevated to a point much higher than usual. For this reason it was necessary to keep the patient in bed for some time, but the spine rapidly changed to a position of overcorrection. Felt pads were inserted on the tenth day, and others added as the position changed. The corset was worn for seven weeks, and when it was removed the curvatures were completely reversed. In this case a brace to hold the patient in the overcorrected position was not used. She was able from the first to hold herself in the same position that she had when in the corset. Massage and exercises were given, and normal motion was rapidly obtained. As a brace was not used, the case was under observation for some time to see if there was any tendency to a return of the deformity. At the time of discharge from treatment normal motion was possible in all directions, and the patient habitually held herself in a straight position (Figs. 3 and 4).

Case XV. Girl, aged seventeen years. General condition fair. Had always tired easily, although large and looked strong. Mother first noticed the deformity six years ago, a very slight curve attended by no discomfort. About three years ago was thoroughly chilled while skat-



CASE XI. Fig. 1.—Erect position before treatment.



CASE XI. Fig. 2.—Flexed position before treatment.



CASE XI. Fig. 3.—Erect position after treatment.



CASE XI. Fig. 4.—Flexed position after treatment.

ing, and in bed for two weeks on account of pain in her back. Since that time had never been able to stand erect, and the deformity had grown worse. At times any attempt to bend the back caused acute pain.

Examination showed a long right lateral curve, involving the whole dorsal and a part of the lumbar spine. Not only was the curve fixed, but there was also very little motion in any direction (Fig. 1). There was considerable bulging of the ribs, but very little change in their angles (Fig. 2). The x ray showed not only rotation of the vertebræ, but also inflammatory product. General condition very good, but muscles were weak.

A lateral curvature plaster of Paris corset was applied. It was possible to bring the spine back to a normal position on the frame, but overcorrection could not be obtained. The patient was placed in bed, and suffered some pain during the first ten days. In two weeks she was allowed to get up and go about. The changes in the position of the spine in this case were slower than usual, but at the end of the fifth week complete overcorrection was obtained, and the discomfort had ceased. The general health of the patient improved rapidly. At the end of the eighth week the corset was removed. The spine was fixed in its overcorrected position, and it seemed doubtful at first if normal motion could be obtained. Massage and very light exercises were begun. There was considerable pain and discomfort during the first ten days, but improvement followed, and in a few weeks nearly normal motion was possible. The patient was kept under observation some time, but there was no tendency to a return of the deformity, and she was discharged cured (Figs. 3 and 4).

CASE XVI. Girl, aged twenty years. General condition good. Spina bifida, but firm covering of fibrous tissue on lower end of spinal canal. Deformity noticed when very young, but little attention was given it, as family attributed it to a weakness caused by the defect at the lower end of the spine. The curve gradually developed, and at times there was more or less pain. Some ten years ago, she took a course in gymnastics, from which she derived some benefit. These exercises were continued by the patient at irregular intervals for some years. About three years ago she spent some months in taking a course in corrective exercises in a neighboring city, but there was no permanent relief.

Examination showed a long right lateral curve, so fixed throughout its whole extent that the patient could not assume an erect attitude (Figs. 1 and 2). The x ray showed marked rotation of the vertebræ and lack of development in the lower lumbar. Motion was painful, especially superflexion, which caused intense spasm of the back muscles.

A lateral curvature corset was applied. Overcorrection was not complete on the frame, as the curve was so fixed that a reasonable amount of pressure did not carry the spine beyond the median line. The patient suffered considerable discomfort for a time, and was confined to the bed for ten or twelve days. There was very little change in the position of the spine during this time; but, as soon as she began to get about, the overcorrection began to develop, and at the end of the fourth week had been carried far enough. The corset was removed, and the spine was found to be in the position of left lateral curvature, with fully as much deformity in this direction as there had been in the original right. Motion at first was extremely limited, but under massage and light exercises was gradually developed, and at the end of six weeks was nearly normal. No brace was used in this case, yet there was no tendency of the deformity to return, and the patient was discharged from treatment (Figs. 3 and 4).

CASE XVII. Woman, twenty-eight years of age. General condition good. Parents first noticed a slight deformity, when patient was nine years of age. A brace, obtained from a house which advertised in a magazine, was used for several years; but there was a gradual increase in the curve. The general health was excellent all through the growing age, and the deformity was pretty well concealed by the clothing. When nineteen years old, she began wearing plaster corsets and continued for several years, but with very little benefit. During the past five years had had increasing discomfort, and of late had not been able to hold herself in the upright position without great effort, and tired easily.



CASE XII. Fig. 1.—Erect position before treatment.



CASE XII. Fig. 2.—Flexed position before treatment.



CASE XII. Fig. 3.—Erect position after treatment.



CASE XII. Fig. 4.—Flexed position after treatment.



CASE XIII. Fig. 1.—Erect position before treatment.



CASE XIII. Fig. 2.—Flexed position before treatment.



CASE XIII. Fig. 3.—Erect position after treatment.



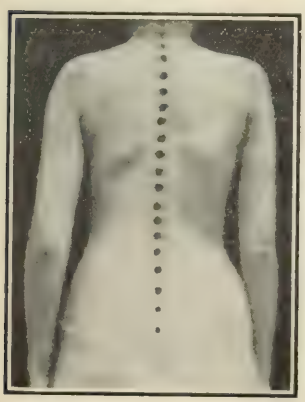
CASE XIII. Fig. 4.—Flexed position after treatment.



CASE XIV. Fig. 1.—Erect position before treatment.



CASE XIV. Fig. 2.—Flexed position before treatment.



CASE XIV. Fig. 3.—Erect position after treatment.

Examination showed marked right dorsal, left lumbar curves, rigidly fixed (Fig. 1). The deformity could not be hidden by any device. In bending forward, the curves remained unchanged, and there was considerable bulging of the ribs (Fig. 2). The x ray showed marked curves, but there was not as much wedging of the vertebræ as one would expect in a case of such marked deformity and of such long standing.

Physical examination did not show any pathological condition, except some displacement of the thoracic organs. A lateral curvature corset was applied in extreme flexion. It was impossible even to straighten the spine on the frame, but considerable correction was made. There was very little discomfort, but the patient was placed in bed and kept there for two weeks. The spine changed somewhat meanwhile in the direction of overcorrection, and after she had been up and about for ten days felt pads were inserted. From this time the overcorrection was gradual, but constant, and in ten weeks the curves were established on the opposite side. The patient was held in this position for two months, and when the corset was removed, she was well overcorrected. She was placed in bed for one week without any attention other than keeping her flat on her back. At the end of this time massage and exercises were given. Motion was gradually established, and in six weeks it was possible for her to reach the floor with the tips of her fingers. A brace was worn during this time to prevent any relapse, and she was discharged with instructions to continue her exercises. At this time it was easily possible for her to maintain the erect position for a considerable period without tiring, and the spine was in a normal position (Figs. 3 and 4).

CASE XVIII. Woman, aged thirty-four years. General condition not good. Parents first noticed beginning curvature between the shoulders, when she was eleven years old. Nothing was done for some time, but when she was fifteen a thorough course of treatment was taken under the instruction of an orthopedic surgeon. These exercises were continued for some years, but the deformity developed rapidly. When seventeen she was placed in plaster of Paris corsets and wore them for three years. A strong attempt was made at this time to overcome the deformity; but there was very little, if any, improvement. A brace was finally substituted, and she had worn one ever since. At times had been confined to the bed from weakness and discomfort, and had never felt well and able to work. Family history negative.

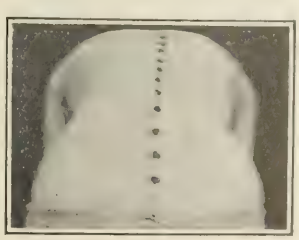
Examination showed an extreme right dorsal curve with a smaller left lumbar (Fig. 1). There was also extreme deformity of the ribs (Fig. 2), and the x ray showed con-



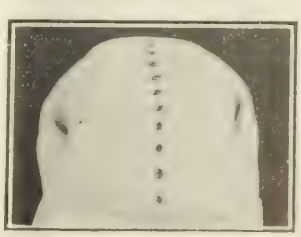
CASE XV. Fig. 1.—Erect position before treatment.



CASE XV. Fig. 2.—Flexed position before treatment.



CASE XIV. Fig. 4.—Flexed position after treatment.



CASE XV. Fig. 4.—Flexed position after treatment.



CASE XV. Fig. 3.—Erect position after treatment.



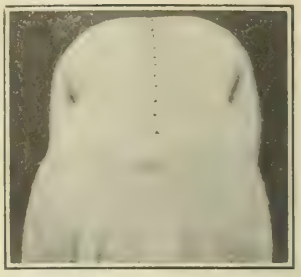
Case XVI. Fig. 1.—Erect position before treatment.



Case XVI. Fig. 2.—Flexed position before treatment.



Case XVI. Fig. 3.—Erect position after treatment.



Case XVI. Fig. 4.—Flexed position after treatment.



Case XVII. Fig. 1.—Erect position before treatment.



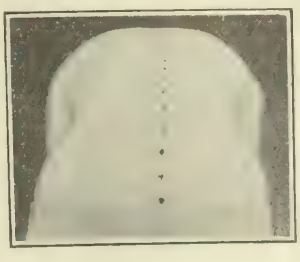
Case XVII. Fig. 2.—Flexed position before treatment.



Case XVII. Fig. 3.—Erect position after treatment.



Case XVII. Fig. 4.—Flexed position after treatment.



Case XVIII. Fig. 4.—Flexed position after treatment.



Case XVIII. Fig. 1.—Erect position before treatment.



Case XVIII. Fig. 2.—Flexed position before treatment.



Case XVIII. Fig. 3.—Erect position after treatment.

siderable bony change in the vertebræ. Physical examination showed the heart displaced, and the apex beat was on the right side just below the scapula. The body was not well nourished, and the case was a most unfavorable one. The strong desire to have something done, however, prevailed.

A lateral curvature corset was applied. It was possible to remove more than one half of the deformity on the frame, and sufficient room was provided at this time for full overcorrection. The patient was placed in bed, and nothing done for two weeks; then felt pads were inserted to correct still further. The ease with which the spine changed to a position of overcorrection was surprising. Padding was resorted to as frequently as the corset loosened, and at the end of two months the desired goal was reached. The corset was worn for seven weeks longer, and when removed it was found that the curves were reversed and that the dorsal one was finally fixed in its new position. A brace was immediately applied, so that the spine might be held in this position, and massage and light exercises were begun. The patient improved rapidly in her general health, and the spine was allowed gradually to come to a normal position. The muscles which had been atrophied developed remarkably, and in a few weeks she was able to hold herself in an erect position for some time without tiring. The rotation of the vertebræ had been completely overcome, and the ribs bent back to their normal place and shape (Figs. 3 and 4).

The reason for reporting so many cases in detail and giving cuts of them is that it seemed necessary in order to show the wide application of this form of treatment to the different types of this deformity, and also to present a sufficient number of each type to establish the fact that this method does produce results.

Only one corset was worn in each of these cases with the exception of Case II. Here the experiment was made of trying to force forward the ribs, where they bulged posteriorly, instead of pushing those on the opposite side backward through the window. The futility of such an attempt was demonstrated, not only in the case of this patient, but also in several other unreported cases. In pushing the depressed ribs backward to a plane posterior to that of the protruding ones of the original

deformity, increased flexion is produced; but in trying to push the bulging ribs forward, the spine is forced into a straight or extended position, and rotation will not follow. In another series of cases several corsets have been applied in each instance, instead of following up the change in position with felt pads. From the experience thus gained it seems best to observe the cases closely, and to determine which method is productive of the best result by noting the changes which occur in the spine and ribs after the first corset is applied.

The average length of time taken to produce complete overcorrection was three weeks. In some cases ten days was sufficient, while in others it was necessary to continue the insertion of felt for six weeks. The amount of overcorrection is easy of determination, but the length of time for the following fixation is more difficult to estimate. In most of the cases mentioned the average was two months. In some instances, however, the period of fixation was too long, making it hard to bring the spine back to the normal position under exercises. This was especially true in some of the easier cases.

In reviewing not only these cases, but also a number of others, it has often been not easy to determine before beginning the treatment what kind of a case would prove the most difficult to straighten. Some of the very worst deformities yielded far more readily than the lighter ones. There are three factors to be taken into consideration: The age of the patient, and the length of time since the beginning of the deformity; the size and shape of the body; and the amount of flexion which can be made. On the other hand, it is frequently easier in the case of an adult patient to correct a deformity of some years' standing than it is to accomplish the same result in a thick set child where the curvature is of recent development.

As the amount of rotation and its correction is the most important part of the deformity, it is not only very necessary to keep an x ray record of the original curve, but it is also important to make frequent skiagraphs of the changes which follow. If care is used, the exact amount of rotation at any time may be determined, and this is of great value in deciding the final position in overcorrection. The treatment of a case after the corset is applied is extremely simple, yet it is best, as has been said before, to confine the patients to a hospital or place them where they can be under close observation. They should be allowed to walk about as much as possible, not only for the exercise, but also because the body weight in the erect position aids in turning the spine.

When the corset is finally removed, it is very necessary to have the patient where constant treatment by exercises and massage may be carried out. It is desirable in nearly all cases to use a light brace which will at first hold the spine in an overcorrected position, and later will allow it to come gradually back to the normal. Unless such an appliance is used, the deformity will in a short time tend to reappear, and, like club foot, turn back into its original position.

The general condition of the patients after the deformity has been straightened, has been of much interest. Invariably the health has improved, and many have gained as much as thirty pounds in weight. One of the most striking results, especially in adults, is the increase in height; in some of the severe cases this has amounted to fully three inches. The gait also improves. What seems, however, to be of far more importance than all else is the change in their mental attitude. Life seems to present a very different aspect to them, showing indubitably that a deformed body does have a pronounced effect upon the mind.

That fixed lateral curvature of the spine is curable by the method described in this article has been demonstrated. As the cases treated show, it has passed the experimental stage, but further experience will undoubtedly produce improved technique and superior results. The term "curable" is used here to mean not simply that an improvement has been made in which the lateral curve is partially obliterated and the ribs bent to a different angle, but that the parts entering into the deformity are actually turned back into their normal positions.

The results shown in this paper represent in part two years of work on lateral curvature. For what has been accomplished I am largely indebted to my associates: Dr. H. A. Pingree, who has assisted me in most of the mechanical work; Dr. F. W. Lamb, who has taken over eighteen hundred photographs and x ray pictures; Dr. F. P. Webster, Dr. T. J. Burrage, and Dr. E. W. Gehring, who have made repeated physical examinations and had the medical care of the patients; and Dr. T. F. Conneen and Dr. C. O. Caswell, who have helped in the application of the corsets.

ABBOTT'S METHOD OF CORRECTING FIXED LATERAL CURVATURE.

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In presenting this paper, I must ask that it be received as a preliminary statement. I shall endeavor to give an idea of the technique of the Abbott treatment of scoliosis, or lateral curvature of the spine, a deformity due chiefly to noninflammatory causes, which has been one of the greatest stumbling blocks to the orthopedic surgeon.

Abbott's method is concerned only with the so called "structural" or fixed curve—the curve that the patient cannot voluntarily overcome. The postural, functional, and habitual are not considered in this treatment, these still being treated by exercises. It is not a cure for all conditions and forms of scoliosis. It is especially applicable in the acquired forms, when not too rigid, severe, and complicated by structural changes of bony ankylosis; although several cases in which the x ray revealed apparent ankylosis have yielded successfully to this treatment. Doctor Abbott assures us that he cannot "raise the dead."

The importance of finding a way to correct the fixed curve has been realized. Research has been active upon the pathology and mechanism, as revealed in the cadaver and the living subject, as evidenced by the number of learned papers brought out every year. Heavy and light exercises, massage,

forcible correction, braces, plaster of Paris corsets in suspension have all been tried and found wanting. We have all recognized that it should be pos-

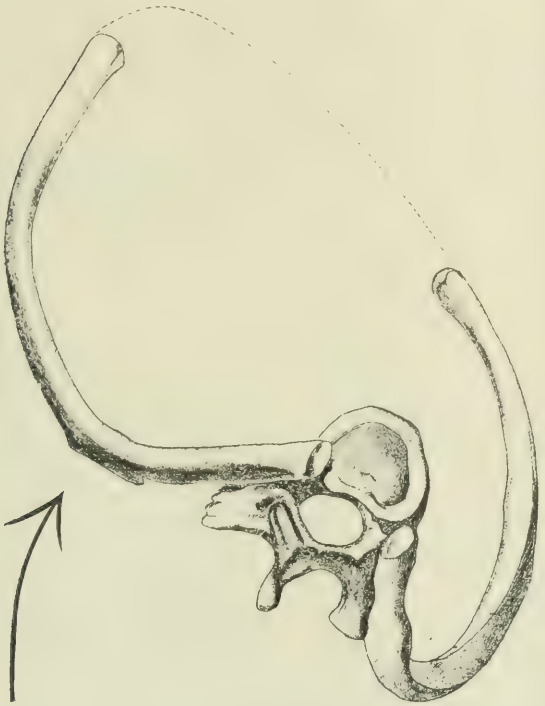


Fig. 1.—Segment of a spine with a right dorsal, left lumbar deformity.

sible to correct the spine, and overcorrect, and that, according to Wolff's law, it should stay corrected, but the technique had been missed.

The correction of a deformity of the body must

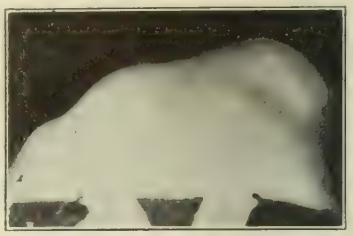


Case G. L. Fig. 1.—Twenty-two years of age. Deformity noted six years.

mean the ability of the surgeon to make an overcorrection, as in bow legs, knock knees, club feet, and wry neck. Until Abbott, no one has shown us an overcorrection of a fixed curve, as recorded by the x ray, so far as I know, and I have carefully perused the works of all.

In 1895 Delore, of Lyons, France, recommended a forcible correction under narcosis. Calot, Redard, Noble Smith, Schanz, and especially Wullstein, of Germany, developed this method of forcible correction by complicated machinery, making extension and counterextension, with pressure pads, enveloping the body, neck, and head. In this country, some of the best work and most persistent effort has been made by Lovett, of Boston, and his confrères.

Lovett[1] and Truslow tell us that the hips should be flexed when applying the corrective forces, but all were obsessed with the idea that the spine should be straightened by extension and counterextension, with pressure over the prominent angle of the ribs on the side of the convexity, while Abbott corrects by crumpling up the patient, and making no special pressure over the prominent ribs of the convexity.



Case G. L. Fig. 2.—Leaning forward.

In correcting a scoliosis, it is evident to all who have studied the subject, that the twisted spine with the bodies rotated to the side of the convexity must be reduced by passing back to the normal position by the same route through which they moved into the position of deformity. Abbott's work is based upon the theory that the concave side has swung forward in a circle to the right, as illustrated by the

[1]Lovett taught, in 1906, that the spine should be more easily corrected in a lax position.



Case G. L. Fig. 3.—Standing after two months of treatment.

segment of a spine with a right dorsal, left lumbar deformity (Fig. 1), the bodies of the vertebræ pointing to the right side, into the convexity. All previous efforts have been founded upon the idea



Case G. L. Fig. 4.—Leaning forward. Treatment discontinued although not perfect, because patient wanted to get back to work. Correction may be taken up in winter.

that there was rotation backward of the convex side, and heretofore, in our endeavors forcibly to correct the spine, we have been making pressure upon the prominent angle of the ribs. From the new point of view, let us see what has been the result of our previous efforts.

Doctor Lovett, in his exhaustive study of the spine, proved beyond a doubt that the spine in superextension and erect position is virtually locked in the dorsal region, so far as side bending is concerned, only slight side bending being permitted in this position. Hence a force or forces applied at or beyond the angle of the ribs, would cause the spine to be forced forward or into superextension in the direction of least resistance, carrying the bodies further forward in rotation and deformity. This will explain why a fixed or severe curve has resisted our best efforts, and become progressively worse with treatment.



Case V. L. Fig. 1.—Sixteen years of age. Deformity noted eighteen months. (A picture of standing position was spoiled.)

Phelps, in his work upon the cadaver some fifteen years ago, demonstrated that a force applied over the convexity of the ribs sufficient to reduce the deformity would be unbearable to the patient. A slight curve may be held apparently by force over the convexity, since at this stage the resultant of the forces applied at the angle of the rib and beyond would pass well to the side of the body of the vertebra. More likely the real influence here has been the power of respiration acting upon the unyielding front of the corset or jacket, which pushes back the concave side and prevents further rotation forward of the bodies of the vertebræ.

Lovett taught that deformity occurs in flexion, as in this position the spine is more mobile. As I have said, Abbott's conception is based upon the theory of a rotating forward of the concave side, and that in correction the bodies must move to the concave side and backward; as the deformity was produced by flexion and side bending toward the convex side, the correction and overcorrection must take place in the same position of flexion and side bending to the other side.

To attain this effect, Abbott flexes the spine with pressure over the lower ribs, with side bending, arm



Case V. L. Fig. 2.—X ray, best position.

of depressed side brought high up and forward, arm of convex side well down and backward.

To facilitate holding the patient in this position of extreme flexion while applying the plaster of Paris jacket, Abbott places his patient on his back in a hammock suspended on a frame, as illustrated (page 853). He does not maintain that this device is the best to obtain the flexed position, and is now working upon a better device to control the flexion and rotation of the spine.

Ample felt pads, from three eighths to one half inch thick, are fitted over the angles of the ribs on the convex side and prominent ribs in front and the crests of the ilia. A large felt roll is placed over the concave side, to be removed through the large fenestra in the back when trimming the jacket. After all is adjusted upon the hammock, the lower limbs are flexed to overcome the lordosis, and the foot of the frame is then elevated to an angle of 30° to 60° further to utilize the weight of the pelvis and lower limbs. Three strong muslin bandages are adjusted, making side pulls. One, passing under



Case V. L. Fig. 3.—X ray, eight weeks later.



Case V. L. Fig. 4. In plaster of Paris, standing. Note flexed position. Previously concave side is bulging through fenestra.



Case V. L. Fig. 5.—Leaning; more bulging noted.

the depressed shoulder, pulls the shoulder up and forward until the clavicle stands almost perpendicular. A second bandage passes around over the most prominent ribs, and is pulled to the side of the frame and downward. A third bandage makes counter-



Case V. L. Fig. 6.—Standing, one day after removal of plaster.

pressure across the pelvis. A broad bandage is anchored to the frame on the convex side and passed across the lower prominent ribs. From this is suspended a weight of twenty-five to fifty pounds, to force the patient still further into flexion and side bending, and depress the prominent ribs. The efficiency of our technique will depend upon the use of these bandages and weights to secure flexion and



Case V. L. Fig. 7.—Leaning; compare with No. 1.

side bending, without the application of crushing force to the ribs.

The plaster of Paris jacket is applied, embracing the pelvis and extending about one and a half inch below the anterior superior spines. In front, because of the flexed position of the thighs, the jacket is liable to be rather higher than usual above the symphysis pubis. Behind, it extends well down over the base of the sacrum, to prevent the erect position.

The plaster is carried high up under the arm of the concave side, and well down on the convex side,



Case G. B. Fig. 1.—Twenty-two years of age. Deformity began ten years ago.

permitting the high shoulder to fall back and downward. In some cases it may be well to apply a strip of plaster to hold this shoulder down and back.

The body in flexion, the jacket is made roomy in front over the upper part of the sternum, to relieve



Case G. B. Fig. 2.—Patient leaning forward, showing rotation.

the elevated breasts, and permit the body to fall farther forward in flexion, still give high thoracic breathing space, and close over the lower ribs to compel the flexed position.

Usually four fenestræ are cut out, the largest be-

hind to permit farther flexion and free rotation of the concave side backward, and two in front, commencing at base of breasts and extending from five to eight inches; these to adjust pressure pads. Another is generally made on the side of the convexity better to control any crushing or bending of the ribs, which is to be avoided.

The jacket is made strong, especially at the sides and front, by reinforcement of plaster to permit the immediate removal of the large temporary pad over the concavity, and the cutting out of the fenestra.

During the first two or three days, the patient is quite comfortable by day, but has difficulty in sleeping. He will be most comfortable when assuming the hammock position—head up, thighs flexed. An opiate is seldom required.

After a few days the patient becomes accustomed to the new position, and the jacket will seem to be roomy, if well applied. Then you have a shell, within which the spine is driven from side to side and forward and backward. The right adjustment of the felt pads put in from this time, com-



CASE G. B. Fig. 3.—X ray taken before jacket was applied.



CASE G. B. Fig. 4.—Best standing position after seventy days' treatment in one jacket.



CASE G. B. Fig. 5.—Leaning, showing degree of correction. Treatment to be continued.



Case G. R. Fig. 1.—X ray, showing curvature.



Case G. R. Fig. 2.—X ray at time of changing jacket, showing curve reversed; six weeks after treatment.

bined with the power of respiration, determines your success.

You will be constantly tempted to pad the prominent angles of the ribs. If you do, you will find, when you consult your x ray, that you have lost ground. No further padding is made to the promi-

nent angle of the ribs other than to follow them up. They act as a fulcrum in the jacket to the rotating spine.

In mild cases, the spine can be quite or markedly



Case G. R. Fig. 3.—X ray, eight days after jacket was applied.

corrected in the first application. The x ray should be your last and only means of judging of the complete overcorrection of the spine.

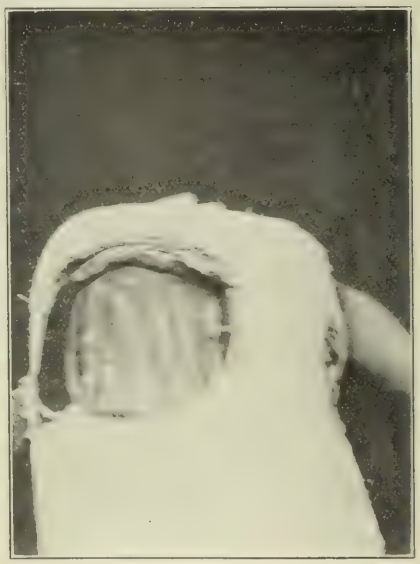
During the wearing of the jacket, which will vary from two to eight months according to the severity of the case, the patient should have daily dumb bell exercises, leaning forward in flexion. This is to keep up the muscular tone, and assist in



Case G. R. Fig. 4.—Standing in jacket. Note bulging through fenestra.

increasing the flexibility of the spine. The jacket must be worn in the position of overcorrection until structural changes are established, and the position becomes the normal one for that individual. The same tendency to deformity must be overcome as in club foot, and this takes time.

After the removal of the jacket, the patient should exercise daily the muscles of the spine, and remain much of the time in bed for two or three



Case G. R. Fig. 5.—Leaning forward.

weeks. Sometimes it is found advisable for the patient to wear a brace or corset in the Abbott position.

In regard to the possibility of reduction in the

different degrees of severity of scoliosis, an acute, very stiff curve, with marked anteroposterior narrowing, had better be left until we know more about the possibilities of this work, though we



Case G. R. Fig. 6.—Anterior view of jacket.

should not be deterred by an acute high dorsal curve, since the high curve, according to Abbott, is much more easily reduced than a mid dorsal, as the power of respiration is much more active in the high dorsal. This is especially gratifying, since these high dorsal curves are the most deforming, and it has been impossible to influence them to any marked degree by exercises, and especially



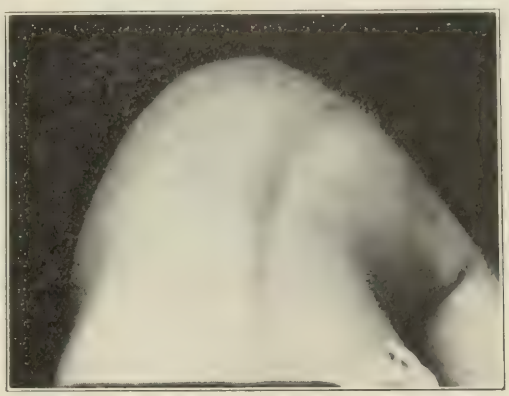
Case G. R. Fig. 7.—Standing after jacket removed.

by braces. The pure lumbar curve is treated as of secondary importance, because of the ease of correction. This curve is frequently exaggerated when eliminating the dorsal curve. It can be easily reduced by pressure pads and acute flexion of the hip.

In reaching our prognosis as to the possibility of a reduction, an x ray, taken with the patient on back, thighs flexed 75°, forearm of concave side under pillowed head, will record the best position.

Abbott's advice to those who would do this work is to select a few cases of slight deformity and concentrate effort, being ready to change jackets and meet conditions as they arise. Many cases, or hard cases, will be discouraging to operator and patient alike, until the technique is learned, as the work is very fatiguing.

Abbott's paper, in the New York Medical Journal for June 24, 1911, was not credited by a single man in orthopedic surgery, so far as my knowledge goes. Although I was a personal friend of his thirteen years ago, I believed the man was mistaken, and shuddered for the young college student, Stanley, who gave himself to the experimental



Case G. R. Fig. 8.—Leaning forward, showing curve reversed.[2]

work with the idea that while a scoliosis might be made, it could not be unmade, and the young man might be a martyr to science. John Ridlon, of Chicago, criticised Abbott's statement in his usual pointed manner, went to Portland, saw, and conceded his error. I saw the work in September and was convinced beyond a doubt, seeing thirteen patients; I thought I understood the technique. November 10th, my special table arrived from Portland. Jackets were applied—good jackets; considered from the ordinary idea of a jacket. While I saw some improvement, the spines did not go over. My patients complained of severe pain, and continually removed the felt pads because of unbearable pain at night. January 3rd, I visited Abbott again, staying with him two and one half days, saw jackets put on, saw my mistake, and with many new ideas renewed the work. Since then I have put on from two to five jackets a week, changing all my old ones.

[2]Dr. W. Truslow, of Brooklyn, who has devoted much time to scoliosis, saw this patient before, during, and after Abbott jacket was applied, by invitation of the author. He pronounced it an ordinary fixed curve of mild degree.

My patients have all progressed in the new jackets, the older not so well as some of the later ones, since they formed the habit of relieving discomfort by removing the felt. Abbott never removes felt, but teaches his patients that it is dangerous. He tells them they will have pain and must expect it, as the spine will not go round without it.

I am impressed more and more each day with the careful, painstaking work that has been necessary to perfect this technique, and the importance of the operator being an active worker in spinal gymnastics and plaster of Paris work. Abbott's work will brand as inefficient and harmful many mechanical appliances, braces, and exercises, now in use. He rightly considers the reduction of severe cases to rank in importance with major operations. With two assistants and two nurses, it takes from two to three hours to get the patient prepared, jacketed, and off your hands.

Very few realize the complete plant and earnest corps of workers which the State of Maine has furnished in support of Abbott's general work. As he turned over ream after ream of x ray prints of patients treated, I was impressed with the completeness of his work, and as I now view his experience, I consider his discovery to be one of the greatest advances in orthopedic surgery in ten years, and another great triumph for the x ray and American medicine.

346 Lexington Avenue.



Fig. 1.

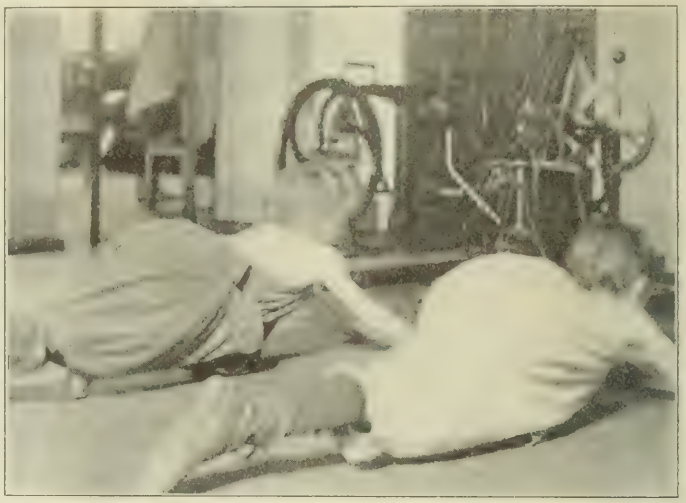


Fig. 2.

Corrective creeping exercises, Doctor Klapp's Clinic.

ROTARY LATERAL CURVATURE UPON THE REPORT OF RESULTS OBTAINED.*

By Charles Ogilvy, M. D.,
New York.

Only the results in rotary lateral curvature with fixed deformity involving bone change will be here considered.

It is not difficult to learn of the different methods of treatment of rotary lateral curvature. The writings of many authors are on record and numerous are the books on this subject.

Curvature due to postural deformity without bone change may be entirely corrected by corrective exercises. A spinal brace is sometimes, though seldom, advisable.

To determine, analyze, and classify the results obtained by different writers is most difficult, and practically impossible. The reasons for this are numerous. Different observers set different standards. In all cases, rather indefinite terms are used to designate the degree of improvement or correction of deformity obtained. Thus we see the following results noted: Improved; much improved; fair amount of correction obtained; lateral deviation almost entirely obliterated; result good; curvature practically cured; no perceptible deformity resulting, etc. A recent writer has even gone so far as to assert overcorrection of deformity in cases of long standing fixed curvature.

When we do not have any specific nomenclature to designate definitely the results obtained, and when innumerable indefinite terms are employed, it can be understood that the report of results upon any given case or cases will depend upon the one making such a report. It must also be admitted that the results recorded by two men upon the same case are frequently dissimilar and do not convey any definite idea of an exact measurable amount of correction obtained. Reports of results are made, in great part, relative to the general improvement of the contour of the deformity, because of the difficulty of accurately measuring the changed relation of the bones involved.

True it is that there have been a number of devices for the measuring and recording of both the lateral deviation and the amount of rotation of the several vertebræ involved, but these have not proved to be entirely satisfactory. Photographs are of greater value. These too, however, are often deceptive. It is wise before forming conclusions of results obtained by photographs presented in evidence, to know the man behind the camera.

A severe case of fixed scoliosis can very easily be

*Read before the New York Academy of Medicine, Section in Orthopedics, March 15, 1912.

temporarily exaggerated by an additional postural deformity for the purpose of taking a photograph of the case before treatment. This same case may again be photographed at some later date for an after treatment picture, when by muscular effort and momentary postural correction, an apparent cure or exaggerated improvement is portrayed. Such photographs, being deceptive, are worse than useless, and in such cases do not represent honest records.

Again, it sometimes happens that one who is keenly enthusiastic about some particular course of treatment, either consciously or unconsciously exaggerates the report of improved or corrected cases.

Another reason why so little real value can be placed upon the reports of results obtained, is because the cases in which good results have, at one time, been obtained are liable to relapse, and such relapses are not recorded. The patient seldom returns to report in subsequent years, and thus the cases reported upon represent immediate rather than final results.

Rarely are we asked to examine a patient of over forty years of age for rotary lateral curvature. Much more rarely is such an examination made by the physician who has treated the case in childhood, at which time the scoliosis primarily developed.

The treatment of rotary lateral curvature is, practically speaking, the mechanical correction of deformity by force. This force may be applied by the patient, by muscular effort, or by means of a corrective spinal brace, or both. Corrective exercises, in addition to the use of a corrective spinal brace, give the best results. Corrective exercises alone are not sufficient to retain correction or improve the condition further than benefiting the amount of deformity due to malposture. This, you are again reminded, is relative to fixed, rotary lateral curvature.

Figures 1 and 2 are photographs taken by the writer, of patients in Doctor Klapp's clinic, by his courtesy, demonstrating the creeping exercises emphasized by him. These creeping and corrective exercises relax the muscles of the spine and improve the general condition of the patient, but *do not result in holding any true correction of the bone deformity.* To do this a spinal brace is essential in addition to these exercises. Speaking generally, results sought for are:

1. The correction of the standing postural deformity of shoulders forward and abdomen protuberant with an accentuated lumbar lordosis. (See Fig. 11.)

2. The correction of the lateral deviation of the spine, associated with the leaning of the body in the same direction. (See Figs. 3, 7, and 12.)

3. The correction of the rotation of the vertebræ with the associated malposition of the ribs. (See Figs. 5, 7, and 13.)

L. D., age fifteen, plaster of Paris jacket applied in flexion.



FIG. 3.—Before treatment.



FIG. 4a.—After six months' treatment.



FIG. 4b.—After six months' treatment. Spinous processes outlined.



FIG. 5.—Before treatment.



FIG. 6.—After six months' treatment.

L. P., age fifteen, plaster of Paris jacket applied in flexion.



FIG. 7.—Before treatment.



FIG. 8.—After six months' treatment.



FIG. 9.—Before treatment.



FIG. 10.—After six months' treatment.

To obtain these results the writer has used during the past ten years corrective spinal exercises in conjunction with:

1. The plaster of Paris corset, applied in suspension.

2. The aluminum corset, the cast for which is made with the patient in suspension as for a plaster of Paris corset.

3. The Van Winkle corset—a canvas and steel corrective corset.

During the past six months I have also used in a number of cases the plaster of Paris jacket applied in flexion—a method recently exploited by Doctor Abbott.

During the past month, by the courtesy of Dr. Ansel G. Cook, of Hartford, the writer was invited to see a corrective plaster of Paris corset, which has as its original feature a canvas belt within the corset drawn snugly over the convexity of the curve. The ends of this belt are passed out at the opposite side of the corset, through an opening five inches in length and four inches in breadth. One end of this belt is drawn around over the front of the corset, the other out and around over the back of the corset. The ends of the belt are then tightly buckled together outside the corset by means of straps and buckles. An opening is also cut over the convexity of the curve, through which the amount of pressure exerted by the belt against the deformity can be gauged and the amount of correction determined.

This corset is presented to you here this evening. It is too soon to report results from its use, but it certainly appears to be one of the most efficient corrective spinal supports yet devised. One of its most commendable features is its very reasonable cost. This gives it a place in our clinic practice, from which some other efficient corsets are necessarily excluded on account of their expense.

The results obtained by the use of the simple plaster of Paris corset are so much less satisfactory than those obtained by the other corrective spinal braces here enumerated, that the writer now seldom employs it.

With the Van Winkle corset and the aluminum corset in conjunction with corrective spinal exercises, the following results in a given case are obtainable:

1. The general condition of the patient is improved.

2. The anteroposterior postural deformity is corrected.

3. The lumbar lordosis is corrected.

4. Lateral deviation of the body is corrected.

5. The lateral deviation of the spine is improved, *but not corrected, except in earlier cases. When we see a marked improvement of the primary curve in its lateral deviation, it is often at the expense of a secondary curve elsewhere in the spine.* (See Figs. 4a and 4b.)

6. The rotation of the vertebræ may be improved, *but not corrected.* (See Figs. 5, 6, 9, and 10.)

7. *The reversing of the lateral deviation with rotation to the opposite direction has never yet been accomplished,* nor, in the writer's opinion, has it been possible to eliminate rotation after it is once established.

The results obtained by the use of a plaster of Paris jacket applied in flexion with additional corrective felt pads against the deformity, as demonstrated, have been very satisfactory in that we have been able to obtain the several results enumerated above in a shorter time (six months) than by other methods of treatment, with the exception of those cases presenting a high dorsal primary curve.

Each individual case presents such a complex study in resisting forces, and presents, each one, its own peculiar form and degree of deformity, that the final results will necessarily depend entirely upon the original condition before treatment was begun.

The best results naturally follow upon the treatment of such cases as have not progressed to the stage of rotation; and *if the general practitioner*

R. W., age fifteen.



Fig. 11.—Anteroposterior postural deformity. Typical case.



Fig. 12.—Beginning lateral deviation.



Fig. 13.—Showing torsion.

would but recognize the earliest symptoms of lateral curvature, which are invariably foreshadowed by the anteroposterior postural deformity already referred to (see Fig. 11), *these cases would be referred to us at a time when we could give a most excellent prognosis. This,* in my opinion, *is what is happening much more frequently than was the case a few years ago.*

For this reason, patients treated in our offices offer much better results than the average clinic case.

Conclusion.

In conclusion, the writer emphasizes the fact that the very best results obtained in cases of rotary lateral curvature with fixed deformity are those enumerated above.

1. That the correction of the lateral deviation of the primary curve is made at the expense of a compensatory secondary curve.

2. That the rotation of the vertebræ, though in some cases improved upon, is not corrected.

3. And, that these facts are substantiated by the cases here presented, *the general improvement upon which is most apparent.*

4. That the reports of results with illustrations asseverating more than can be proved or substantiated are misleading and dishonest.

40 East Forty-first Street.

EXAGGERATED LORDOSIS IN THE ADULT.*

By John Joseph Nutt, M. D.,
New York.

Much has been written during the past few years regarding the mechanical causes of chronic backache, sacroiliac strain, and ptoses of the abdominal and pelvic organs and their relations to a variety of symptoms for the relief of which the patient consults either the orthopedic surgeon, the gynecologist, the general surgeon, the neurologist, or the internist.

The progress of the condition is usually so insidious that at the time the physician is consulted, the symptomatology is oftentimes a much tangled skein, out of which it is difficult to find the thread which leads to the primary etiological factor. It is easy to find something sufficiently wrong to account for the general condition; but it is another matter to be certain that that particular abnormity is not itself dependent upon some other which is likewise present.

An exaggerated lordosis, a chronic backache, a retroflexed uterus, and a displaced kidney may all be present in a patient who has chronic indigestion and an unstable nervous system. In such a patient the condition or disease which is given the precedence in treatment is likely to depend upon what subject the consultant feels himself to be the most expert. However, as modern specialism is broadening rather than narrowing to the diagnostician, the patient receives, in addition to the treatment directed to the special organ, such wholesome advice that perfect health may be restored without the possible causes having been arranged in their proper sequence. Yet there are cases in which this happy result is not attained, and it is with the idea of suggesting as, possibly, of the first importance, one of the conditions hitherto ranked only as a complication, that I have prepared this paper.

The gist of my paper is that this lordosis is caused in many cases by weakness of the abdominal muscles.

Exaggerated lordosis may be present in children, but we shall limit ourselves to adults. And we shall further limit ourselves by leaving out of consideration lordosis due to congenital dislocation of the hips, to limited extension of the thighs from whatever cause, and the lordosis due to compensation for a kyphosis or scoliosis in the dorsal region.

Figure 1, after Staffel,[1] illustrates the normal situation of the transverse vertical plane of the body containing the centre of gravity. The least possible muscular effort is necessary to maintain this position, and therefore the joints are in their best position to support the erect posture. If for any reason there is flexion or extension of any of the weight bearing joints, a compensatory movement must take place in another joint or joints, in the opposite direction, to preserve this equilibrium, or else there must be increased muscular and ligamentous action.

By arranging a support with books or a box, at the side of, and level with the platform of a scale, and standing with the heels on this support and the fore part of the foot on the scale, it may be demonstrated how unstable is this plane containing the centre of gravity. A nod of the head, the raising of an arm, even a deep inspiration is sufficient to cause a fluctuation of this plane, as is shown by the movements of the scale arm. So that, were all the supporting joints, ankle, knee, hip, and the spinal joints ankylosed, it would be impossible to keep the body upright without some extraneous aid, such as a cane or a crutch.

This constant alteration of the plane of gravity and the instantaneous shifting of it back to its normal position are done involuntarily by the skeletal muscles.

Leaving out of consideration all joints except those between the dorsal region of the spine and the hip joints, I wish to draw your attention to what takes place in this region during these momentary but almost constant alterations in positions. We have here the posterior lumbar, the psoas, and the abdominal muscles. When the centre of gravity is moved forward, the plane in which it lies is drawn backward to preserve equilibrium by extension in the lumbar region. This action must move backward, either the part below the lumbar spine, the hips, or the part above the lumbar spine, the thorax, or both. This extension of the lumbar spine is produced and maintained by the posterior lumbar muscles. If the gravity plane is moved backward, as for instance when a weight is carried on the back, flexion takes place in the lumbar region, produced by the abdominal and the

*Read before the West End Medical Society, February 24, 1912.

[1]This and the other illustrations to this communication are taken from the article by Schulthess in Joachimsthal's *Handbuch der orthopädischen Chirurgie.* Gustav Fischer, Jena, 1905.

psoas muscles, and thus the plane is returned to its normal position. The psoas, however, lies so close to the axis of movement that its action has most of

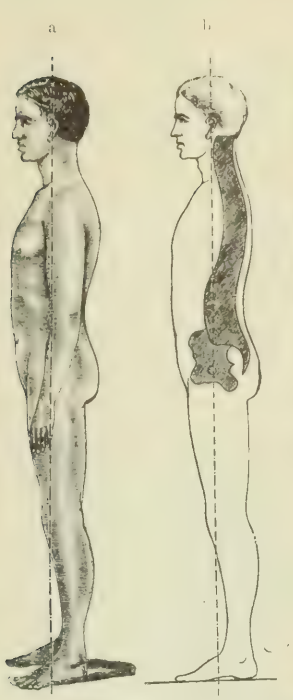


Fig. 1.—Illustrating normal situation of transverse vertical plane of the body containing the centre of gravity.

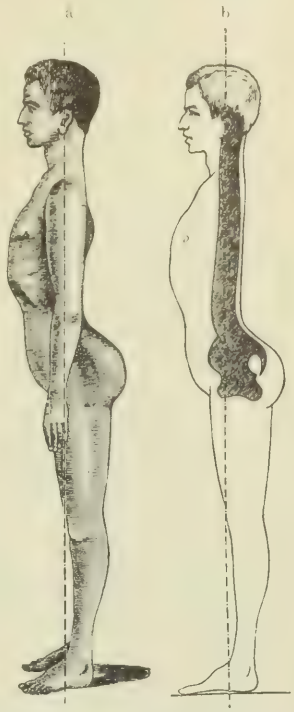


Fig. 2.—Illustrating the support maintained, when the abdominal muscles are weak, by keeping the gravity plane back of its normal position in its relation to the abdomen by increasing the normal anterior curve.

its influence on the hipjoint, and we shall not consider its function in this connection.

When the abdominal muscles are weak, support is maintained by keeping the gravity plane back of its normal position in its relation to this region by increasing the normal anterior curve. The pelvis is tilted downward, increasing its angle of inclination and pushing the hips backward (Fig. 2), or the thorax is moved posteriorly (Fig. 3), or both alterations take place (Fig. 4). With this exaggerated lordosis there is also a tendency to flexion of the sacrum at the sacroiliac joints, the upper part, the base, being moved forward and the lower part backward, on an axis passing through the sacroiliac articulation. Though stability is increased by the assumption of this position, it is not maintained without straining of ligaments and muscular fatigue. The dorsal muscles are in almost constant action, and strain is felt by the anterior common ligament of the vertebræ and the sacroiliac ligaments.

It should be kept in mind that the abdominal muscles are not only flexors of the body at the lumbar spine, but that they decrease the inclination of the pelvis by their contraction and push upward and backward the abdominal organs, lessening the size of the abdominal cavity, and so pressing indirectly on the diaphragm and thus encouraging expansion of the chest through interference with abdominal breathing. With the model in the upright, standing position, it is very easy to demonstrate that contraction of the abdominal muscles flattens the abdomen, reduces the lumbar curve, draws the hips into a more forward position, forces up the chest, and greatly encourages, if it does not directly cause the elevation of the chin.

The spasm of the lumbar muscles and the strain of the spinal ligaments probably account for the nervous irritation which is present in many instances and which may become so continuous as to cause a condition of nervous exhaustion which may overshadow all else. This alteration in the normal physiology of the nerves has been accounted for by interference to the blood supply of the cord by the spasm of the lumbar muscles. This may be caused by constriction of the lumbar vessels as they pass through the muscles and send branches to the cord, or may be the result of an atrophy of these vessels concomitant with the atrophy of the muscles which is present, especially in the severer cases.

As I have noticed a facial expression of anxiety and apprehension in these conditions, when the nervous element was pronounced, which simulated the facial expression seen in an unprotected tuberculous arthritis of the spine, where the spasm is pronounced, I am inclined to think that some arthritis of a traumatic, not infectious, nature may be present, the traumatism being due to constant interarticular pressure.

Last fall I had a patient who had spent six weeks in a sanatorium, most of the time in bed, and had received various forms of water and electrical treatment with little or no benefit, and yet she began to show improvement in the nervous phenomena after a month's treatment, directed to strengthening the abdominal muscles and to obtaining cor-

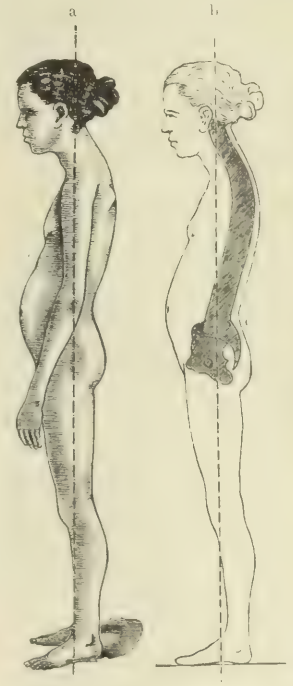


Fig. 3.—Illustrating the support maintained, when the abdominal muscles are weak, by moving the thorax posteriorly.



Fig. 4.—Illustrating support maintained when the abdominal muscles are weak by combining the methods shown in Figs. 2 and 3.

rect body poise by attention to the footwear and to the corset. I might add that in that case the spasm of the lumbar muscles was marked, and that when they began to relax her condition began to improve, and, according to this theory, the return of strength to the abdominal muscles relieved the spasm of the lumbar muscles and thus relieved the general nervous condition. But I admit that other deductions might, perhaps, equally well be drawn.

The cause of this weakness of the abdominal muscles, which I am inclined to believe the primary factor in a large number of instances, is, in my opinion, nonuse. This nonuse is attributable to pernicious habits and to improper clothing. Sedentary habits and frequent assumption of improper attitudes, which do not call these muscles into use, must weaken them. Nonuse also encourages the deposit of adipose tissue in the abdominal walls, and this further tends to weaken the muscles and also brings the plane of gravity still further forward, so that the buttocks, or the shoulders, or both, may be forced far backward to preserve equilibrium. The improper clothing is chiefly the improper corset. This is generally made so snugly fitting as to prevent movements; the abdominal muscles are thoroughly splinted. Many women are unable to go for even a limited time without their corsets, so weak have their abdominal muscles become. Furthermore, many corsets induce a faulty poise by throwing the hips backward and the shoulders forward, and thus are a predisposing factor toward producing an exaggerated lordosis.

It would seem to be a simple matter to examine a patient and to determine the presence or absence of this condition, but such is not always the case. A well marked deformity with a pendulous abdomen offers no difficulty, and if one sacroiliac joint has become very sensitive, asymmetry of the hips, an apparent shortening of one leg, and a lumbar curve may be evident, but frequently it is only after a most painstaking examination of the lumbar region for evidence of limitation of movement and muscular spasm, and a careful study of the standing position, with a search for the plane of gravity, that a diagnosis can be made.

There are two chief classes of sufferers from this condition, the fat and the lean. The former are generally men and the latter women. Some of these patients are fat women, but I have never seen the condition in a lean man.

Chronic backache is the most constant symptom. It is often the only complaint in the fat subjects, but it may be absent in that class composed of lean women. It is in this class of lean patients that the complicating conditions are the more pronounced, and the basic trouble may seem to be connected with the nervous system, the digestive tract, or the genitourinary organs.

As the pain and irritation may follow any of the nerves of the cauda equina, it may be diagnosticated as a sciatica, a lumbago, or a neurotic or hysterical spine, or it may be referred to the anterior wall or to some of the viscera, as to the appendix vermiformis. In two cases I could account for an irritable bladder in no other way, after an expert uranalysis had revealed nothing and a prominent gynecologist could find no lesion. In one of these cases this was as distressing as any other one symptom.

Gastrointestinal symptoms in these cases can come from two conditions: the ptoses and the nervous irritation. On account of the abundance of fat about the abdominal organs in the fat subjects, they are less likely to suffer from displacements, and I have never seen marked nervous symptoms in these cases, so that we should not expect to find many symptoms attributable to the digestive tract. In the lean patient there are three factors present which contribute to the ptoses; the alteration in the vertical axis of the abdomen, allowing of strain of the ligaments of the organs; the relaxed abdominal walls, and the absence of retaining cushions of fat. With the tipping of the vertical axis of the abdomen, due to both the exaggerated lordosis and to the greater inclination of the pelvis, there is a dragging force created upon the abdominal organs which, according to Goldthwait and Brown, is felt so extensively as to include the cervical fascia. This dragging force must be almost constant and, no matter how slight it may be, must be felt and cause, it would seem, at least some functional disturbance of one or more organs.

We all recognize the possibility of relaxed abdominal walls being a cause of constipation, but whether this muscular weakness can have any further influence, of itself, in causing faulty digestion, I must leave to the physician. It is impossible for me to say whether the digestive symptoms I have seen in these cases were due directly to the ptoses, to the nervous condition, or to the general musculature of the digestive tract being in a weakened state.

There is always a danger of drawing fallacious conclusions in studying a disease or abnormity, especially when it is of rather an obscure nature, and of making it assume an importance which it in no wise deserves. I have heard of a surgeon reading a paper on sacroiliac dislocation in a city at a distance from his home, and in the next few weeks a resident orthopedic surgeon had more consultations in supposed cases of this condition than he had ever had before, and most of them had normal sacroiliac joints. The discussion of the subject before us by our guests and fellow members may, I hope, demonstrate quite clearly just what importance an exaggerated lordosis may bear upon these symptoms and complications, and whether the weakened abdominal muscles may or may not be the primary factor.

Many failures in treating this anterior lumbar curve in fat subjects with pendulous abdomens, are due to overlooking the mechanics of the condition and, with one of the many abdominal supporters, trying to relieve the strain of the fat belly by lashing it to the very object it is straining. A support must have its counterpressure above and below the lumbar spine.

If the pain is confined to one or both of the sacroiliac joints, a tight bandage and the assumption by the patient of a correct poise may be all that is necessary. This bandage should be applied exactly as the blacksmith or any man engaged in heavy work applies a supporting strap. It passes quite low

around the pelvis; it should not reach above the anterior or the posterior superior spines of the ilium, and should reach down to the top of the great trochanter. Adhesive plaster strapping is usually quite satisfactory. It is around this part of the pelvis that a corset should fit tightly, and nowhere else. It will sometimes add to the efficiency of a corset if a belt of webbing is made to fit around the pelvis as described and is then attached to the inner side of the corset at the back and secured snugly in place each time the corset is adjusted. It might be well to draw attention to the evil results which may follow the incorrect application of the abdominal binder after childbirth; the tightest part of the binder should be over the sacroiliac joints, and not over the wings of the ilia, as in the latter position a force will be exerted tending to loosen the sacroiliac joints.

A corset should be fitted with the patient in the best standing position, i. e., head up, chin back, chest raised, abdomen flat, and the pelvis in its normal position, that is, the pelvis must not be tilted downward with the hips thrown back of their normal. Sometimes it is not wise to attempt too great a change from the customary attitude at the beginning as new pains may thereby be excited. The most satisfactory way to fit a corset is to send the patient to the corset maker with instructions as to how long the corset is to be in front and behind, and then have it delivered to your office before any boning is done. With the patient standing as described, the corset is then put on and fitted with pins and the places for the bones are marked with a pencil. The corsets which lace in front are easier to adjust, and by having a special lace for the part below the anterior superior spine this zone may be made as tight as advisable without influencing the part above.

The best exercises for strengthening the abdominal muscles consist in flexing the body to a right angle at the hips, the patient lying supine on the floor or on a table, and the feet being secured by an assistant, or by straps. This exercise should be done with the hands on the hips and the spine held rigid. As improvement is made, the hands may be placed behind the head, which increases the work done. A deep inspiration should be taken before each performance and held during the exercise. At first the exercises should be done at the physician's office and the exact time of day for doing the exercises, as well as the exact number of times they are done, must be carefully prescribed and insisted upon. Six weeks should show some improvement, but they should be persevered in for as many months. Sometimes a badly sprained sacroiliac joint contraindicates these exercises, as the tightening of the hamstrings may cause great pain.

The rest of the treatment is hygienic and must aim at the relief of the symptoms as much as possible.

Great patience is necessary in the severer cases. Discouragement is likely to come to patient and physician alike, with the result that the case falls into the hands of a charlatan, characterized so well by Oscar Commetant as one of those persons who are "not able to achieve possibilities, so they promise miracles."

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Broadway and Sixty-ninth Street.

A PHYSICAL EXERCISE FOR THE CORRECTION OF LUMBAR LORDOSIS.

By William J. Schatz, B. S. in P. E.,
Philadelphia,
Director, Normal School of Physical Education, Temple University; Formerly Instructor in Physical Training at Yale University.

Physical exercises have been used for the correction of certain forms of lumbar lordosis for a considerable length of time, but the results have been marked with indifferent success. There are a number of reasons why the results have not been what might be desired, but, undoubtedly, the chief reason is that those who performed the exercises did not persist long enough, either through neglect or because they lost faith on account of the slow correction. Among other reasons is that many aver that the exercises gave them back-



Fig. 1.—*A*, tracing from a well muscled, strong gymnast; *B*, from a young lady; *C*, from a normal boy.

ache, or that the work encountered was too vigorous. It was with these difficulties in mind that the writer set to working out a method which to him has given most gratifying results; the greatest satisfaction having come through the fact that the exercise employed produced results in a fraction of the time usually required. A general outline of the field of correction follows:

An increase in the physiological forward curve in the lumbar region, known as lumbar lordosis, due to weakness or poor tone of the abdominal muscles, to shortening of the muscles in the lumbar region, and a lengthening of the abdominal muscles, as result of certain activities, or to a compensating effect when round shoulders are present, may come under the province of correction by physical exercises. Lordosis due to Pott's disease, rickets, etc., is excluded. The conditions which may be benefited by physical exercises are found among children of school age, and among athletes and gymnasts who indulge in certain forms of exercise conducive to this condition; indeed, it is often found in strong, well muscled people.

In planning corrective exercises, the fact that muscles tend to assume permanently the position in

which they were tired, or the position which they occupied during work, is borne in mind. The lengthened condition of the muscles of the ditch digger's back, and the permanent semiflexed condition of the fingers of men whose occupations compel them to continually grasp tightly the handle of some tool, are good examples, but the general effects of the exercises employed must not be forgotten in this connection, for exercises which require the holding of a position (postural contraction) are known to expend an amount of energy which far exceeds that used in performing movements employing the same set or sets of muscles; the former kind are, therefore, more likely to tax the vitality. When we realize how few people are able to hold their arms out horizontally sidewise for more than five minutes,

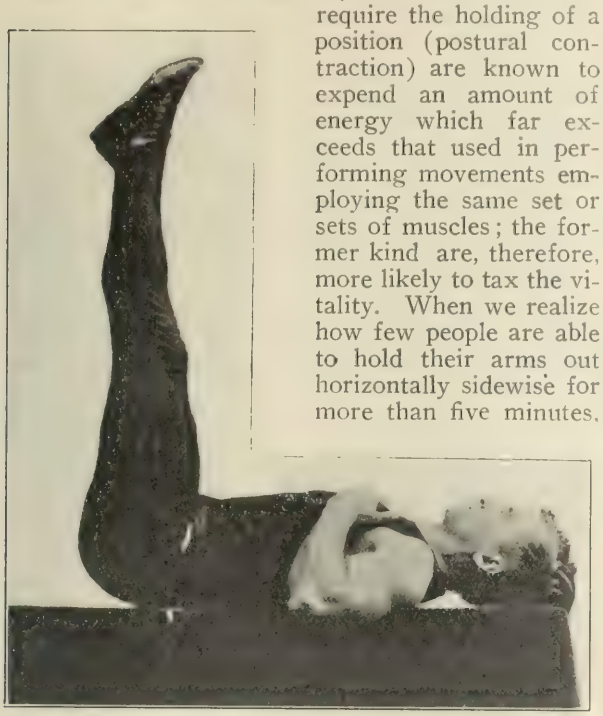


FIG. 2.—This shows the final position of the leg raising exercise in which the performer lies on his back and raises his straight legs to this position and then lowers them again to the starting position. Note the white mark on the table and the one over the performer's anterior spine of the ilium; he motion of the spine gives an idea of just how little the pelvis moves in this exercise and, therefore, as to how little shortening actually takes place in the abdominal muscles. It is not until the legs have almost reached the vertical position that the arch in the lumbar region disappears because the flexors are active until the weight of the legs is practically over the centre of support. The movement takes place in the hip joint.

and that any one can raise and lower his arms to and from the position for long stretches of time, and difference becomes apparent. When this group of muscles involved in postural contraction is a large one, the effect of the exercise is far reaching.

The usual physical exercises for the correction of the variety of lumbar lordosis, mentioned above, are forward bendings of the trunk and abdominal exercises. The bendings are beneficial because they stretch the structures antagonistic to the abdominals, thus giving the latter freer play; the bendings also tend permanently to lengthen the muscles. The abdominal exercises are given with the idea of permanently shortening these muscles so that they will tend to an elimination of the excessive bend in the lumbar region by decreasing the distance between the pubis and the xiphoid appendix. But a study of most abdominal exercises reveals the fact that the movement engaged in takes place almost entirely in the hip joint, the members being approximated by the action of the flexors of the femur on the pelvis (psoas, pectineus, rectus femoris, etc.), and that the abdominal muscles, instead of shortening, are engaged in very vigorous contraction in order to fix the pelvis. This means that the performer will have the effects of strong postural contraction, and that his abdominal muscles, in tending to assume permanently the position which they occupied while at work, will tend to remain practically as long as they were before. Due to the pull exerted on the lumbar region by the flexors of the femur on the pelvis, both directly through the psoas, and indirectly through the other flexors, vigorous postural contraction is called for on the part of the muscles which fix the spinal elements. This results in severe compression of the parts in this region and often produces severe backache. Therefore, the correction to be obtained is likely to be very little and to be brought about very slowly, and the exercises are likely to be unsatisfactory in other respects.

THE NEW EXERCISE.

The exercise referred to above, which has shown results in such a short time that the performers were not inclined to become discouraged or negligent in its performance, is as follows: The performer lies on his back, the legs flexed on the thighs, which in turn are flexed on the pelvis, and the arms are placed at the sides, adducted slightly so as to give support during the performance. The movement to be executed consists in bringing the knees into the armpits, or as near to them as possible, and allowing them to return to the starting position. In order to make the abdominal muscles do all the work, the performers must not swing the legs, but must endeavor to make the abdominal muscles pull the pubis directly upward toward the xiphoid appendix; observe that if the muscles are not sufficiently strong to do the work correctly otherwise, the leg swing is permissible during the first few periods of exercise. The best results are obtained if the performer makes special effort to emphasize the last



FIG. 3.—This shows the starting position for the pelvis lifting exercise; the knees are brought into the armpits, or as near to them as possible, and then allowed to return to the starting position. In this exercise the weight of the legs and thighs is not carried by the flexors of the hip joint, and the abdominals do practically all the work.

stage of the upward pull. The leg should remain flexed on the thigh throughout the entire procedure so that gravity does not come into play by acting through the lengthened lever that would otherwise be made by the extended legs. The exercise is con-

tinued until the muscles are tired, after which a short rest follows; this alternation of work and rest is continued until the exercise has been executed from thirty-five to 100 times for one period. In-



Fig. 4.—This shows the final position for the pelvis raising exercise described in the text; the arms, however, should be at the sides as shown in the starting position; they have been raised here to show the position of the back.

crease in duration of the exercise must be brought about progressively. After correction has been brought about, the exercises must be continued over a sufficient time to overcome former tendencies and make the results permanent.

It will be noticed that this exercise brings the back into the same position as the forward bending exercises do, so that it stretches the structures in the lumbar region and tends to their elongation. None of the strong postural contraction with its effects, or of the extreme lumbar compression with its ensuing backaches is encountered, because there is no pull from the flexors of the pelvis to be overcome by the fixers of the elements of the spine, as in other abdominal exercises. Vigorous concentric

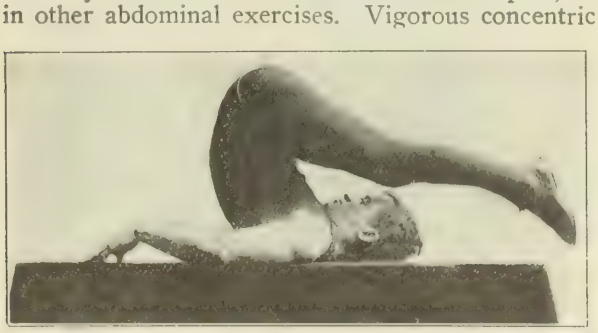


Fig. 5.—If the exercise is performed as shown here the abdominal muscles will be relaxed, the weight being borne by the hamstrings; conscious effort can, however, bring the abdominal muscles into play.

action of the abdominal muscles is required, because they not only pull the pelvis toward the xiphoid appendix by an extreme shortening, but lift it a distance from the floor. The tendency to assume a permanent position will, therefore, be manifested by a considerable shortening of the abdominal muscles and an approximation of the pubis to the xiphoid appendix, thus overcoming an exaggerated curve.

The tracings given here are not to be taken as being those of curves associated with changes in the bony structure, but simply that variety of curve (excepting that shown in C) that generally comes from correction by muscular exercise. Nor must it be taken to mean that the time mentioned to produce the results shown is supposed to be that required to produce permanent results; the time mentioned is simply that required to produce the changes shown by the tracings. Permanent results are brought about only by continuing the exercise over such a period of time as is required to overcome former tendencies, and this must necessarily vary greatly with the different cases. A is the tracing taken from a well muscled, strong gymnast, B from a young lady, and C from a normal boy. The gymnast possessed very strong abdominal muscles, but these muscles were very long. He had done a great amount of the usual abdominal work up to the time he began this exercise; the tracing shows the progress he made in two weeks after starting its use; the results shown in B were accomplished in just seven days; those in C in five days.

THE AMERICAN ORTHOPEDIC ASSOCIATION; ITS ORGANIZATION,

A Reminiscence.

By Newton M. Shaffer, M. D.,
New York.

In a recent issue of the New York *Evening Post* there appears an able editorial article with the title Lowering the Dead Line, which deals with the fact that "Most professions and occupations have had their traditional limit, beyond which there is voluntary retirement, or a forced loss of work." In commenting on this statement, which we all know to be true, the editor further says: "M. Rochefort said cynically that when a literary man or journalist was asked to write his memoirs, that was a sign that he was good for nothing else." It may be taken for granted that the same remark applies to physicians.

At the twenty-fifth annual meeting of the American Orthopedic Association, held in Cincinnati in May, 1911, under the able presidency of Dr. Albert H. Freiberg, the writer was asked by Dr. Virgil P. Gibney, who served as toastmaster at the annual dinner of the association, to address the members present and to "reminisce." I fancy Doctor Gibney had in mind the sentiments expressed by M. Rochefort when he called upon me. I had been, however, previously notified by Doctor Freiberg that I was to be called upon at this dinner to respond to a toast, and I was especially asked to respond in a humorous vein. Thus it happened that I had prepared, in response to Doctor Freiberg's request, in my leisure moments, a series of inconsequent and rather poor "limericks" in which the various prominent mem-

bers of the association were characterized. The reading of these "limericks" took so much of the time I was supposed to occupy in my address, that my reminiscences were relegated to the background and were very brief and general. After the dinner several members expressed a regret that I had not prolonged my reminiscences, and had been less general in my comments. Perhaps those who then wished to hear my recollections of the past history of the association, will pardon me if I now respond to the toastmaster's request, and "reminisce" in this more leisurely fashion.

It would further seem that the toastmaster's request was peculiarly appropriate and fitting, as the writer entered the ranks of the medical profession forty-nine years ago, on May 1, 1863, as the duly accredited student of Dr. James Knight, the founder of the New York Hospital for the Relief of the Ruptured and Crippled. In other words, at the age of seventeen years I left the New York Free Academy—now the College of the City of New York—to become a humble, but a duly accredited and salaried officer of this hospital on the day it opened its doors for the reception of patients. And it was then and there that my studies in orthopedic surgery began.

It is not my intention, however, on the present occasion, to dwell on the five and one half years I spent in the service of the Ruptured and Crippled hospital,—first as its clinical clerk, and supervisor of the apparatus department, etc., and then, before graduation, as the acting assistant resident surgeon; and finally, after graduation, in 1867, as assistant resident surgeon. They were very interesting years, full of novel and valuable experiences, but my experiences during these years must form a chapter of their own, which I hope to present in the future. It seems quite proper, however, that I should respond sooner or later to the oft repeated requests of several of my colleagues of the American Orthopedic Association, and I therefore limit my remarks on the present occasion to the events occurring in the early days of the organization, and to relate, as I remember them, the steps which led to the formation of the association.

It was in the early 80's that the idea took possession of me that a National organization of the orthopedic surgeons of the United States should be formed. As the idea developed, and I reviewed the field, I found, I thought, ample material for such an organization. In Boston there were Bradford, Buckminster Brown, and Lovett; Philadelphia could contribute Lee, Morton, Willard, and Sidney Roberts. Steele and Hodgen would represent St. Louis; Packard from Hartford and Ryan from Cincinnati were available; while New York presented the names of Gibney, Judson, Ketch, Ridlon, Lewis H. Sayre, Reginald Sayre, Stillman, and Henry Ling Taylor,—not omitting the names of Lewis A. Sayre and Charles Fayette Taylor. Between 1880 and 1885 I took the matter up deliberately, consulting with several of my colleagues. The matter was talked over many times also with my assistant staff at the Orthopedic Hospital. But there was always the objection raised that Sayre and Taylor—those eminent pioneers in orthopedic surgery, then living and active in their work—would never harmonize. Their personal relations were very strained. The question arose, Could a National organization of orthopedic surgeons be formed without their support and cooperation? In order to ascertain their views I planned to secure personally the opinion of both of these gentlemen upon this important question. My own relations with Doctor Sayre were not very cordial, but I waived all personal considerations in the interests of the object I sought to attain and called upon him. He received me very pleasantly, but his language as he damned my proposition was far more forcible than courteous. Meeting with Doctor Taylor incidentally, I asked his advice. He gave my scheme no encouragement, and he prophesied that I should fail if I made the attempt to carry out my plan. With these rebuffs I naturally felt discouraged, and it may be easily surmised that no effort was made at that particular time to carry out this scheme. It would seem at that time that any plan would fail without the approval of Sayre and Taylor.

During the foregoing period, I sought also the advice of several prominent general surgeons and physicians in this matter, including Dr. Henry B. Sands, Dr. Charles McBurney, Dr. William T. Bull, Dr. Andrew H. Smith, Dr. Robert F. Weir, and others. By these men, at that time, orthopedic surgery was regarded as a more or less (rather less than more), necessary adjunct to general surgery. They would not admit its right to a field of its own, and strongly deprecated any attempt to form an organization such as I proposed.

So matters went on for a time. There seemed to be no immediate prospect of success. So far as I knew, the subject was either neglected or forgotten. I was not aware of any effort to effect an organization of this nature. But it was in my mind all the time and, when I ventured to talk about it to those who would listen to me, they would respond with an indifferent countenance and a half incredulous smile.

Matters stood this way in January, 1887. I was then chairman of the Section in Orthopedics of the New York Academy of Medicine, my term expiring with the January meeting. I thought the matter over carefully and without consultation with any one, resolved to bring the matter to an issue. On retiring from the chairmanship, and after the meeting had adjourned, I invited all those present to meet at my residence on Saturday evening, January 29, 1887, for the purpose of organizing a National Orthopedic Association. The following is a copy of an invitation I sent out at once to all those who, I thought, might be interested in the subject, both in New York city and in the various cities where orthopedic surgery had a foothold.

Dr. Newton M. Shaffer requests the pleasure of ———— ————'s company on Saturday evening, January twenty-ninth, at eight o'clock, to meet the members of the New York Academy of Medicine.[1]

It will be proposed during the evening to form a National Orthopædic Association.

No. 31 W. 36th Street.

January 22, 1887.

The comments which followed this announce-

[1]The members of the "New York Academy of Medicine" here referred to are the "members of the Section in Orthopedics of the Academy," all of whom were invited.

ment, on the part of those who were familiar enough with me to speak freely, were, on the whole, not very pleasing or favorable. It had taken all by surprise. None seemed prepared for it. The movement was at once dubbed "a fad of Shaffer's." Doctor Gibney told me that he had thought at times of doing as I had done, and some congratulated me on my courage in taking the step. Dr. L. A. Sayre and Dr. Charles Fayette Taylor declined to attend the meeting. Some made no response. It was therefore with some trepidation that I awaited the evening of the twenty-ninth. When I called the meeting to order there were fourteen guests present.

Naturally enough I was made temporary chairman of the meeting, and Doctor Lovett was made secretary. A general discussion followed, the chairman calling upon each gentleman present to express his views. Finally, on due motion, a vote was taken as to the advisability of forming a National Orthopedic Association. Of the fourteen present and participating in the proceedings, ten voted in favor of the object of the meeting, two voted against the proposition, and two abstained from voting.

A resolution that a permanent organization should be created having been made and carried, my name was at once proposed as the permanent chairman on organization. There seemed to be a unanimous feeling that I should serve as such. The meeting had been called on my invitation, without conference with any one. It was a matter to which I had given much time, thought, and attention, and precedence and custom would naturally assign me to the position of being at the head of the organization movement.

But I had other thoughts. My desire was to insure the success of the movement, rather than secure any personal honor in the matter. I had thought it all over before the meeting. I knew that Doctor Gibney, Doctor Ketch, Doctor Roberts, and others had expressed in our conversation on the subject, a desire to see a national organization formed, but I felt that "Shaffer's fad" would perhaps thrive better if it lost some of its marked personality. When the motion was made and duly seconded that I become permanent chairman, and the motion was before the house for action, I withdrew from the chair and asked Doctor Ketch to take my place, ostensibly for the purpose of having some one else put the motion for final action. This formality having been completed, I arose and begged to decline the honor of serving, and nominated Doctor Gibney for the position. This motion, being duly seconded, was carried.

It being the expressed wish of the meeting that I should serve on the committee of organization, I gladly accepted the duty and Dr. Lewis H. Sayre being added to the Committee of Three, the committee went to work vigorously and harmoniously.

That the committee worked with energy is shown by the fact that the first annual meeting of the American Orthopedic Association was held at the New York Academy of Medicine, June 15 and 16, 1887. The list of active members when the first volume of transactions was published was thirty-five, and much to my own pleasure and satisfaction the name of Dr. Charles Fayette Taylor appeared in the list.

At this first meeting there was no president elected. As "temporary chairman, Doctor Gibney made a verbal report concerning the preliminary meetings on organization," Doctor Gibney then "was elected chairman and Dr. L. H. Sayre secretary of the first annual meeting," which was more or less informal. The papers presented were not published until the following year, when the proceedings of the first and second meetings appeared as Volume I of the *Transactions*. The second annual meeting, over which I had the honor to preside, as the first duly elected president, while the second of the association's was also the occasion of the first meeting of the American Orthopedic Association with the Congress of American Physicians and Surgeons.

Following so closely on the organization of the association I regard this alliance of the association with the congress as a very important factor in the growth and development of the association and of orthopedic surgery. It so happened that I held, during my incumbency as president in 1887-88 quite close relations with those who were identified with the organization of the congress, which held its first meeting in 1888. To these friends I submitted, without authority from the Orthopedic Association, a proposition to admit the association to the congress. There was no opportunity to bring the matter, officially, before the association, but I knew, well enough, that the association would be glad, thus early in its history, to be identified with the older and leading special societies of the country. The association was admitted unanimously as a constituent member of the congress. As the delegate to the congress from the association and as the secretary of the executive committee of the congress, I served the association and the congress for several years, with, I hope, benefit to the association and to orthopedic surgery.

It is worth recalling, I think, that this was the first recognition by a National Medical Organization of Orthopedic Surgery.

And what was orthopedic surgery in 1863, when I commenced my studies at the Hospital for the Ruptured and Crippled? I might write a volume on this topic. I will only, however, confine myself briefly to the question—What were the underlying factors which led to the formation of the American Orthopedic Association? Knight, Taylor, Sayre, and Bauer were in the field in New York—which became a centre of great interest in orthopedic work. Buckminster Brown was doing a good work very quietly in Boston. Detmold was still in the field as the disciple of Stroymeyer in the comparatively new field of subcutaneous tenotomy. Bigelow had written his Boylston prize essay on orthopedic surgery. Davis had promulgated his views on the use of traction, by portative apparatus, in the treatment of joint disease, and it was this which brought orthopedic surgery into the foreground, and made New York a sort of "storm centre." The adoption of the Davis principle was accepted by nearly all, except Knight, and its use led to many disputes and wrangles, to controversies and recriminations which reflected only discredit upon those who engaged in this unprofitable practice. There is no doubt about it,—these aggressive New York pioneers were of

the militant type. Questions of priority were bandied about and the era of good feeling was far from present in the discussions which prevailed. Doctor Sayre led the van. He was a good hitter. Taylor gave as good as he received, and from far off St. Louis, Doctor Bauer sent an occasional shot which generally hit the mark. I was unfortunately brought into the field of discussion later on by writing a critical review of Doctor Sayre's work on orthopedic surgery. Davis, as a personality, fell into the background. Knight ("Jimmy" we young men used to call him) pursued the even tenor of his way, unaffected by the clamor about him, irretrievably wedded to his fixed and primitive ideas. But out of all this noise and bustle there came much that was good. An almost entirely neglected class of suffering humanity was receiving the attention it deserved, and scientific means both from a surgical and mechanical standpoint were being applied to the relief of joint and spinal diseases especially.

As a young man, I was an interested spectator and an inconspicuous participator in all this. The views and practice of Davis; the notable and valuable innovations of Taylor; and the great ability and dash of Sayre, attracted the attention of several earnest and able young men, who studied under these two great leaders. Bradford, Gibney, Lee, Judson, Steele, and Willard, all born before 1850, were the active men in the '70's and the '80's, and of this group I was a humble member. With the advent of these men a new era was opened in orthopedic surgery, and it was this group—the second generation of orthopedic surgeons—who paved the way for the development of this important branch of surgery. They made the formation of the American Orthopedic Association possible. The only honor I can claim is that I anticipated, by how much time no one can tell, the action of some other member of this group in taking the steps that I did.

17 East Thirty-eighth Street.

OBSERVATIONS ON THE PRESENT STATUS OF SURGERY FOR CANCER OF THE BREAST.

*Report of Six Cases of Metastasis in the Bones.**

By E. S. Judd, M. D.,
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In classifying tumors of the breast it has been customary to divide them into two groups, benign and malignant. This division has, in a way, frequently prevented making a positive diagnosis in these cases, since it was inferred that it was not necessary to remove benign neoplasms and that operations should be performed only in malignant cases. It is certainly most unreasonable to assume that fibroid and cystic tumors in other parts of the body should be removed, but that such growths in the breast should be allowed to remain. Obviously, it would be better to maintain clinically one class, which would include all tumors of the breast without regard to their pathological nature. From physical examination we can usually diagnosticate a cancer of the breast, but, on the other hand, we cannot say positively that a tumor is not a cancer. So far as we know at the present time, a differentiation other than microscopic cannot be made between a benign tumor and a very early malignant one.

Granting then a single classification for all tumors of the breast, they come under the same line of treatment, and malignant tumors can be treated by radical excision at once, while supposedly benign and doubtful ones can be treated by removal of the tumor alone, followed immediately by radical excision if the growth prove to be malignant. Quite often a positive diagnosis of the nature of the tumor



Fig. 1.—Case I (61,080). X ray No. 13,82[illegible]. Area [illegible] mottled, moth eaten appearance of ilium and upper portion of femur. Not confirmed at autopsy.

may be made from a gross section, except in early malignancy, but in these cases we are never justified in disregarding the microscopic examination.

We are all familiar with the case of mammary tumors of many years' standing, which has recently increased in size or has become painful, or developed attachments to the skin or underlying tissue. While this tumor is now undoubtedly malignant, in all probability it would have been found benign had it been removed early.

Halsted has demonstrated that, if we recognize a malignant cyst and perform the radical excision at once, the case is favorable. On the other hand, if we fail to discover the malignancy before the

*Read before Western Surgical Association, Kansas City, December, [illegible]

wound in the breast has healed, in all probability there will be recurrence, no matter how radical an extirpation is done secondarily.

Abnormal involution or, from its frequent association, sometimes termed chronic cystic mastitis, is a fibroepithelial degeneration. This condition is seen in about twenty-five per cent. of all benign cases of tumor of the breast, in at least seventy per cent. of malignant ones, and it occurs more frequently than any other condition, except carcinoma. Malignant degeneration takes place in from fifteen to twenty-six per cent. of this form of mastitis

portant factor in determining whether or not a tumor is malignant. In Rodman's series of 5,000 cases, nine per cent. of the patients were between twenty and thirty years of age. In a series of 518 cases in the clinic at St. Mary's Hospital, forty-six were between twenty and thirty-five years of age. Two of these were twenty-one years of age.

METHODS OF EXTENSION.

The attempt to solve the problem of the channels by which cancer is disseminated has shown us, not only what tissues must be thoroughly removed, but



Fig. 2.—Case II (43,194). X ray No. 9,708. Arrow points to pathological fracture through the great trochanter. Note the moth eaten appearance. Not confirmed at autopsy.

(John Speese). It is always advisable to consider any doubtful cases of this type as early malignancy and treat them as such.

We formerly believed that over eighty per cent. of all tumors of the breast were malignant in the beginning, but recent reports have shown that thirty to thirty-five per cent. were initially benign. This does not indicate that earlier reports were incorrect, but it does indicate that this difference of fifteen to twenty per cent. is brought about by removing benign neoplasms while they are still benign instead of waiting until they have become malignant.

Cancer of the breast occurs with greatest frequency in individuals between the ages of forty-five and fifty-five years, although it occurs with greater frequency in earlier life than we formerly supposed. Therefore, age can no longer be considered the im-

also that patients with advanced mammary cancer will be more comfortable and live longer if they are left as they are than if they are incompletely operated upon (Gibbon).

Handley believes that cancer originating in the breast disseminates always through the lymphatics in the fascia, and that the embolic theory has been accepted chiefly because there is no proof against it. Embolism is necessarily an impartial process in which all organs are liable and cancer is by no means impartial. The liver is much more frequently the seat of secondary carcinomatous nodules, while the spleen and lung most often show emboli in pyemia. Handley also calls attention to the fact that each variety of primary growth has a special metastatic topography. For example, the breast and thyroid frequently show metastatic growths in bone, while

in 903 reported cases of cancer of the stomach there were no metastatic lesions in bone.

The fact that the femur and humerus are frequently affected and the tibia and radius almost never affected, would seem to argue against the embolic theory, as the terminal vessels which would be most susceptible to emboli are in these distal bones. It has been shown that thrombosis frequently destroys cancer cells invading a bloodvessel, but this same destructive thrombus is not found when these cells invade the lymphatics.

There would seem to be no argument against the fact that the lymphatics are the chief distributors of cancer cells from the breast, but it would also seem that the blood stream does at times play a part in the dissemination. On several occasions we have observed cases in which there was no evident lymphatic involvement and yet a well advanced metastatic growth was present in one or more of the bones. Dissemination through the lymphatics means extension by way of the lymph vessels and glands lying in the skin, subcutaneous fat, deep fascia, muscles, and bones.

The primary lesion is invariably a single focus. From this focus the cancer cells are usually transmitted, first through the lymphatic spaces of the breast, then into the main lymphatic channels, and by these lymphatic channels which lie in the fascia are carried to the glands of the axilla. If the growth is superficial the cells may pass through the lymphatic vessels in the skin and through these vessels come to the axillary glands. At least ninety per cent. of the cases which have any other involvement than in the breast itself would show this extension into the glands of the axilla. Lymphatic vessels pass directly from the breast to the glands above the clavicle. We have never known these glands to become involved until after those of the axilla.

Cutaneous lymph vessels, and probably vessels in the deep fascia as well, pass across the midline to the opposite breast and glands of the opposite axilla. The opposite breast is involved in from ten to twelve per cent. of the late cases. A set of vessels from the deep lymphatics which drain the inner half of the breast perforate the second and fourth intercostal spaces and pass directly to the mediastinal glands. These deep vessels also communicate with the lymphatics of the liver, and invasion of this organ may be explained by reason of lymphatic dissemination. A number of these perforating vessels accompany the bloodvessels to the spine, and through these cancerous elements may invade the spinal column.

It was formerly supposed that muscles were not involved, except by extension in advanced cases. While it is true that they are seldom affected as compared with fascia, at the same time we have had several cases recently in which the lymphatics, penetrating deep into the muscle, were extensively involved.

The frequency with which mammary carcinoma produces metastases in the bones is well known, and it is not my purpose in this discussion to endeavor to show whether this metastasis is brought about by extension through the fascia or by embolism of the blood. The sternum and ribs are the most frequently involved, and this involvement occurs by direct extension. The femur, bones of the spine, and humerus come next in the order of frequency.

A cancerous bone may not produce any symptoms, either subjective or objective. In deciding whether a case of cancer of the breast is too far advanced for operation it is often advisable to have x ray pictures made of the bones most frequently invaded, since it is obviously useless to remove the breast should one of the bones be involved. Sciatic pain may mean involvement of the spine itself or of the bodies of some of the vertebræ, and we should observe such symptoms cautiously in patients presenting themselves for removal of cancerous breasts. On several occasions we have observed this involvement of the vertebræ demonstrated by the x ray in cases in which we were unable to make out any extension through the local lymphatics. These cases, except for the distant metastases,



FIG. 3.—Case III (52,737). X ray No. 11,786. Note that appearance of head of humerus resembles fracture. The moth eaten rarefied appearance is typical to cancer. Not confirmed at autopsy.

would have been considered favorable for operation.

The abundance of the lymphatic drainage from the region of the breast renders it almost impossible to cure malignancy in young individuals, and especially if the breast be lactating. We have observed carcinoma in the lactating breast in many instances, in none of which did the individual live over two years.

TREATMENT.

Within the past two years we have examined 264 cases of carcinoma of the breast. Of this number only 200 were considered operable, and sixty-four were passed as hopeless from the physical examination alone. In addition to these, of the 200 cases that were operated in, there were several cases that would have been refused had we known the extent of the invasion before starting the operation.

Of the 200 cases operated in, six presented lesions in both breasts. Of the sixty-four cases refused, ten showed both breasts invaded. In other words, about one in four cases comes to the surgeon too late. The delay is usually the fault of the patient, though even now we too frequently have instances of "watching" supposedly benign tumors for signs of malignancy. Earlier diagnosis and more accurate knowledge concerning the distribution of the lymphatics have been important factors in the advancement made in the treatment of these cases.

In order to make an early positive diagnosis it is necessary to remove for macroscopic and microscopic examination all supposedly benign and doubtful neoplasms. It is also necessary to make an exploratory incision in cases of mastitis that have undergone recent change in size or character, especially if a nodule has developed or any one area of the mastitis has changed more than the whole breast area. If such a case proves to be one of abnormal involvement, and the pathologist is in doubt as to whether or not it is malignant, it would seem advisable to remove the breast and fascia, including the axillary glands, but not to remove the muscles. This condition invariably appears after the child bearing period, and the conservative excision can be done with very little deformity and no interference with function.

TECHNIQUE.

The technique of radical amputation of the breast has changed but little in the past few years. A large amount of skin, equidistant in all directions, should be removed. It is very seldom necessary to remove enough skin to require skin grafting to close the wound. Recurrences in the skin occur more frequently in cases in which a large amount of skin has been removed, and the fascia saved, than in cases where less skin was taken and a very free dissection of the superficial and deep fascias was made. This tends to show that the skin nodules are developed from extension along the lymphatics in the fascia, and not from those in the cutaneous tissue itself. The most important part of the technique is the removal of a very extensive part of the superficial and deep fascias. This dissection must begin above the axillary structures, include the pectoral muscles and fascia of the axilla, and extend down over the rectus muscle, taking in a part of its fascia. In removing the pectoralis major the fascial excision is carried to the sternum and from there outward to the large muscles of the back. The muscles must be removed, not only because it is necessary to do so to facilitate the axillary dissection, but also because their lymphatics are, at times, involved.



FIG. 4.—Case IV (43,505). X ray No. 9,808. Positive print. Note the moth eaten, mottled areas of rarefication present throughout the entire osseous system, most clearly seen in the hips, pelvis, and left scapula. This appearance is characteristic of bone metastasis. Patient died at home in a distant town some months after these plates were made. No autopsy was made.

The axillary dissection should be an attempt to remove all gland bearing fascia, and not the individual glands. In this way all the groups of glands lying in the axillary space will be removed in the one piece of fascia. If the supraclavicular glands are enlarged it is our custom to excise one under local anesthesia, and if it proves to be malignant no operation is advised, since it is probable that by this time other and inaccessible regions are involved. In cases with supraclavicular involvement in which we have operated recurrence has occurred in a short time.

If there are many skin nodules, or if the integument is brawny and edematous, though the local lesion can be entirely removed, in all prob-

ability there are internal metastases or bone lesions, and the condition is hopeless.

RESULTS.

The functional result after removal of the muscles is better than might be expected. Many patients report that the arm and shoulder are nearly as useful as before. Not binding the arm in the dressing and starting passive and active motion a few hours after the operation seems not only to make a better ultimate functional result, but also to be a large factor in eliminating the number of cases of swollen arm. Without removal of the muscles, the arm and shoulder are as strong as ever. In about ten per cent. of our cases, at some time or other, there has been swelling of the arm, due to a blocking of the lymphatic vessels. This swelling may come after some years. In many instances it persists for years, and, except the inconvenience, gives no trouble. In some cases it passes off with returning use of the arm. In other cases, of course, it may be due to recurrence in the remaining lymphatics.

Though amputation of the breast is an operation of considerable magnitude, it is attended with practically no mortality. Old age in itself is not a contraindication to operation, as old people stand these operations very well. In the 708 cases in which we have done the radical amputation, from January 1, 1890, to November 1, 1911, there were but three deaths. One was from pulmonary embolism on the sixteenth day, and two were from late infections, one in the third, and one in the fourth week.



FIG. 5.—Case IV (43,595). X ray No. 9,808. Positive prints. Note the moth eaten, mottled areas of rarefication present throughout the entire osseous system, most clearly seen in the hips, pelvis, and left scapula. This appearance is characteristic of bone metastasis. Patient died at home in a distant town some months after these plates were made. No autopsy was made.

PROGNOSIS.

The prognosis as to the probability of a cure in a case of carcinoma of the breast will depend, 1, on the length of time the neoplasm has been developing; 2, on the degree of outlying involvement; 3, on the activity of the gland, which will be determined by the age of the patient and the relation to a period of lactation; and, 4, on the thoroughness of the removal of the gland bearing fascia.

DATA COLLECTED ON 518 CASES OF CARCINOMA OF THE BREAST
From January 1, 1890, to January 1, 1910

Average age	55 years, 6 months
Oldest[1]	75 years
Youngest[2]	21 years

[1]Had history of 6 years tumor of breast; is alive and well nearly 3 years.

[2]Two cases; one of these had history of 4 years tumor before operation and is alive and no recurrence 2 years after operation.

Number of cases operated in over 10 years:

Alive and well	21 (23.5%)
Dead	23
Not heard from	45
Total	89

Number of cases operated in over 5 years:

Alive and well	74 (30%)
Dead	76
Not heard from	89
Total	239

Number of cases operated in over 2 years:

Alive and well	[illegible]
Dead	134
Not heard from	[illegible]
Total	[illegible]

A brief history of the cases from which the radiographs were made is appended:

CASE I (61,086). Mrs. F. J. D., female, aged forty-four years. Consultation November 11, 1911. Married eighteen years. Seven children; youngest, twins, two years of age. Menses regular until within the past three months. Up to February, 1911, patient was in perfect health, then began to have pain in right hip when walking. Pain more severe in damp weather. No pain when at rest. Condition gradually grew worse until in September, when she became unable to walk because of pain and weakness in the right hip. Pain also in back with motion. Examination revealed small hard tumor size of walnut in right breast which patient said had been present one year; nipple adherent, tumor movable. Dorsal spine rather [illegible]

tenderness. Movement good. Urine negative. X ray showed metastasis to right ilium, fourth lumbar vertebra, and right hip. Diagnosis: carcinoma of the breast. Operation November 14, 1911. Excision of tumor from right breast for diagnosis. Pathological diagnosis: carcinoma.

Case II (43,194). Mrs. C. D. H., female, aged fifty years. Consultation, September 9, 1910. Married; four children; oldest twenty-one years, youngest nine years. Right breast removed for carcinoma three years previously. Patient remained well until November, 1909, when she began to have pain in left hip, knee, and ankle, which was diagnosticated as neuritis or sciatica. In March, 1910, an abscess formed on inside of the thigh, which broke and drained until the following May. In May, while taking a step up, she was seized with severe pain in left hip, thigh, and knee. She remained in bed one month and was then able to bear slight weight on leg, although not able to walk. Examination: Great shortening of left thigh with swelling at hip joint. Leg freely movable. Urine and feces negative. X ray plates showed porosis head, neck, and upper one third of femur, with fracture just below trochanter. Diagnosis: Fractured femur, probably carcinoma secondary to cancer of breast.



Fig. 6.—Case V (60,474). X ray No. 13,676. Note the mottled, moth eaten appearance of bodies of lumbar spine. The appearance is characteristic.

Case III (52,737). Mrs. G. O. B., female, aged fifty years. Consultation, May 6, 1911. Mother and grandmother had cancer of the breast. Two children; age of youngest twenty-four years. Menopause two years previously. Carcinoma of the breast removed six years ago. Twelve years ago she fell and struck right arm; pain and swelling followed and she was unable to move it; after one to two months' treatment, movement returned and in four months the arm was all right. Nine months ago slight weakness was noted in the arm and three months later severe pain developed (more often at night). For past six months she has been unable to raise her arm. No fever. No loss of weight. Examination: Patient well nourished; cervical glands enlarged; hemoglobin eighty-five per cent. X ray showed metastatic carcinoma of the head of the humerus. Diagnosis: Recurring carcinoma of right humerus, superficial fascia and glands (primary in breast six years ago).

Case IV (43,595). Mrs. Wm. G., female, aged forty-six years. Consultation, September 20, 1910. Married; five children; one miscarriage. Amputation of the right breast for carcinoma in 1905. Diabetes. Two and a half years ago she had an attack of fever with chills, cough, short breath, and pain through chest. Sick for several weeks. Occasional cough and fever since then. Two and a half years ago she began to have pain in joints on motion; condition gradually worse; joints swollen and tender. Stiffness in back for several months. For past five months had had foul smelling, green, thin discharge from vagina. Appetite good. Bowels constipated. Urine negative. Loss of weight last two and one half years forty pounds. Examination: Nodules in skin of face and front of chest, thickening with skin attachment in left breast and left axilla. Right supraclavicular glands involved. Rigidity of spine. Dulness base of lungs posteriorly. Dulness in right lung anteriorly. Limited respiration. Heart rapid. Liver enlarged. X ray examination showed general carcinoma of the entire osseous system (?). Diagnosis: Secondary carcinoma of the breast Inoperable. Patient died at home some months after examination and no autopsy was made.

Case V (60,474). Mrs. H. W. S., female, aged forty-two years. Consultation, October 24, 1911. Married; two children; no menses since April, 1911. Tumor removed from left breast, September 26, 1910. No local recurrence, but when she got up she dragged left leg, and has had pain irregularly in legs, arms, and back since then. In May, 1911, she began vomiting and has vomited several times daily ever since. Able to walk a little up to about three weeks ago; bowels constipated; tendons drawn up with pain; lost sixty pounds in weight the past year. Examination: Heart negative; examination of lung unsatisfactory; abdomen resistant; tender area right upper quadrant. Pelvis negative. In right breast a mass the size of a goose egg. No glands. X ray diagnosis: advanced carcinomatous growth. Diagnosis: Carcinomatosis; spine involved secondary to carcinoma of the left breast.

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A PLEA FOR A REFORM IN UNIVERSITY EDUCATION.

By Edmond Souchon, M. D.,
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When a student leaves the university, it is amazing the number of things he butts against in life of which he has never been told anything. It is equally remarkable how many things he realizes have been taught him for which he finds no use.

We read that presidents of universities and others deplore the fact that students do not take in the university course the interest that they should; that a great many take the course because a certificate or a degree is imperatively needed for the ulterior purpose of earning a living, or because it is a part of the thing to do to be well considered; but that they attend to their studies in a half hearted sort of a way. We know that all this is true.

I read somewhere that Bismarck said that two thirds of the university students in Germany do not amount to much, for some reason or other, but that the other third ruled the Empire.

My estimate of students here and abroad, where I have lived with them for ten years, is that twenty-five per cent. are clever and studious, twenty-five per cent. are clever but not studious, twenty-five per cent. are studious but not clever, and twenty-five per cent. are neither clever nor studious. The

majority of them would buy their diploma if they could. I take this to be irrefutable proof that some reform is sorely needed.

It is the eternal question all over the educational world as to what should be taught, and what should not, and how much of each should be taught. We should ever bear in mind the precept of Kant, to lecture to the average student. The dullards will not be improved by the lowering of the standard, and the clever one will always come out ahead.

To my mind, university education should fit the young to enter the world with open mind and open eyes, able to form a clear conception of the things they meet at every turn, just as a professional education later on should train them first and above all to do the most of that profession in a practical and efficient manner. University education should be universal. If it is true that one of the great benefits of a university education is not so much what one remembers, as to know how to find knowledge when knowledge is needed, then the idea that a university education should be universal is surely the correct and sound one.

The time is past when any one can be thorough in everything.

I thoroughly appreciate that the great benefit of a university education is the training of the mind, but I think that the mind can be trained as well by enlarging the field of knowledge as by limiting the field, and spending the same amount of time on details which tire out students.

I am of the opinion that the courses should be limited to general principles and to elements. For instance, the study of languages should comprise succinct lectures on their classification, origin, evolution, beauties, difficulties, and uses; the same with the various branches of mathematics and so on for all the other branches now taught in universities. A deeper consideration of each study to be a matter for special study when the university course is over, for those specially interested.

The time thus saved should be employed in giving instruction in branches of knowledge of which students are now totally ignorant; for example, the Constitution of the United States, laws in general, architecture, painting, music, anatomy, medicine, etc. None but the elements and guiding features should be considered, but in such a manner that when a student spoke on such matters, it might be evident to an expert that he was not deeply trained but what little he might be able to say would be correct and exempt from errors and absurdities such as we now so often hear from even intelligent university graduates. To speak of a branch with which I am more familiar, anatomy, I am satisfied that in about twelve or fifteen lectures, of an hour each, I could so impart to an ordinarily intelligent class enough sound ideas on the composition and functions of the human body that they would have a clear conception of the matter.

A great deal of a natural synthetic turn of mind, tact, special aptitude, and judgment as teachers would be absolutely necessary on the part of those intrusted with the task of writing each textbook, so as not to say too much, yet enough, of the right kind and clearly. Those books should be studied by the students, who should be quizzed on their contents. Teachers should adhere closely to those books written by men of exceptional ability, discernment, and clearness.

I do not think professional presidents of universities or the professors, or purely college men, are altogether the right judges to pass upon those questions of reform, because, living in their special world, their mind is so cast or bent that they do not see the other side. There should be with them men who, although conversant with university work and spirit, have mixed with the outside world and men of all kinds of station, physicians, lawyers, financiers, merchants.

Such a university course should be completed by the age of twenty years, when students should begin their special work, professional or other, and be equipped and graduated at twenty-four or twenty-five years of age to earn a livelihood.

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A SHORT OUTLINE OF THE MEDICAL CAREER OF MAITRE FRANCOIS RABELAIS.

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The object of the following article is to correct certain errors which have been current relative to the medical career of Rabelais, and to offer some new light on this question. In a paper published in the January, 1905, issue of the *Medical Library and Historical Journal,* entitled The Medical Side of Rabelais, I pointed out the great medical erudition of this famous man, so that no mention of it need be made here. After having passed fifteen years, in other words, his entire youth, in monasteries, Rabelais, exhausted by the secular life, sought to complete his already extensive scientific knowledge, and, strong in experience acquired by long reading of the treatises then to be obtained, he first thought of medicine. His unusually great mentality made him profoundly learned in philosophy, theology, mathematics, law, music, geometry, astronomy, and to a certain extent he combined within him painter and poet.

However, as the science of nature was the most to his taste, he decided to devote himself entirely to it, and for this reason he went directly to Montpellier. This city was then (1530) at the very height of its glory, its renown extending far and wide, and the learned world saluted with veneration the *alme, inclyte et doctissime* Faculty whose teachings were law. Although Paris attracted the learned from the North, Montpellier was visited by the most famous doctors of Italy and Spain; the university possessed its privileges, rights and domains, while the corps of students was in no way inferior in number to that of the French capital.

Rabelais must have been forty-seven years of age when he came to mix with the student body of Montpellier, if 1483 is accepted as the year of his birth. His registration, which may still be seen on the register in the archives of the Faculty, is as follows : *Ego Franciscus Rabelaesus Chinonensis*

diocesis Turonensis, huc adtuli, studiorum medicinæ gratia, deligique mihi in patrem egregium dominum Joannem Scurronum, doctorem regentemque in hac alma Universitate. Polliceor autem me omnia observatorum, quæ in prædicta medicinæ Facultate statuuntur, et observari solent ab iis qui nomen bona fide dedere, Juramento, ut moris est, præstito; adscripsique nomen manu propria, die decima septima mensis septembris, anno Domini millesimo quingentesimo trigesimo.—F. Rabelaesus.

Written on the margin in another hand are the words *Solvit tres libras,* so it is evident that Rabelais paid for his registration. This was, in reality, only a payment on account, because in the *Liber procuratoris studiorum,* the following is found inscribed: *Franciscus Rabelaesus diocesis Turonensis solvit, die 1a decembris, 1530, unum aureum.* The autograph is that of Rondelet, a famous professor of the time, who was elected the students' procurator on October 18, 1530, a position he held until May 2, 1531.

There is a legend relative to the arrival of Rabelais at Montpellier. Eugène Noël relates that on the day he first came to the Faculty, Rabelais took part in a botanical discussion which was so successful that it was a real triumph for him, and Louis Barré adds that this ovation resulted in his obtaining his degree of bachelor one month later. There is no mention of this in the archives of the library of the Faculty of Medicine, there being only the certificate of his baccalaureat, expressed in the following terms: *Ego Franciscus Rabelaesus, diocesis Turonensis, promotus fui ad gradum baccalaureatus, die prima mensis decembris anno Domini millesimo quingentesimo trigesimo, sub reverendo artium et medicinæ professore magistro Joanne Scurrone.*—F. Rabelaesus.

Rabelais remained at Montpellier during the end of 1530 and a part of 1531. During this period he was a candidate for the license, and, therefore, was obliged to deliver public lectures, which lasted for three months, before a large audience. Each student of the school was obliged to submit to this rule. Rabelais commented the *Aphorisms* of Hippocrates and the *Ars parva* of Galen. Being the possessor of a very valuable Greek manuscript, he was able to correct the texts falsified by the commentators who had preceded him, and he thus rectified many mistakes which had entered into the works used in the every day teaching. He himself has very clearly explained these facts in the dedication to the Bishop of Maillezais, which is at the commencement of the *Aphorisms,* published by him at the press of Sébastien Gryphe, in July, 1532. Here is the text:

Quum anno superiore Monspesuli aphorismos Hippocratis, et deinceps Galeni artem medicum frequenti auditorio publice enarrarem, artistes clarissime, annotaveram loca aliquot in quibus interpretes mihi non aducodum satisfaciebant. Collatis enim eorum traductionibus cum exemplari graecanico, quod, praeter ea quae vulgo circumferuntur, habemus vetustissimum, liberisque Ionicis elegantissime, castigatissimeque exaratum, comperi illos quam plurima omisisse, quaedam exotica et notha adjecisse, quaedam minus expressisse, non pauca invertisse verius quam vertisse. Id quod si usquam alibi vitio verti solet, est etiam in medicorum libris piaculare.

It was also at this time that Rabelais took part in a comedy, an allusion to which he makes in the XXXIV chapter of the *Tiers-Livre,* when he causes one of his heroes, addressing Rondibilis, to say: *Je ne vous avois oncques puis vue que jouaste à Montpellier avec nos anticques amis Ant, Saporta, Guy Bourguier, Balthazar Noyer, Tolet, Jean Quentin, François Robinet, Jean Perdrier et François Rabelais, la morale comédie de celuy qui avoit epousé une femme mute.* A most excellent piece, with which for that matter the immortal Molière was thoroughly inspired when he wrote *Le médecin malgré lui.*

This stay at Montpellier was interrupted by trips to the islands of Hyères, where Rabelais went to complete his herbal of medicinal plants, which suggested to him the idea of entitling himself as the *Colloier des îles Hyères* at the commencement of the *Tiers-Livre.* Some biographers state that, during the year 1531 or, perhaps, in 1532, Rabelais was sent as deputy to Paris to request the chancellor Duprat (who died in 1535) to reestablish certain privileges of the Faculty which had been without reason abolished. If we are to believe Astruc, Rabelais could not have been sent on this mission, for the very good reason that the Faculty had had no privilege taken from it.

From Montpellier, Maître François came to Lyons, where he was connected with the hospital at the commencement of 1532, where he was to look after the patients, with a salary of forty pounds *tournois* a year. Rabelais is, consequently, the oldest hospital interne whose name has been handed down to us. At this time he published the *Aphorisms* and the *Ars parva,* and also dissected the body of a hanged criminal in the presence of a numerous audience, a feat which was recorded by Etienne Dolet in a Latin poem which has remained celebrated.

This dissection had a very great importance at this time, when the Faculty of Montpellier congratulated itself in having at its disposal two cadavers of executed criminals yearly. Hippocrates and Galen, the ancestors of medical science, had never dared to lay their hands on a human cadaver and limited their anatomical studies to animals; and, in 1556, in the days of Vesalius, Charles V demanded of the theologians of Salamanca "if it was permitted to Christian physicians to dissect the human body?" While Felix Platter describes in his memoirs[1] a nocturnal expedition, during which he, with other students, went to steal a body buried that same day in the cemetery of Saint Denis at Montpellier. This *equipée* was certainly most dangerous when one recalls the penalties of the period.

After a trip to Rome, Rabelais returned to Lyons in 1534, in April or May. He still retained his position at the hospital, but having been absent on two occasions at the beginning of 1535 without having asked permission of the hospital authorities, he drew upon himself the thunder of the bureaucracy. The directors of the hospital, who at this time were called "councilor rectors," united in a solemn meeting to consider the case of the delinquent, and as Maître François did not announce his return, his

[1] Cumston, Charles G. *A Brief Account of Felix Platter, with Extracts from His Memoirs.* An address delivered before the Book and Journal Club of the Medical and Chirurgical Faculty of Maryland, Baltimore. *Johns Hopkins Hospital Bulletin,* April, 1910.

position was revoked and filled by one Pierre Ducastel, nominated in the place of *François Rabellays, médicin, qui s'est absenté de la ville et du dict hôpital sans congé prendre pour la deuxième fois.*

In 1536, Rabelais returned to Montpellier to take his last university degrees. His certificate of license has not been found in the archives of the library of the Faculty, but Germain has discovered an act showing the payment of the sum necessary for this examination. The payment was made on April 3, 1537. As to the license itself, its act cannot exist at the Faculty, because the thesis was upheld at the church.

The next month Rabelais was doctor, and, May 22, 1537, he put on his scarlet robe and cap of black cloth, set off with red, which custom has been perpetuated at the Faculty of Medicine. I will here reproduce the lines that he wrote on this occasion in the Book of Acts of the University.

Ego Franciscus Rabelaesus diocesis Turonensis suscepi gradum doctoratus sub D. Antonio Gryphio in praeclara medicinæ Facultate, die vigesima secunda mensis maii, anno Domini millesimo quingentesimo trigesimo septimo.—RABELAESUS.

Rabelais did not leave Montpellier immediately. The procurator in charge received from Schyron, professor, *un écu d'or* as an honorarium for an anatomy interpreted by Rabelais. But in 1538, he left forever the city where for seven years he had been inscribed as a student, from 1530 to 1537.

In spite of the diversity of his occupations and the agitation of his life, Rabelais never forgot the old Faculty, where he went as a student when over forty years of age. Medicine, which had tempted him and directed his steps to Montpellier, continued to smile on him, and in spite of his travels, in spite of the many persecutions of which he was the object, patients never regretted having followed his advice.

Rabelais remembered that he owed something to the people among whom he had been born and to the students among whom he had lived. His language shows it, his philosophy still more. A true *Pan-ourgos,* having learnt everything and retained all; speaking Greek, Latin, and Hebrew, having gone to the foundations of the teachings of visible things, and endeavoring to clear away the darkness in which science still slept, he retained an indelible impress of his medical studies, a particular character which is exhaled throughout his works. Everywhere in the mysterious épopée of Pantagruel, wherein sleeps the picture of his epoch, and whither we go to revive an age that has disappeared, everywhere one instinctively feels that the physician is there behind the mocking and broad tongued narrator. The entire work betrays the hand of the physician who wrote it, and if the dissection of souls succeeds as well with Rabelais as that of cadavers, it is because the methodical mind which guided him in the amphitheatre did not desert him when he became engaged in literary pursuits.

Rabelais was afterward a salaried physician at Metz, with a pay of 159 pounds a year, and later, when he obtained the vicarage of Meudon, he lived a very edifying life, receiving and teaching in his house, opened to all excepting to women, caring for the unfortunate, curing the sick, more physician than ever, as is attested by the inscription that he had placed on the door of the presbytery:

Cordiger et medicus dein Rector et intus obivi:
Si nomen quaeris, te mea scripta docent.

The last words of Rabelais confirmed his life and what his works had already proclaimed, the irony and scepticism of a child of the people in face of the gorgeous greatness of royalty and religion. He died saying to the page of his friend, Cardinal du Bellay: *"I am going in quest of a great perhaps."* This was April 9, 1553.

871 BEACON STREET.

INTRAVENOUS INJECTIONS OF CARBOLIC ACID IN TETANUS.

BY WILLIAM F. BERNART, M. D.,
Chicago.

During the last twenty years there have appeared numerous reports on the treatment of tetanus by injections of carbolic acid. The apparently good results from this form of medication in a disease with such a high mortality, should make of interest any suggestions about the use of phenol. As it has been my privilege to use this drug in only one case of tetanus it would be inconsistent to make any extravagant claims for its curative value, even in the face of the fact that this one case ended in recovery without any undue trouble. The information I wish to impart, however, does not pertain as much to this one case of tetanus as it does to the large quantities of phenol which can be given intravenously without the production of toxic results.

In a series of experiments completed eight years ago, I used intravenous injections of carbolic acid in the expectation that they would have a curative effect in certain localized infections. While the experiments did not prove successful as anticipated, they proved, however, that carbolic acid could be given in comparatively large doses over a considerable period of time without the production of any deleterious effects. At the beginning of these experiments, my maximum dose was somewhat small, only 0.130 gramme (two grains) a day. This dose was gradually increased until one patient received the maximum single dose of 0.52 gramme (eight grains) without any apparent evil effects. The majority of patients received as the maximum dose 0.4 gramme (six grains). The average daily dose, however, was slightly less than 0.325 gramme (five grains).

There were given over three hundred injections, one daily, in courses from five to fifteen for each case. None of the patients showed any palpable irritation of the kidneys or did they show the characteristic smoky urine. The treatment was not tried upon any showing diseased kidneys. Twenty of the injections were followed by a slight chill and a rise of temperature, the highest being 102° F. Nearly all the chills followed either the first or second injection, that is, upon the minimum doses, a period evidently before a tolerance became established. An increasing dose, the day following the chill, was possible in all cases.

In view of the fact that tetanic cases are [illegible]

to carbolic acid it would seem highly possible that the average patient does not receive sufficiently large doses to get the full beneficial results. From my experience in one case, that of an adult male, it would seem that beginning with a dose of 0.13 to 0.195 gramme (two to three grains), two or three times during the first twenty-four hours, and rapidly increasing the dose to as high as 0.325 gramme (five grains), two or three times a day, would save many apparently hopelessly involved. A one or two per cent. solution, made from the crystals, or from the ninety per cent. standard solution, can easily and safely be thrown into any vein of the forearm. Kidney lesions might prohibit the use of large doses over a considerable period. Under all circumstances, however, the urine should be carefully examined throughout the course of treatment. From my observations in one case it would seem that a course of from six to ten days of treatment would be ample for the average case.

29 East Madison Street.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXXI.—What does hematuria signify to you and how do you treat it? (Closed April 15th.)

CXXII.—What medicines, dressings, etc., if any, would you recommend to equip a family medicine cabinet? Give details as to quantities, labeling, and arrangement. (Answers due not later than May 15th.)

CXXIII.—Under what circumstances do you find it advisable to prescribe the continuous use of alcohol? (Answers due not later than June 15th.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED) *that the answers be short, if practicable no one answer to contain more than six hundred words; and our friends are urged to write on one side of the paper only.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to Question CXX has been awarded to Dr. R. Langley Porter, of San Francisco, Cal., whose article appears below.

PRIZE QUESTION CXX.

SUBSTITUTES FOR MOTHER'S MILK.

By R. Langley Porter, M. D., M. R. L. S. Eng., San Francisco.

The criteria by which the value of a substitute food for infants deprived of mother's milk may be judged are four:

1. Availability.
2. Economy.
3. Digestibility.
4. Completeness with which it will meet the albumin and energy needs of the child.

Under present day social organization, and with the increasingly high standard of dairy practice, there is no doubt but that clean cow's milk, properly modified, is the ideal substitute food for infants. The clearer understanding of the importance of cleanliness in milk production as evidenced by the increasing popularity of certified milk is one of the most gratifying fruits of our profession's efforts in the field of preventive medicine. However, our gratification at the success of this effort and our enthusiasm for certified milk must not blind us to the fact that to but a few of the millions of babies in this country is certified milk available, and it is therefore necessary for us as medical men to inform ourselves of the value of other food materials.

While goat's milk has certain undoubted advantages, due for the most part to the fact that the goat is a cleanly animal, there are disadvantages in the use of this milk that make its routine use impossible.

One may go so far as to say that there is no practical substitute food for infants worthy of discussion that is not prepared from cow's milk or with cow's milk. This, one would say, is merely because of the availability and the economy of the bovine fluid. These foods are for the most part condensed milk, sweetened or unsweetened; dried milks, either plain or mixed, with cereals subjected to processes of malting; and the modifiers, calling themselves foods, which, roughly, are divided into the malted cereals, and those which are composed of flour dextrinized by heat and milk sugar, and those in which the cereals are undextrinized. The latter are not commonly in use at the present day, although they at one time enjoyed some popularity. In this grouping of foods must also be considered those of the type of Kellar's malt soup, in which nonsoluble carbohydrates are converted into soluble by the addition of malt extract to a mixture of flour and milk.

It is understood that this paper is not a plea for the use of any other substitute food than modified cow's milk, but is a brief consideration of the values of other substitutes when *clean* cow's milk is not obtainable. Under such conditions, we naturally turn to the substance which is nearest to fresh, clean cow's milk, and this undoubtedly is condensed milk. Here we have to recognize two classes, one sweetened, the other unsweetened; the unsweetened is by far the more desirable because it lacks the excessive amount of sugar which makes the sweetened form difficult to modify in such a way that the albumin needs of the child will be met without overfeeding with sugar. Although the sweetened condensed milk usually meets the energy needs of the child, it will rarely be wise to use this form, and then only if its proteid content can be augmented by the use of dried milk, or one of the meat or casein powders; there are so many forms of dried casein on the market that this is not a difficult problem. It is possible that in a very hot climate, if it were difficult to get ice, that the keeping qualities of the sweetened form of condensed milk might recommend it.

The group of malted foods is available, moderately economical, and without much difficulty can be made to meet the energy needs of the child. The

members of this group vary much in caloric value and percentage composition, but they are fairly tolerated by many children. There is, however, a quite considerable number of infants who are seized with diarrhea when persistently fed on the malted foods. The reason for this is that the relatively high carbohydrate content renders it difficult to give the child sufficient albumin without overfeeding with sugar. While there is some evidence to show that maltose is better absorbed than other sugars, there are other factors beside absorption to be considered, and there are many children who cannot be fed these foods exclusively through any extended period of time without catastrophe, which occasionally evidences itself in an attack of Barlow's disease.

However, there is a very definite place for these food materials as temporary expedients during illness; and in certain instances where children do not do well on the other sugars, maltose may well replace either lactose or saccharose in feeding mixtures. Malted milks are especially valuable in combination with wheys or very dilute mixtures of cow's milk or of unsweetened condensed milk in that small group of children who have difficulty in digesting bovine proteid. The malted milks carry a large proportion of proteid, and if their percentage composition be kept in mind, this fact can be made of service in infant feeding and the usual error of overfeeding with carbohydrates can be avoided.

There is little to be said for that group of foods which are composed of more than fifty per cent. of milk sugar with partially dextrinized cereals. These modifiers are relatively expensive and an equivalent can be prepared by the mother with barley or oatmeal and sugar of milk.

In spite of many superstitions as to what a baby's economy will endure, it is probable that any mixture of proteid, fat, and carbohydrate tolerable to its digestion which provides sufficient albumin and has sufficient available energy will agree with the child. It is not an infrequent occurrence to encounter Italian children who have been brought up on a mixture of bread pap and olive oil, who have never tasted milk or milk derivatives, and who have done perfectly well.

In the preparation of food it is, however, absolutely essential to realize that an infant should have between one and 1.25 gramme of proteid a pound a day, and that it should be supplied with from forty to fifty calories a pound a day in order to meet its energy needs, and that if this provision is made in a fluid whose percentage composition is such as not to overtax the digestive powers of the individual child, the child will do well. When these principles are intelligently applied to modifications of clean dairy milk, the child fed in this way almost invariably does well; and when these same principles are applied in the same way to other substitute foods, the results will be hardly less satisfactory. To accomplish this, however, it is necessary that the infant feeder should know the percentage composition and caloric value of whatever food he is using, whether it be condensed milk, sweetened or unsweetened, one of the malted foods, or one of the cereal foods.

For practical purposes, unsweetened condensed milk can be considered as equal to two and a half times whole milk, both as to its percentage composition and its caloric value. If then, one keeps in mind the 1.25 gramme a pound a day of albumin needed by the baby (which can be translated into terms of whole milk as 1.25 ounce a pound a day), and in his modification adds sugar in such quantity that the caloric needs of the child are met, he will find that he will have a simple, convenient, cheap, available, and sufficient food in the absence of certified milk.

Of the sugars, one gives first place to lactose in these modifications, although malted milk, or the combination of maltose and dextrine can be used with equally good results in place of milk sugar if there be the clinical indications.

A formula for a baby of five months, weighing between thirteen and fourteen pounds, would be worked out as follows: The child would need seven feedings of from five to five and a half ounces in twenty-four hours; in such a ration he would need about eighteen ounces of whole milk, or of unsweetened condensed milk, roughly, seven and a half ounces, which supplies 375 calories. One ounce of milk sugar added to the mixture will supply 120 calories; this with the condensed milk supplies 495 calories. The additional calories will be supplied agreeably to the digestive capacity of the child.

If the sugar is well tolerated, there is no objection to increasing the sugar supply, but it is probable that sugar will be contraindicated; in that case, it is fortunate that the condensed milks are readily digested, and we can put into the mixture from one half to one ounce more of the unsweetened condensed milk, so adding from twenty-five to fifty calories, and thus meeting the child's energy needs. Where sugar is badly tolerated, and it is inadvisable to increase the milk in the mixture, it is always possible to give codliver oil, which is almost invariably tolerable to those babies who cannot digest cream with ease. A drachm of codliver oil given in twenty-four hours will provide about forty calories, and when divided into sevenths, properly emulsified, and given with each feeding, it will often prove to be of great benefit.

In the beginning of one's experience with substitute foods, one feeds condensed milk with trembling, because of the ever present fear of scorbutus and rickets. After time passes and experience broadens, this fear is dissipated. There are very many children who have passed through the period of infancy having been fed only on such modifications of unsweetened condensed milk, and who are perfectly fine, healthy, and resistant specimens of childhood.

It is only fair to say that the fruit juices, pulps, and cereals should be fed to the child in the last three months of the first year, no matter what the feeding has previously been.

Dr. W. A. Clarkson, of Montreal, Canada, writes:

Mother's milk is the natural and ideal food for infants during the first ten months of life; infants thus reared are invariably healthier and less bothersome than those otherwise fed, and with proper

management they are free from gastrointestinal affections, rickets, and scurvy, and have a greater resistance to the onset and ravages of disease.

When breast feeding is impossible or impracticable—for it has its limitations, even its failures, and it is with this infrequent latter that here concerns us—arises the question, What is the best substitute food?

All human skill and ingenuity have so far evolved no method equaling in nutritiousness, economy, and digestibility woman's milk. While breast feeding is the method *par excellence,* the best substitute is clean, fresh, mixed grade cow's milk, properly modified to correspond to the infant's digestive capability; this particular cow's milk is the *sine qua non* of substitute feeding. There are a certain number of infants whose idiosyncrasy will not permit of their taking cow's milk however diluted, but this group, at best, numerically infrequent, fades away into comparative insignificance before the resourceful artificial feeder; it is an axiom in infant feeding that the successful substitute feeder is the resourceful feeder.

Cow's milk supplies all the essential constituents, but not in the proportion suited to infant's digestive capacity, so cow's milk must be modified for successful feeding, and successfully to modify, we must fully understand the differences, quantitatively and qualitatively, between human and cow's milk; we must be fully alive to the relatively larger amount of the soluble, noncoagulable albumin (the growth constituent of infant's food) in human milk as compared to the larger amount of dense, indigestible, coagulable casein (curd) of cow's milk; the differences in the proportion of lactose (heat and energy constituents), the fat content remaining practically the same in both milks.

These differences force us to modify cow's milk so that its composition will approximate as nearly as possible human milk. It is essential that we have a practical working knowledge of the two milks—mere rule of thumb rules may answer for a vigorous child, but, if our sole idea is to dilute cow's milk once, twice, thrice, etc., then add some sugar, and perhaps some cream, trusting to Providence and an indulgent mother to adjust the proportions, we beget disaster even with a healthy infant.

One great obstacle to digestibility of cow's milk is the large amount of indigestible and tough casein curd formed in the stomach; happily, simple dilution, with or without other remedial agents, tends to prevent this occurrence. The outcome of this fairly common difficulty, if unrelieved, is the use of proprietary foods. The common "can't take milk" complaint is based on the improper modification, usually, of the casein curd.

The American, or percentage, method of infant feeding, which aims to be scientifically exact and flexible, recognizes the differences between human and cow's milk, as also the element of personal equation which enters into every case of substitute milk feeding. With this method we may modify cow's milk at the laboratory (Gordon-Walker prescription method), which, though theoretically ideal, may not practically be available, or we may advocate home modification, which is the method usually indicated.

Plain modification answers suitably well for most cases, but may find trouble traceable from the symptoms of case, to the proteid, or fat, or less likely the carbohydrate content of the mixture, so that we must increase or decrease that particular constituent in the mixture. Having suitably adjusted the percentage basis of the food and still having trouble,—now, usually, with the proteid of the cow's milk,—we usually first employ the addition of sodium citrate (gr. i to iii to each ounce of milk in the mixture used), this to counteract the tough clotting casein curd, so that we now have a curd approaching the light, flocculent, and digestible curd of human milk. Or, we may be forced to rely on peptonization (partial or complete,—depending on severity of the proteid indigestion) of cow's milk in an otherwise modified mixture; this is a valuable temporary measure, but our constant aim should be to get back to an undigested milk as soon as the exigencies of the case will permit. Whey (composition: soluble proteid, 0.8 per cent.; fats, 0.3 per cent.; sugar, 4.50 per cent.) I have often found a valuable adjunct in augmenting the noncoagulable proteid content in a milk modification formula.

Sometimes circumstances may justify the use of proprietary foods provided they be used with an intelligent appreciation of their properties and for the condition intended. Coming to the proprietary food group we find from their analyses that none of them measure up reasonably to the standard of human milk, and when diluted for use, they are practically unfit for anything but temporary use to tide over a digestive crisis.

The exact composition of this legion of foods (so called) is impossible to bear in mind, but we should understand that the chief characteristics of these preparations,—whose composition shows them impossible without fresh milk addition,—are a hopeless deficiency in fats, and a low proteid content, with an excessively high carbohydrate percentage, often in an insoluble form which should debar their use in younger infants,—so that they fail to supply the minimum amount of growth, heat, and energy required, rickets often ensues, sometimes scurvy. Their use should be limited only for temporary purposes; that they are harmful and unnecessary is not an isolated opinion, but the almost unanimous belief of all pediatrists.

A rough classification of proprietary foods is into, A, those that are supposed to act as substitutes for cow's milk, and those, B, that are merely additions to cow's milk.

The "substitute group" comprises the condensed and desiccated milks, the latter with starch fully or partly converted. The "additions" group comprises foods wherein the cereal contained mostly in the form of starch is either fully converted or partly converted or mostly unconverted.

On general considerations, the proprietary foods classed as "additions" to fresh cow's milk are the preferable of the two,—though practically making cow's milk a proprietary manufacturer's modification, still those makers are cognizant of the bad effects following the use alone, without fresh cow's milk, of their products, and they demand the vitalizing constituents following addition of fresh cow's milk.

The reasons for success and failure of condensed

milk are apparent from a study of its composition (proteid, 8 per cent.; fats, 7.5 per cent.; sugar, 53.6 per cent., and mostly cane sugar, at that!) Imagine what sustenance must follow the use of condensed milk when diluted for use, sometimes up to eighteen times for younger infants. The responsibility for so many so called "foods" is due to the ignorance of our profession on infant feeding—who do not, or care not to, give any time to infant feeding, and who accept and recommend formulæ which the manufacturers print on the label for them. The sooner the rank and file of the profession commences to understand that they can obtain any desired formula by mere home modification of cow's milk, the sooner will we begin to confer the inestimable benefits of medical education on the human race along natural lines.

(*To be concluded.*)

Correspondence.

LETTER FROM LONDON.

Advances in Cardiographology.

LONDON, *April 15, 1912.*

At a meeting of the Clinical Section of the Royal Society of Medicine Professor Einthoven (Leyden) gave a demonstration on electrocardiograms. He showed that muscular contraction and action current are dissimilar, but related to one another. Contraction is a mechanical action, but action current an electrical phenomenon. Electrocardiograms showed that the pulse is an imperfect guide to cardiac action. Differences in magnitude of the pulse do not necessarily correspond to differences in the strength of the contractions of the heart. The ventricles might contract forcibly and yet a feeble or no pulse be produced by that contraction because at the time the left ventricle is insufficiently full. This is the case when the ventricular contraction is not preceded by a contraction of the auricles. It could be shown that in auricular fibrillation the irregularity of the pulse is not caused by irregularity of the ventricular systoles, but by irregularity of those of the auricles. The *pulsus alternans* in which every second beat is small and feeble is probably explained by slight changes in the strength of the ventricular contractions. A negative auricular effect as shown on the electrocardiogram is probably quite as valuable as a positive one.

Tachycardia may exist and be demonstrable by the electrocardiogram, but the pulse may not be rapid. The work of the heart cannot be judged by the pulse. By experiments on dogs by which he had estimated the ventricular pressure he has shown that this was related more nearly to the electrocardiograms obtained than to the state of the pulse. The differences in the degree of contraction of the heart may be small, while the difference in the size of the pulse may be very great. It is possible to judge the condition of the heart muscle with greater accuracy by means of the electrocardiograms obtained than by pressure curves obtained from the pulse.

Dr. Florence Buchanan gave a demonstration of certain experimental observations she had made on the heart movements of hibernating animals by means of electrocardiograms. In eleven dormice she had found that during awakening from hibernation there was dissociation of the auricular and ventricular contractions. Apparently when the animal was in its deepest sleep only the ventricles were beating. When the ventricular frequency increased to about forty in a minute, auricular extrasystoles started, at first slowly and irregularly. These gradually increased in frequency and became more regular, until the ventricular effects and the auricular extrasystoles were equally frequent. At the time during which the auricular effects were overtaking those of the ventricles, some of the latter were dropped, giving records like those of complete heart block produced by vagus stimulation in other mammals. True auricular systoles became visible only as the season advanced or as the number of times the animal was roused increased, and had never occurred while the ventricular frequency was less than fifty-eight in a minute. Experiments on bats served to show that evidence of heart block, complete or incomplete, was likely to be forthcoming in those animals during hibernation.

Dr. James Mackenzie said that electrocardiograms had afforded means of accurate diagnosis in cardiac disease and had led to great advances in our knowledge of many obscure affections of the heart. Some years ago he had attempted to explain certain forms of arrythmia by ascribing them to contractions starting in unusual positions, and it had been very gratifying to him when Doctor Lewis had demonstrated by electrocardiograms that the auricle in such cases had gone into fibrillation. The method had also explained some cases of tachycardia when the auricles were beating faster than the ventricles. It had helped with regard to the management and treatment of patients. He regarded pulsus alternans as a condition which was not rare, but always of very grave significance.

Therapeutical Notes.

Treatment of Tuberculous Lesions.—Wood (*Annals of Otology, Rhinology, and Laryngology*, September, 1911) believes that the actual cautery, preferably the platinum wire heated by electricity, is by far the most effective method of combating tuberculosis of the upper respiratory tract.

Vincent's Angina.—Wherry (*Laryngoscope*, October, 1911) states that on the first visit he removes all the detritus and establishes drainage by gently massaging the infected crypt with a cotton wrapped probe. An application of a twelve per cent. solution of silver nitrate is then made as a specific. Weaker and stronger solutions, carbolic acid, and other cauterants have been tried, but have not been effective.

Treatment of Acute Eczema of the Ear.—Phillips, in his recently published book on *Diseases of the Ear, Nose, and Throat*, states that soothing lotions or emollients are indicated for the relief of

the subjective symptoms of acute eczema of the ear and recommends:

℞ Acidi carbolici, ...3i;
Pulveris calaminæ, ...3ii;
Pulveris zinci oxidi, ...3iv,
Glycerini, ...ʒss;
Aquæ calcis, ...ʒii;
Aquæ rosæ, ...q. s. ad ʒiv.
M. Sig.: Shake well and apply as a wet dressing.

A soothing emollient dressing is prepared as follows:

℞ Zinci oxidi, ...3i;
Morphinæ acetatæ, ...gr. ii;
Adipis lanæ, } .....āā q. s. ad ʒi.
Petrolati, ... }
M. Sig.: Apply locally, plastered upon gauze.

Treatment of Hemorrhage, Spontaneous or Postoperative.—Theisen (*Annals Otology, Rhinology, and Laryngology,* September, 1911) suggests the administration of blood serum in cases of profuse bleeding, and cites instances in which diphtheritic antitoxine was used, although in one case he injected the normal blood serum of the horse.

Treatment of Pulmonary Tuberculosis.—Fornaseri (*Pensiero medico,* through *Archives générales de médecine,* March, 1912) dwells upon the value of ichthyol in this affection. The drug used should be of great purity, as it may then be tolerated for years without unpleasant effects. If impure ichthyol, such as that incorporated in preparations for external use, is administered, gastric disturbances result. The author uses the following formula:

℞ Ichthyolis purissimi, ... }
Tincturæ nucis vomicæ, } .....āā 10.0 grammes.
Aquæ destillatæ, ... }

Forty drops a day, divided in four doses, are given at first, and the amount then gradually increased up to 120 or 160 drops.

Slow, essentially chronic forms of tuberculosis are most benefited by ichthyol; acute, febrile cases, on the other hand, are uninfluenced.

Nasopharyngeal Antisepsis.—Paul Gallois, in *Archives générales de médecine* for January, 1912, calls attention to the importance of combating all forms of infection of the nasopharyngeal mucosa, not only because of the readiness with which disturbances of neighboring structures such as the middle ear, mastoid, anterior nasal mucous membranes, accessory nasal sinuses, lacrymal apparatus, conjunctivæ, lid margins, etc., may arise, but because many disorders reacting on the system as a whole, such as rheumatism, endocarditis, nephritis, chorea, erythema nodosum, pneumococcic peritonitis, empyema, thyroiditis, osteomyelitis, and many others, may have their inception in infection of the nasopharynx. The presence of such an infection is easily recognized by the resulting mucopurulent discharges. If the process is acute and marked the author prescribes a spray of one per cent. phenol; if it is less severe, the following solution is used:

℞ Water, ...500 grammes;
Phenol, ...
Sodium salicylate, .. } .....of each, 2 grammes.
Sodium biborate, ... }
M. ft. mistura.

If the condition is chronic, a two per cent. solution of boric acid or of sodium biborate suffices. The spraying should be done through the nose, not by the mouth, and in children whose nasopharynx is chronically infected, the cleansing of this area should form part of the daily hygiene. Where there is no discharge, but merely dry crust formation, the author uses salves. He does not think highly of menthol and never prescribes more than 0.10 of it in 30.0 grammes of petrolatum. The salve generally used consists of

℞ Petrolatum, ...20 grammes;
Boric acid, ...5 grammes;
Balsam of Peru, ... 1 gramme.
M. ft. unguentum.

A small amount of this is introduced into the child's nostrils at night. Where these measures prove ineffective, the patient should be taken to a specialist, who will remove adenoid growths if they are present or carry out any other operative procedure indicated. It is very necessary to continue the nasopharyngeal antisepsis for some time after the operation, as the likelihood of recurrence of adenoids is thereby diminished.

Treatment of Infantile Ichthyosis.—*Paris, médical,* February 10, 1912, states that the first measure to be taken in treating ichthyosis is to remove the scaly covering of the skin. This should be done by the administration of baths, using green soap mixed with fresh lard or petrolatum in the proportion of one part of soap to three, four, five, or more parts of petrolatum. Some of this soap should be left on the skin a few hours, or overnight if it is well borne; if not, neutral white petrolatum should be employed alone instead. On the next day a bath is given containing from ten to thirty grammes of sodium carbonate, to which may be added, if it proves too irritating, fifty or sixty grammes of gelatin or from sixty to 100 grammes of glycerin. To produce a tonic effect at the same time, the following may also be introduced in the bath:

℞ Sodium carbonate, ...30 grammes;
Ammonium sulphydrate, } ....of each, 60 grammes.
Sodium chloride, ... }
M. ft. pulvis.

The soap applications and baths may be repeated on several successive days, provided the skin does not become too irritable.

After the epidermis has been shed, glycerite of starch should be applied, or else either

℞ Petrolatum, ... } .....of each, 15 grammes;
Hydrated wool fat, }
Tartaric acid, ...0.5 to 1.0 gramme.
M. ft. unguentum.

or,

℞ Petrolatum, ...20 grammes;
Tar, ...0.5 to 1.0 gramme.
M. ft. unguentum.

Whenever the scales on the surface of the skin reappear, the soap applications and baths should be resumed. In the meantime, some nonirritating fatty substance should be kept in contact with the skin.

General treatment in these cases may suitably include the administration of iron, codliver oil, iodotannic preparations, and arsenic, according to the indications present.

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NEW YORK, SATURDAY, APRIL 27, 1912.

SPEED MANIA AND PROPHYLAXIS.

A ship went down last week with a loss of 1,595 people. She represented the last word not only in luxury, but also in ostentatious vulgarity. In the staterooms the decorations on this craft went to the extent of artificial grate fires, represented by red colored electric bulbs—an imitation of an imitation, a touch at which the British designers—British ostentation takes other forms—must have laughed as they completed it for the American eye. Suites of apartment staterooms were sold at over $4,000 for the trip, occupying space that might have been devoted to lifeboats, if this was lacking elsewhere. This topheavy monument to crude color sense and semi-t went to the bottom in an endeavor to make her unwieldy bulk rival the slim sisters in speed. The tragedy is unique only in its suddenness; not a day passes in this city without the sacrifice of a life to an overdriven automobile, scarcely a month without its tribute of lives to an eighteen hour train.

What is the slaving physician, the scrupulous pathologist, the alert, if exhausted doctor at quarantine to think in the presence of such a disaster? Supposing, by some mistake, some trifling oversight, enough cholera or plague germs to cover the head of a pin obtained entrance to this city? Suppose, then, as many as 1,500 lives to be lost before the authorities got control of these pullulating agents. What an outcry, what cursing of the physicians, what denunciation of experimental physiology, what criticism of the health department!

And yet, the unconquerable ignorance and superstition of the people, the ludicrous beliefs in all kinds of fetichism and faith cures, the neglect of sanitary precautions and of personal hygiene, the unfiltered water cause over 1,500 cases of infectious and therefore preventable disease to occur in the city of New York alone every week, mainly among little children. No comment is made upon the ensuing deaths, save by physicians; there is nothing spectacular about them, nothing to stimulate the imagination.

People willingly trade life for excitement. Every gain in speed takes its certain toll. From the Roman chariot race, through steam engine, automobile, and aeroplane, the death rate has constantly risen in proportion. Thousands of lives have not been begrudged to war; seventy miles an hour upon the rail, a hundred through the clouds are thought cheap at the cost of a few pilots or passengers. Not for long will the people be satisfied with the ample supply of new lifeboats and the moderation of speed among the icebergs. Soon the cry will come for more steam, for another hour off the record, and the company that heeds the appeal first will reap the harvest in dollars and pay out again the price in lives.

THE INACTIVE MEDICAL RESERVE CORPS.

I

Few of the profession, and still fewer of the laity, seem to be aware of the existence of a long list of commissioned officers of the army, whose names do not appear in the Register, although they are known more or less widely as civilians. Interest has been feebly aroused in this class by reason of the bill now before Congress, introduced by Surgeon General Stokes, to create a similar corps in the navy. In a paper, presented at the 19th annual meeting of the Association of Military Surgeons, the writer called attention to the anomalous position occupied by the Inactive Reserve Corps, the prevailing vague opinions in army circles with regard to its functions, and the desirability of its receiving some practical training. His earnest plea as to the importance of utilizing the good material placed at the service of the government, while it evoked many kind and appreciative expressions of approval from the regular medical officers, seemed to arouse little enthusiasm among his unmilitary colleagues in New York, and, so far

as any effect on legislation was concerned, passed unnoticed.

That many of the honorary "first lieutenants" on the reserve list are not content with the empty title is shown by the fact that in at least two other cities societies have been organized for the purpose of stimulating interest in the work of the medical corps, while each year applications have been made to the department for active duty in manœuvre camps. It was a great disappointment, when so many militia officers were invited to profit by attendance at San Antonio a year ago, that no opportunity was offered to the unattached Medical Corps.

The all powerful argument of economy, which now rules our legislators more strongly than ever before, seems to eliminate the hope that we shall ever have such an opportunity, except in the event of actual hostilities. The "gospel of preparedness" appears to be no more acceptable than it was before the Spanish-American War, although the work accomplished by the Medical Corps of the army in the line of sanitation alone is familiar to every intelligent layman.

In his annual report General Evans, chief of the Division of Military Affairs, says: "The weakest point in our present military system is the lack of a reserve." Such a reserve, he adds, should consist of "trained men." No member of the inactive reserve corps (unless he has previously served in the regular army), no matter how prominent he may be as a physician or surgeon, can lay claim to being "trained" in this sense. A few weeks spent in active duty at a manœuvre camp convinced the writer of this fact, as he set forth at length in the paper to which allusion was made.

It is utterly absurd to boast about the "adaptability" of the American people in case of sudden emergencies. The melancholy records of the Civil and Spanish-American wars—especially from a medical viewpoint—prove the contrary. The most resourceful surgeon, transported to an entirely strange environment, without the conditions which have made him so successful in civil practice, may be absolutely useless in the field. This fact is so self evident as to need no argument. That "dream of dreamers" (as the energetic chief of staff properly terms the idea of universal peace during the present generation) has been rudely dispelled by the events of the past few months. Theoretically, war is an absurdity, but practically it may come at any time and with little warning, especially in such an hysterical country as ours, dominated by an inflammatory press, as shown by our past experience.

Although the idea seems to prevail among the Medical Corps that the inactive branch is to be utilized in base hospitals, in case of war, rather than in the field, the writer believes that, even in this capacity, the untrained civilian's usefulness will be limited by reason of his inexperience. In short, the reserve is *not* a reserve, but an honorary list, selected for various reasons—professional and political—not affiliated with the regular corps, and not prepared to work with it.

The question is: How can we make it a real power instead of an empty name?

The writer quite despairs of obtaining proper recognition for it, except by an earnest, concerted effort to influence legislation through proper channels. The objection always raised against detailing members of the inactive corps to manœuvre camps is the question of expense. This the writer answered by stating that "this could be met by waiving the question of pay, which would not deter a man really interested in the work from spending a fortnight, or more, in camp without putting the government to any additional outlay, except for his rations and transportation." Personally, he would be perfectly willing to decline any aid from the department. If we gladly sacrifice time and money to visit the Mayos, why can we not do the same in our country's service? Patriotism which involves no sacrifice is the cheap, newspaper variety, that does not count, either in civic or in military affairs. He is convinced that there are many of his colleagues who entertain the same views.

Henry C. Coe.

THE VACCINE TREATMENT OF SIMPLE GOITRE.

At a recent meeting of the Royal Society of Medicine (*Proceedings*, February, 1912), Captain Robert McCarrison, of the Indian Medical Service, submitted evidence tending to support, 1, the belief expressed by him in 1909 that goitre is due to the presence of "a living organism of disease in the intestinal tract"; 2, that the thyroid gland is markedly influenced by the nature of the intestinal bacteria; and, 3, that one of the chief functions of this organ is to protect the body from the many toxic substances which find their way into the blood stream from the alimentary tract. Substantiation of the latter view in its relations to the disorder in point was obtained through experiments which showed that the thyroid of goats underwent marked changes when the food of these animals was contaminated with cultures of microorganisms grown from the feces of goitrous subjects. Having established these points to his satisfaction,—which, it must be said, in so far as the antitoxic powers of the thyroid are concerned, had long been recognized, a fact which the author seems to ignore—he

proceeded to analyze their relationship to the treatment of goitre by a vaccine in which the pathogenic organisms referred to would play the active part.

Studying the amebic infection present in most cases of goitre in Gilgit (a district of Cashmere), he was struck by the constant character of the bacillary growths which appeared in the medium employed. He prepared a mixed vaccine from these growths, another from one of the constituent organisms (resembling *Bacillus coli*) he isolated from them, and still others from staphylococci, the feces of an Australian pony suffering from goitre, etc. Thirty-three cases of simple goitre were then treated with the vaccines. Of four vaccines which were successfully used, the composite vaccine appeared to be the best, though the others also gave excellent results. After doses not exceeding 150 million, the thyroid gland began to soften and the skin over it to become lax. In several cases the thyroid swelling had entirely disappeared after two or three inoculations, though as a rule from four to seven inoculations were necessary. The treatment was found suitable exclusively for cases of recent parenchymatous goitre. In long standing goitre, chiefly made up of adenomata or cysts, it had little or no value.

It becomes a question whether a vaccine is necessary with the thyroid gland as the source of the secretion which destroys toxines of intestinal origin, especially in view of the fact that it is only in recent parenchymatous cases that vaccine therapy has proved effective. We are plainly dealing with hyperthyroidism having for its aim the production of an excess of the antitoxic secretion, a condition which, as is well known, is effectively met by the judicious use of thyroid gland. Doctor McCarrison's vaccine presents the great advantage, however, of affording prompt results as compared to the treatment by thyroid, a fact which fully warrants for it a leading position as a therapeutic measure.

THE ABUSE OF FREE ANTITOXINE.

The importance of the prompt administration of antitoxine in diphtheria has led the municipal boards of health in New York and elsewhere to authorize druggists to dispense city antitoxine without charge in cases where the physician ordering it writes that it is intended "for the treatment of a poor patient to whom payment for the same would be a hardship." This course places in the hands of the physician full discretion to determine whether or not the patient is entitled to free supplies.

A resolution has been introduced into the Board of Aldermen of the City of New York by Alderman Weil, requesting the board of health to limit the privilege of obtaining antitoxine free of charge to physicians of the department, and to authorize these physicians in such cases to administer antitoxine, even in the absence of the visiting or family physician. This resolution has been referred to the committee on public health of which Alderman Weil is the chairman, but so far no action has been taken in the matter.

The occasion for the introduction of the resolution was the intimation that the privilege extended by the board of health has been abused by some physicians, who have ordered antitoxine administered to the patients able to pay, and have made a charge for their services which has practically included the cost of the antitoxine at the regular retail rate. The resolution states that the cost of free antitoxine distributed by the city of New York amounts to $50,000 annually, and that many reputable physicians are of the opinion that the board of health is being imposed upon in the manner indicated.

The charge brought by Alderman Weil in the resolution made is a serious one and merits thorough and careful investigation. If the department of health is being used by unscrupulous practitioners in the manner intimated, some steps should be taken to correct the abuse. The plan proposed by the alderman of authorizing the physicians of the department to administer the drug in the absence of the family physician in such cases would meet with bitter opposition by physicians whose patients might thus be taken out of their hands, but it seems entirely logical to assume that if the patient is willing to place himself in the category of a pauper so far as the supplies of antitoxine are concerned, he should not be too squeamish to accept the services of the city physician for its administration. The resolution will, we believe, meet with the approval of the board of health, and while it would undoubtedly arouse some antagonism at first, would effect a radical cure of any such abuse as is alleged to have grown up under the present system.

CLINICAL *VERSUS* LABORATORY REPORTS.

It is the proud contention of the profession that medicine is quickly evolving from the empirical state into the scientific. Fifty years ago we used remedies because the results obtained at the bedside showed the great benefit we could derive from them. Since the beginning of the last century, however, thinking physicians have rightly evolved the question, Why does a certain remedy affect a certain disease? There must be some relation be-

tween this remedy and the disease. With the evolution of chemistry and pharmacology, medicine made use of these sciences, and drugs were submitted to analysis to ascertain their value. As long as bedside experience and laboratory experience went hand in hand, the results obtained were beneficial; but when in the eighties of the last century a nihilistic tendency swept over medicine, the experimenter became of more importance than the clinician, and the purist in medicine asserted that only drugs whose pharmacological constitution showed medicinal value should be used. Thus we forgot that neither chemistry nor pharmacology is an absolute science; they both progress and new methods are invented daily. It is high time that the clinician came to his own again, and the value of bedside experience should go before laboratory researches. A physician can exist only if he has results in curing his patients, and no physician will prescribe a remedy from which he does not gain such results. The reports in reference to drugs coming from reputable hospitals should absolutely be taken as the standard. If such reports can be seconded by laboratory experiments, the value of the drug has been absolutely proved, but if the chemical and pharmacological analyses do not corroborate the reports from bedside experience, we should prefer the latter to the former.

SIMPLE REASON FOR UNRESTRICTED IMMIGRATION.

A campaign for more efficient medical protection of both city and country against the passage through Ellis Island of large numbers of defective aliens has been made for some time past by *The New York Herald*. The most powerful influences are openly or tacitly enlisted against any restriction of immigration. To say nothing of the obvious desire of the steamship companies to bring in unlimited numbers, any student of sociology could point out that the vast wealth so widely distributed among certain classes in the United States depends upon the practical slavery of a huge percentage of the population. The product of mills of various kinds, for example, depends, under present conditions, on the working for long hours, on seven days of the week when possible, of men of powerful physique and too little intelligence to enter effective protest against their lot. We need imperatively for the kind of prosperity which we now enjoy a ceaseless supply of strong, brainless, and patient men, in order that the gaps caused by disease, breakdown, and death may be instantly and continuously filled. Our community is not yet sufficiently intelligent to understand that the subsequent care of the disabled in hospitals, even under free medical attendance, or of the despairing or mentally deficient in jails, is more costly than the preservation of men as workers, growing in efficiency, intelligence, and Americanism. Until this elementary lesson is learned, campaigns like that of the *Herald* will be in vain.

THE TRIUMPH OF "ABBOTT'S METHOD."

We have on page 855 the word of a distinguished surgeon that the conclusions of Doctor Abbott in his communication on overcorrection as a cure for lateral curvature of the spine, which appeared in The New York Medical Journal for June 24, 1911, were accepted neither by him nor his colleagues. All doubts are now dispelled and the method takes its place not only as an accepted procedure, but as one of the most hopeful that the surgeon can undertake. We feel a legitimate pride in having our judgment of Doctor Abbott's first paper so magnificently justified as it is in this superb issue of the Journal, and on having been the means of giving to the profession the splendid achievements of an original and daring thinker.

SURGEON O'LOUGHLIN.

A brave army officer did what was expected of him as the *Titanic* struck and sank; several millionaire business men and some marvellous women died deaths we are glad to acknowledge as glorious; and their pæans have been sung in countless newspapers, as was right, and every American, while sickened by the disaster, is proud of these fellow citizens.

But few notices have crept into print of Dr. William Francis Norman O'Loughlin, senior surgeon of the White Star line, for forty years a sailor physician, whose requiem must be sung mainly by those he helped and soothed, as with genuine terror they found disease or accident added to the other perils of the sea. As an officer of the ship he made no attempt to escape when the accident happened, but bent all his energies to helping others. It is said that he did not even don a life belt. It was a fitting end to an unselfish and self sacrificing career, one marked at every step by charity, not only that expected of the doctor, but signalized by so liberal giving of money as to leave him usually straitened in his circumstances. He was a graduate of Trinity College and the Royal College of Surgeons of Ireland, a fine type of the practitioner, a scholar, and a gentleman. He owed his health early in manhood to the sea and yielded thereafter to its lure. In the absence of notoriety, which we know he would have hated, we physicians may say among ourselves how proud we are of him.

Obituary.

PAUL G. FREER, M. D.,

of Manila, P. I.

Doctor Freer died at Beguio, P. I., on April 17th. He was born in Chicago, March 27, 1862, and graduated from Rush Medical College and the University of Munich. In 1887 he was assistant to Professor Perkins at Owens College, Manchester, and for the ensuing two years instructor in Tufts College; from 1889 to 1903 professor of general chemistry at the University of Michigan, and, till 1905, superintendent of the Government laboratories. In 1905 he became director of the United States Scientific Bureau in the Philippines and in 1906 was elected dean of the Philippine Islands Medical School. He was the author of a book, *A General Inorganic Descriptive Chemistry*, and edited the Philippine *Journal of Science*. Doctor Freer was being considered as a possible successor to Doctor Wiley at Washington.

SAMUEL OAKLEY VANDER POEL, M. D.,

of New York.

Doctor Vander Poel died suddenly at his residence, 63 East Fifty-fifth Street, New York, on April 22d. He was born in Albany, August 7, 1853, graduated from Rutgers College in 1873, received the degree of Master of Arts the following year, and that of doctor of medicine from the College of Physicians and Surgeons, Columbia University, in 1876. After serving as interne in Bellevue Hospital, he undertook postgraduate study at Heidelberg and Vienna. He practised in Albany, becoming adjunct professor of the theory and practice of medicine, in the medical school of that city, until 1885, when he came to New York. Here he was assistant surgeon at the Manhattan Eye and Ear Hospital, laryngologist at the Vanderbilt Clinic, and visiting physician at Charity Hospital and Randall's Island. He became medical director of the New York Life Insurance Company in 1898, and was once president of the New York County Medical Society.

Medical Law.

VIII. CIVIL MALPRACTICE.

In the case of Atkinson v. American School of Osteopathy and another, 144 Southwestern Rep. 816, it appeared that the defendant, American School of Osteopathy, was a school for the teaching of osteopathy with a regularly organized faculty of teachers who were practitioners of osteopathy and whose duty it was to treat the students during their attendance at school without charge; and that the other defendant, one Still, was an osteopathic physician and vice-president of the school. The plaintiff was a student at the school from October 1, 1901, until June, 1903, when she graduated, and during the time from October 1, 1901, to April, 1902, received treatment from defendant Still, which she maintained caused the injuries for which she sued.

The plaintiff's testimony was that at the time of entering the school, she was nervously run down and had an affection of the nasal passages which slightly affected her breathing, for which defendant still treated her without benefit. On the day of receiving the injury complained of, she testified that the following conversation took place; she said, "Doctor Charley, you are not doing me a bit of good. I am getting worse"; to which he replied, "I will take that out of you, or I will break your neck." At this point, she said he put his knee against her breastbone and by putting his arm around her back, pulled with his hand and pushed with his knee and drew her forward. She said, "Doctor Charley, you crushed my sternum in the breastbone." He said, "I guess not."

She said: "Well, I know you did." He went around to the back and felt the condition and said: "I guess you will come out all right. I didn't realize you were so small. I have just been treating a 200 pound woman, and didn't realize the weight I was putting on you." She said she felt the bone crush; that there was no special pain that day; that it hurt a little, and on the third day, it pained her so badly that she became sick and had to leave the class. After that, she was obliged to go to bed and had stabbing pains all the time for two or three days, when she got better. In the fall of 1902, she had her first attack of asthma, which continued to grow worse. She suffered much pain around the ribs, which stood out prominently on the right side, and her breastbone was broken. She said that as a consequence of this injury, she also had female, bowel, and kidney troubles, and an abscess on the lung. She said that at the time she applied for the treatment, she thought the wheezing in her nose was asthmatic, and "supposed perhaps asthma might have been coming on."

While testifying, plaintiff was asked this question, "After Doctor Charley (defendant Still) had sent George (Dr. George Laughlin) to treat you after the time spoken of in the last question, and while he was so treating you—I believe that was in 1902—what other statements, if any, did he make as to the condition he found you in, *and the cause of your affliction?*" The question was objected to, but the plaintiff was permitted to answer it, and in answering it stated: "He said that the second, third, and fourth ribs were broken, *caused* from Doctor Charley's treatment."

She also introduced testimony of expert osteopaths, graduates of defendants' school, as to her condition after the time of the injury, who testified that they had examined her; that some of her ribs were dislocated and the cartilage fractured; that her breastbone was fractured and out of place; that the injuries would probably be produced by such violence as that described by her in her testimony; and that the asthma and other difficulties from which she suffered would probably be the result of those injuries. She also introduced in evidence, admissions made by defendant Still, one of them being a statement said to have been made in a lecture delivered in the school, in which he cautioned his class against the application of the "knee treatment," and stated in effect, that he met with an accident like that in which he had broken the ribs and sternum of that "Atkinson girl."

The defendants, on the other hand, denied all violence and introduced testimony tending strongly to prove that plaintiff was afflicted with asthma when he undertook his treatment, and that it had progressed until she became a confirmed asthmatic, and that the physical deformities and diseases which she ascribed to the injury alleged, were the natural effect of that disease. They also introduced expert testimony to show that the necessary and immediate result of such an injury as plaintiff asserted she had received would have been much more serious than that which she admitted to have followed it.

The plaintiff recovered a judgment for $10,000, from which defendants appealed to the Supreme Court, urging among other things, as a ground for reversal, that the trial court erred in permitting the plaintiff to testify that "George" (Dr. George Laughlin) told her that her second, third, and fourth ribs were broken, *caused from Doctor Still's treatment.*

The court held that the permitting of this answer

was error, for which the judgment must be reversed and the case sent back for a new trial.

Mr. Justice Brown, speaking for the court upon this phase of the case, said in part:

The cause of her condition was the real question in issue. In its bearing upon the question, the evidence complained of was of the utmost importance and might well have turned the scale in favor of the plaintiff when weighed with the mass of conflicting statements before the jury.

The question is one of importance, because, if such testimony is admissible, it opens one more door by which verdicts may be recovered upon unsworn gossip, instead of sworn testimony, and makes it dangerous to furnish the first surgical aid to injured employees, which, happily, most employers are glad to render. This evidence was admitted on the ground that the doctor was the agent of the defendants in the treatment of the plaintiff, and, if his statement as to the cause of the injury was made during the treatment, it was, by reason of its concurrence in point of time, a part of the *res gestæ;* ignoring entirely that the *res* was not the treatment being administered by Laughlin, but the treatments that had long before been administered by Still, to which the words "caused from Doctor Charley's treatment" could alone apply. . . .

No pair of words in our legal terminology are more carelessly used than these words *res gestæ.* In applying them to the subject we are now considering, we should bear in mind that they refer to the thing done by the agent, and that words to be a part of the *res gestiæ* must be used in furtherance of the doing of that thing. This court, in Price v. Thornton, 10 Mo. 135, 140, put the doctrine in a nutshell. In speaking of the admissions of a shipmaster against the owners, it said: "They are bound for the conduct of Captain White; not for what he might say he had done." In this case it is sought to bind the defendants by the unsworn statement of Doctor Laughlin as to what one of them—not he—had done long before. To hold that this can be done would be a long step toward depriving litigants of whatever protection there may be in the sanctity of the oath and the influence of legal pains and penalties for perjury.

News Items.

New Headquarters of the Health Department.—Commissioner Lederle announces that by May 1st the department will have completely vacated the old building at Fifty-fifth Street and Sixth Avenue Many of the offices have already been moved to the new building at Walker and Centre Streets.

A Memorial to Surgeon O'Loughlin at St. Vincent's Hospital.—At an informal meeting of the board of trustees of St. Vincent's Hospital, held on April 23d, it was decided to appoint a committee to act on the proposal that a pathological laboratory should be endowed at the hospital in memory of Dr. William Francis O'Loughlin, for forty years in the service of the White Star Line, ship's doctor on the *Titanic,* and one of the lost when it went to the bottom

Human Embryos Wanted.—The department of anatomy of Cornell Medical College would be glad to receive human embryos from any physician that may obtain such material, to be used in a study of normal and abnormal development. Specimens will be duly credited to the persons contributing them. Please send note, or telephone, and a messenger will call for the specimen. Keep the entire specimen in moist cloth or place the embryo in formaldehyde solution. Notify Dr. C. R. Stockard, Cornell Medical College.

A Research Expedition for the Study of Malaria.—The first research expedition for the study of malaria, from the Department of Tropical Medicine and Hygiene of Tulane University, which department is under the direction of Professor Creighton Wellman, sailed from New Orleans, April 20th, for Central America. The expedition is headed by Dr. Charles Cassedy Bass, of the Department of Tropical Medicine and Hygiene of Tulane. From Central America the members of the commision will sail directly for New York to attend the meeting of the American Medical Association, before which it is intended to announce and exhibit the results of the investigation.

Personal.—Dr. S. Adolphus Knopf, of New York, will deliver the Oration in Medicine at the annual meeting of the Illinois State Medical Society on May 23d. His subject will be Some Modern Medicosociological Conceptions of the Alcohol, Venereal Diseases, and Tuberculosis Problems.

Dr. E. I. Werber, assistant in anatomy at the Johns Hopkins University, has been appointed instructor in anatomy at the University of Wisconsin.

Examination for Medical Interne at the Government Hospital for the Insane.—The United States Civil Service Commission announces an examination on June 5, 1912, to secure a list of eligible persons to fill two or more vacancies in the position of medical interne, Government Hospital for the Insane, Washington, D. C., at $600 a year, with maintenance. For further information regarding this examination and for the necessary application forms, candidates should apply at once to the United States Civil Service Commission, Washington, D. C.

Mississippi State Medical Association.—The fortieth annual meeting of the Mississippi State Medical Association was brought to a close on April 11th, after a two days' session devoted to the reading and discussion of papers on subjects of interest to the general practitioner. The following officers were elected to serve for the ensuing year: Dr. S. W. Glass, of Dublin, president; Dr. J. C. Walker, of Houlka, first vice-president; Dr. W. W. Parks, of Louisville, second vice-president; Dr. E. C. Parker, of Gulfport, third vice-president; Dr. E. F. Howard, of Vicksburg, reelected secretary; Dr. L. B. Sparkman, of Cleveland, reelected treasurer. Next year's meeting will be held in Vicksburg

New Polyclinic Hospital to be Opened Soon.—The new buildings of the New York Polyclinic Medical School and Hospital, at 341 West Fiftieth Street, were opened for public inspection on April 18th, 19th, and 20th, after which they were closed in order to facilitate the transfer of supplies and equipment. Several thousand persons visited the hospital, which consists of three brown stone buildings, twelve stories in height and fireproof throughout. All the wards, both public and private, are above the roofs of surrounding buildings, thus affording plenty of light and air, and a sun parlor has been built on the roof. An excellent kitchen equipment has been installed by the Woman's Auxiliary at a cost of $4,000. The institution is maintained by private contributions, and three new automobile ambulances have recently been donated. The hospital will be open for patients about May 1st.

National Conference on Pellagra.—In response to invitations from the State Medical Association and the State Board of Health of South Carolina, the National Association for the Study of Pellagra will hold its next triennial meeting in Columbia, S. C., October 3 and 4, 1912—the week following the Washington meeting of the Fifteenth International Congress on Hygiene and Demography. Invitations are hereby extended to all persons interested in pellagra to participate in this meeting, the cooperation of officers of the Government medical services, State boards of health, and State hospitals for the insane being especially solicited. It is expected that several foreign governments and medical organizations will be represented at the conference. Persons wishing to present papers will please address the special committee, consisting of Dr. J. W. Babcock, Dr. J. J. Watson, and Dr. J. H. Hayne, Columbia, S. C.

Joint Meeting of Physicians and Pharmacists.—The fifth annual joint meeting of the New York Branch of the American Pharmaceutical Association and the Medical Society of the County of New York will be held in the New York Academy of Medicine on Tuesday evening, May 7th. The meeting will be called to order at 8:30 o'clock by Dr. Charles Gilmore Kerley, president of the county medical society. The programme includes the following papers: Cooperation of the Physician and the Pharmacist, by Professor James H. Beal; The Abilities of the Pharmacist, by Dr George C. Diekman; The Physician and the Scientific Pharmacist, by Dr. E. W. Dittrich; The Physician and What He Has to Say to the Pharmacist, by Dr. Robert A. Hatcher; The Pharmacist and What He Has to Say to the Physician, by Mr. Peter Diamond. The discussion will be opened by Dr. Egbert Le Fevre, for the physicians, and William C. Anderson, Phar. D., for the pharmacists.

Gifts and Bequests to Charity.—Fourteen New York institutions will receive $5,000 each, by the will of Moses Weiman, among them being the Presbyterian Hospital, St. Vincent's Hospital, Mt. Sinai Hospital, Beth Israel Hospital, the German Hospital, and the Montefiore Home.

The will of Joseph J. Almirall, who died in Baltimore, July 29, 1911, contains the following bequests to charitable institutions: $2,500 to St. Mary's Hospital; $2,000 to St. Peter's Hospital; $3,000 to the New York Foundling Asylum; $1,500 to St. Mary's Female Hospital; $1,500 to St. Catharine's Hospital; $3,000 to the Little Sisters of the Poor; $500 for the St. Vincent de Paul Society of the parish of the Nativity, and $5,000 to Bishop McDonnell for St. Vincent's Home.

The Frontier Medical Union, composed of American, French, and Mexican physicians, was organized in Sabinas, Coahuila, Mexico, on March 3d. The first meeting after organization was effected was held in Pedras Negras, on April 7th, the programme including the following papers: Recent Experiences with the Smallpox Epidemic, by Dr. Lorenzo Cantú; Syphilis, by Dr. Braulio Montemayor; Fractures, by Dr. Harry Payne; Puerperal Infection, by Dr. Allan F. Higgins. The union is open to all regular practitioners in the State of Coahuila. It now has thirty members, and the official languages are English and Spanish, both being necessary. The officers for the ensuing year are: Dr. Braulio Montemayor, president; Dr. Lorenzo Cantú, vice-president; Dr. L. Guzman, secretary; Dr. Harry Payne, assistant secretary; Dr. J. K. Wilson, treasurer. The next meeting will be held in Monclova, Coah., the first Sunday in June.

The Health of Chicago.—During the week ending April 13, 1912, the following cases of communicable diseases and deaths therefrom were reported to the Chicago Board of Health: Typhoid fever, 11 cases, 3 deaths; smallpox, 3 cases, 0 death; chickenpox, 56 cases, 0 death; measles, 187 cases, 3 deaths; German measles, 7 cases, 0 death; scarlet fever, 222 cases, 8 deaths; whooping cough, 92 cases, 6 deaths; diphtheria, 116 cases, 16 deaths; tuberculosis, 158 cases, 92 deaths; pneumonia, 35 cases, 127 deaths. There were 2 cases of cerebrospinal fever, one of ophthalmia neonatorum, and 97 of diseases of minor importance. The total deaths from all causes exclusive of stillbirths, numbered 681, corresponding to an annual death rate of 15.5 in a thousand of population, as compared with a rate of 17.3 for the preceding week. There were 48 deaths from diarrheal diseases under two years of age, and 29 from congenital defects and accidents.

Vital Statistics of New York.—During the week ending April 6, 1912, there were reported to the Department of Health of the City of New York, the following cases of contagious diseases and deaths therefrom: Pulmonary tuberculosis, 409 cases, 208 deaths; diphtheria and croup, 298 cases, 30 deaths; measles, 1,870 cases, 33 deaths; scarlet fever, 501 cases, 22 deaths; chickenpox, 184 cases, 0 death; smallpox, 1 case, 0 death; whooping cough, 42 cases, 3 deaths; cerebrospinal meningitis, 8 cases, 11 deaths, making a total of 3,353 cases, and 307 deaths. The total deaths from all causes numbered 1,691, corresponding to an annual death rate of 17.05 in a thousand of population. There were 270 deaths from pneumonia, 198 from organic heart diseases, 87 from cancer, 47 from diarrheal diseases, 44 from diarrheal diseases under five years of age, 124 from Bright's disease, 77 from congenital debility and malformations, 81 from accidents, 20 from suicide, and 2 from homicide.

Meetings of Local Medical Societies:

WEDNESDAY, *May 1st.*—Brooklyn Society for Neurology; Society of Alumni of Bellevue Hospital: Harlem Medical Association; Elmira Academy of Medicine; Psychiatrical Society of New York; Society of Alumni of St. John's Hospital, Brooklyn (annual); Schenectady Academy of Medicine.

THURSDAY, *May 2d.*—New York Academy of Medicine; Brooklyn Surgical Society; Practitioners' Club, Buffalo; Geneva Medical Society; Dansville Medical Association.

FRIDAY, *May 3d.*—New York Academy of Medicine (Section in Surgery); New York Microscopical Society; Gynecological Society, Brooklyn; Manhattan Dermatological Society; Practitioners' Society of New York; Corning Medical Association; Saratoga Springs Medical Society (annual).

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending April 19, 1912:

CHOLERA—FOREIGN: *India,* Feb. 18-28, 8 cases, 10 deaths (Madras Presidency), Feb. 1-29, 4,856 cases, 3,054 deaths; March 1-7, 14 cases, 10 deaths; *Indo-China,* Feb. 13-March 4, 33 cases, 31 deaths; *Turkey in Asia,* March 3-20, 29 cases, 3 deaths.

YELLOW FEVER—FOREIGN: *Brazil* (Manaos), March 17-23, 6 deaths.

PLAGUE—FOREIGN: *China* (Hongkong), Feb. 25-March 2, 8 cases, 6 deaths; *India,* March 3-9, 121 cases, 106 deaths; *Indo-China,* Feb. 3-March 4, 6 cases, 3 deaths; *Java,* Feb. 18-March 2, 11 cases, 10 deaths; *Mauritius,* March 2-8, 5 cases, 3 deaths; *Peru* (Callao), March 1-26, 12 cases; *South Africa* (Durban), Feb. 24-March 9, 6 cases, 4 deaths; *Trinidad,* April 11-13, 2 cases.

SMALLPOX—UNITED STATES: *Connecticut,* March 1-31, 68 cases; *Florida,* March 17-30, 37 cases; *Iowa,* March 1-31, 49 cases; *Louisiana* (New Orleans), April 1-6, 19 cases; *Mississippi,* March 1-31, 241 cases, 2 deaths; *Nebraska* (Omaha), April 1-6, 1 case; *North Dakota,* March 1-31, 36 cases; *Ohio,* March 1-31, 87 cases, 1 death; *Tennessee,* March 1-31, 4 cases; *Vermont,* March 1-31, 23 cases; *Virginia,* March 1-31, 88 cases; *Wisconsin,* March 1-31, 43 cases.

SMALLPOX—FOREIGN: *Arabia* (Aden), March 19-24, 1 case, 1 death; *Austria-Hungary* (Galicia), March 10-16, 2 cases; *Canada,* March 24-April 6, 4 cases; *China,* Feb. 25-March 9, 89 cases, 65 deaths; *Egypt* (Cairo), Feb. 27-March 4, 1 death; *Germany,* March 17-23, 17 cases; *Great Britain* (Liverpool), March 17-23, 1 case; *France* (Paris), March 10-16, 7 cases, 1 death; *India,* March 3-9, 102 cases, 54 deaths; *Indo China,* Feb. 26-March 4, 9 cases, 6 deaths; *Italy* March 1-25, 46 cases, 12 deaths; *Java,* Feb. 18-March 2, 8 cases, 1 death; *Mexico,* March 20-April 6, 1 case, 1 death; *Russia,* Feb. 18-March 16, 57 cases, 10 deaths; (Warsaw) Dec. 10-Feb. 10, 214 cases, 98 deaths; *Spain,* Feb. 1-March 23, 41 cases, 6 deaths; *South Africa* (Durban), Feb. 18-24, 1 case; *Straits Settlements,* Feb. 11-17, 2 cases, 1 death; *Teneriffe,* March 10-16, 2 deaths; *Turkey* (Constantinople), March 11-24, 33 deaths; (Beirut), March 10-16, 95 cases, 5 deaths.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending April 17, 1912:

Bailey, C. A., Acting Assistant Surgeon. Directed to accompany the officers of the United States Immigration Service on or about April 22, 1912, from St. John, N. B., to Quebec, P. Q., for duty in the examination of alien immigrants. **Billings,** W. C., Passed Assistant Surgeon. Leave of absence for one month from February 16, 1912, amended to read fifteen days from February 16, 1912. **Boggess,** J. S., Passed Assistant Surgeon. Granted seven days' leave of absence from April 4, 1912, under paragraph 191, Service Regulations. **Carlton,** C. G., Pharmacist. Granted fourteen days' leave of absence from April 20, 1912. **Cobb,** J. O., Surgeon. Granted three days' leave of absence from April 10, 1912, under paragraph 109, Service Regulations. **Collins,** G. L., Passed Assistant Surgeon. Directed to report to the medical officer in command of the Marine Hospital, Boston, Mass., for temporary duty. **Eager,** J. M., Surgeon. Granted one month's additional leave of absence from April 23, 1912. **Frost,** W. H., Passed Assistant Surgeon. Directed to proceed to Oskaloosa, Iowa, via Des Moines, to make an investigation of an epidemic of typhoid fever in that city. **Grubbs,** S. B., Passed Assistant Surgeon. Directed to report to the commanding officer of the Revenue Cutter *Algonquin* for temporary duty during a cruise in the waters of Porto Rico. **Hart,** G. G., Acting Assistant Surgeon. Granted six days' leave of absence from April 23, 1912. **Lavinder,** C. H., Passed Assistant Surgeon. Detailed to attend the meeting of the State Medical Association of Alabama, at Birmingham, April 16 to 19, 1912, and also the meeting of the Georgia Medical Association at Augusta, April 17 to 19, 1912. **Lloyd,** B. J., Passed Assistant Surgeon. Directed to proceed to Bremerton, Wash., when necessary to fumigate certain vessels. **Lumsden,** L. L., Passed Assistant Surgeon. Directed to proceed to Selma, Ala., to make an investigation of the causes favoring the propagation and spread of typhoid fever. **McLaughlin,** A. J., Passed Assistant Surgeon. Directed to proceed to Jefferson City, Mo., and other points on the Missouri River watershed, to examine into precautions taken to prevent the spread of typhoid fever and other water borne infectious diseases in interstate traffic. **Parker,**

Herman B., Passed Assistant Surgeon. Granted one month's leave of absence on account of sickness, from March 1, 1912. **Ramus,** Carl, Passed Assistant Surgeon. Granted five days' leave of absence en route to station. **Schuster,** B. L., Acting Assistant Surgeon. Granted one day's leave of absence, April 18, 1912. **Simonson,** G. T., Acting Assistant Surgeon. Granted one day's leave of absence, without pay, April 17, 1912. **Von Ezdorf,** R. H., Passed Assistant Surgeon. Detailed to attend the meeting of the State Medical Association of Alabama, to be held at Birmingham, April 16 to 19, 1912. **Weitgenant,** W. W., Pharmacist. Granted six days' leave of absence from April 8, 1912, under paragraph 210, Service Regulations. **White,** J. H., Surgeon. Detailed to attend the annual meeting of the State Medical Society of Wisconsin, at Milwaukee, Wis., May 24, 1912.

Boards Convened.

Board of medical officers convened to meet at Port Townsend, Wash., as soon as practicable for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Passed Assistant Surgeon B. H. Earle, chairman; Acting Assistant Surgeon P. I. Carter, recorder.

Board of medical officers convened to meet at the Marine Hospital, Port Townsend, Wash., at 10 o'clock a. m., April 22, 1912, for the examination of an officer of the Revenue Cutter Service to determine his physical fitness for promotion. Detail for the board: Passed Assistant Surgeon B. H. Earle, chairman; Acting Assistant Surgeon P. I. Carter, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending April 20, 1912:

Bailey, Edward, First Lieutenant, Medical Reserve Corps. Relieved from duty on the transport *Burnside,* Seattle, Wash., and will proceed to Fort Lawton, Wash., for temporary duty; granted leave of absence for four months, to take effect about June 25, 1912. **Ballard,** J. C., First Lieutenant, Medical Reserve Corps. Granted thirty days' leave of absence, with permission to apply to the Adjutant General of the Army for a thirty days' extension. **Banister,** William B., Lieutenant Colonel, Medical Corps. Upon the departure from Chicago of Colonel Louis M. Maus, Medical Corps, will, in addition to his present duties, assume temporarily the duties of chief surgeon of the Central Division. **Bartlett,** C. J., Major, Medical Corps. Relieved from duty at Fort Andrews, Mass., and ordered to Fort Worden, Wash., for duty. **Brown,** I. C., First Lieutenant, Medical Reserve Corps. Orders directing him to proceed to Schofield Barracks, H. T., revoked; ordered instead to duty on the transport *Burnside,* with station at Seattle, Wash. **Coffin,** Jacob M., Captain, Medical Corps. Ordered to Memphis, Tenn., for duty pertaining to the flood sufferers. **Craig,** Charles R., Captain, Medical Corps. Ordered to proceed to the meeting of the Louisiana State Medical Society, New Orleans, La., April 23 to 26, 1912. **Davis,** W. B., Colonel, Medical Corps. Ordered home to await retirement from active service. **Dougherty,** James C., First Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Bliss, Texas, and will proceed to Schofield Barracks, H. T., for duty. **Holmes,** R. W., Lieutenant, Medical Corps. Orders relieving him from duty at Plattsburg Barracks, N. Y., and assigning him to duty at Fort Liscum, Alaska, revoked. **Lemmon,** Robert, First Lieutenant, Medical Reserve Corps. Left Fort Hancock, N. J., on fourteen days' leave of absence. **McBrayer,** C. E., Lieutenant, Medical Corps. Relieved from duty at Fort Howard, Md., and ordered to Fort William H. Seward, Alaska. **Miller,** Reuben B., Major, Medical Corps. Ordered to Memphis, Tenn., for duty pertaining to the flood sufferers. **Moncrief,** William H., Captain, Medical Corps. Granted thirty days' leave of absence. **Mudd,** Lee C., Lieutenant, Medical Corps. Relieved from duty at Washington Barracks, D. C., and ordered to Fort Leavenworth, Kansas, for duty. **Phillips,** H. A., Captain, Medical Corps. Orders revoked which directed him to proceed to Fort H. G. Wright, N. Y., for temporary duty. **Reno,** W. W., Assistant Surgeon, Medical Corps. Ordered to proceed to Fort Leavenworth, Kansas, to accompany the board of officers on the marches to be made to test the latest pattern of marching shoes. **Rich,** E. W., Captain, Medical Corps. Granted three months' leave of absence. **Truby,** W. F., Major, Medical Corps. Relieved from duty at Fort Worden, Wash., and ordered to Fort Winfield Scott, Cal., for duty. **Von Schrader,** Alleyne, Lieutenant, Medical Corps. Relieved from duty at the Letterman General Hospital, San Francisco, Cal., and ordered to Fort Liscum, Alaska, for duty. **Waring,** J. H. B., Lieutenant, Medical Corps. Relieved from treatment at the Letterman General Hospital, San Francisco, Cal., and ordered to Fort Leavenworth, Kansas, for duty.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending April 20, 1912:

French, G. R. W., Assistant Surgeon. Detached from the *Albatross* and ordered to the *Nero,* in conection with Alaskan Wireless Expedition. **Hull,** H. F., Passed Assistant Surgeon. Detached from the *Panther* and ordered to the *Ohio.* Rennie, H. H., Passed Assistant Surgeon. Detached from the *Ohio* and ordered to the *Panther.* **Turner,** H. W. B., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from January 30, 1912.

Births, Marriages, and Deaths.

Married.

Bogart—Ricketts.—In Brooklyn, N. Y., on Saturday, April 20th, Dr. J. Bion Bogart and Mrs. Marion Corbitt Ricketts, of Chicago. **Downey—Wadsworth.**—In Chickasha, Okla., on Wednesday, April 10th, Dr. D. H. Downey and Miss Ethel Wadsworth. **Field—Gearing.**—In Annapolis, Md., on Thursday, April 18th, Dr. George Henry Field and Miss Mary Gearing. **Johnston—Hever.**—In Cumberland Island, Ga., on Wednesday, April 17th, Dr. Marius Johnston, of New York, and Mrs. Nancy Carnegie Hever. **Kefauver—Brenner.**—In Smithsburg, Va., on Thursday, April 11th, Dr. Maurice D. Kefauver and Miss Bertha B. Brener.

Died.

Allen.—In Saranac, N. Y., on Friday, April 12th, Dr. Albert H. Allen, formerly of Columbus, Ga. **Ammerman.**—In Greenwood, Del., on Friday, April 12th, Dr. Charles W. Ammerman, aged sixty-eight years. **Bemis.**—In Fremont, Ohio, on Saturday, April 13th, Dr. James D. Bemis, aged fifty-four years. **Boyd.**—In Austin, Texas, on Tuesday, April 9th, Dr. J. N. Boyd, aged sixty-nine years. **Brewe.**—At sea, in the sinking of the *Titanic,* on Monday, April 15th, Dr. Arthur Jackson Brewe, of Philadelphia. **Brown.**—In Barberton, Ohio, on Saturday, April 6th, Dr. George A. Brown. **Crampton.**—In San Bernardino, Cal., on Friday, April 12th, Colonel Lewis W. Crampton, Medical Corps of the United States Army. **Fedderman.**—In Baltimore, Md., on Friday, April 12th, Dr. William H. Fedderman, aged forty-five years. **France.**—In Far Rockaway, N. Y., on Sunday, April 14th, Dr. Henry A. France, aged seventy-nine years. **Freer.**—In Beguio, Philippine Islands, on Wednesday, April 17th, Dr. Paul Gasper Freer, aged fifty years. **Fry.**—In New Orleans, La., on Tuesday, April 9th, Dr. Samuel Fry, aged forty-one years. **Gailey.**—In Marion, Ohio, on Wednesday, April 10th, Dr. Calvin Pancoast Gailey, aged sixty-six years. **Hoskins.**—In Newport News, Va., on Friday, April 12th, Dr. William Hoskins, aged thirty-nine years. **Lewis.**—In Roanoke, Va., on Saturday, April 6th, Dr. J. Newton Lewis. **Martin.**—In Lynchburg, Va., on Saturday, April 20th, Dr. Rawley W. Martin. **Nelson.**—In Cambridge, Mass., on Sunday, April 14th, Dr. Louis Nelson, aged thirty-four years. **Patton.**—In Richmond, Va., recently, Dr. James Houston Patton, of Brooklyn, N. Y. **Pier.**—In Brooklyn, N. Y., on Wednesday, April 17th, Dr. Victor Seymour Pier, aged thirty-six years. **Sleneau.**—In Port Huron, Mich., on Saturday, April 20th, Dr. Talbert Sleneau, aged sixty-six years. **Turner.**—In Augusta, Ga., on Wednesday, April 10th, Dr. Ralph G. Turner, aged forty-nine years. **Van der Poel.**—In New York, on Monday, April 22d, Dr. Samuel Oakley Van der Poel, aged sixty-nine years. **Van Kirk.**—In Oakland, Cal., on Saturday, April 13th, Dr. Harriet N. Van Kirk, aged eighty-seven years.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

April 11, 1912.

1. CHARLES L. SCUDDER: Chronic Ulcer or Chronic Indigestion; Successful Treatment by Surgical Measures.
2. STEPHEN RUSHMORE: Chorionepithelioma.
3. GEO. W. KAAN: Relation of Gonorrhea to Pelvic Disease.
4. T. CHITTENDEN HILL: Palliative and Operative Treatment of Anal Fissure.
5. WILLIAM F. WHITNEY: Delicate Method for Obtaining Hemin Crystals from Minute Blood Stains.
6. F. J. COTTON: Rupture of the Bowel from Compressed Air; Operation; Recovery.

1. Chronic Ulcer or Chronic Indigestion.—Scudder maintains that cases of intractable recurring dyspepsia in adult life are probably often cases of chronic duodenal or gastric ulcer, and that when the symptoms persist after a carefully conducted and skilled medical treatment for a period of two or three months or more, surgical treatment should be adopted. He reports twenty-five cases of chronic ulcer, in which medical treatment failed to give anything more than temporary relief, and surgical treatment proved of greater value. The reasons for surgical treatment are given as, 1, medical treatment has failed to cure; 2, the exact duration and extent of the ulcer is unknown; hemorrhage may occur and death result; 3, the stomach and duodenum may be perforated by the ulcer; 4, carcinoma may develop from the ulcer; 5, obstruction may occur at the pylorus; 6, chronic invalidism will otherwise persist; 7, a large proportion of the ulcers may be cured in this way. Early operation avoids many years of chronic distress and invalidism, terminal conditions such as pyloric obstruction, hemorrhage, and perforation, and at the same time favors a rapid healing of the ulcer.

3. Gonorrhea and Pelvic Disease.—Kaan protests against the statements that have been made attributing a very large percentage of all pelvic operations in women to the gonococcus, sixty per cent. or more, as exaggerations which should be modified in the interest of truth. He maintains that the hospital practice of the best gynecologists of Boston indicates that the ratio of all operations upon the Fallopian tubes are only from five to sixteen per cent. of all gynecological operations, and a deduction must be made from this to arrive at the proportion which are due to the gonococcus only. The proportion of all operations upon the tubes to all abdominal operations (excluding appendectomy and those not on the sexual organs) varies from nineteen per cent. to fifty per cent. The proportion of gonorrheal to other pelvic inflammatory disease cannot be estimated from the hospital report, but Gebhard's bacterial examinations show twenty-two per cent. of proved gonorrheal infection. There were 226 sterile cases in 409 of tubal infection.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

April 13, 1912.

1. LUDVIG HEKTOEN: Allergy or Anaphylaxis in Experiment and Disease.
2. H. A. HARE: Treatment of Sacculated Aneurysm by Wiring and Electrolysis.
3. EDMUND A. BABLER: Surgical Treatment of Ascites Secondary to Vascular Cirrhosis of the Liver.
4. JOHN B. MURPHY: Surgery of the Bones, Joints, and Tendons (*To be continued*).
5. FREDERICK A. FENNING: Voluntary Submission to Treatment and Custody in Hospitals for the Insane.
6. JOHN R. MOHLER and ADOLPH EICHHORN: Diagnosis of Malta Fever.
7. LOUIS P. HAMBURGER: Septic Sore Throat in Baltimore and Its Relation to a Milk Supply.
8. J. L. MILLER and J. A. CAPPS: Sore Throat Due to Milk.
9. EVAN S. EVANS: Cervical Rib.
10. CHARLES H. FRAZIER: Duplex Uterus (Didelphys).
11. F. C. SHARPLESS: Treatment of Typhoid Periostitis by Vaccine.
12. HENRY G. SMITH: Unusual Lithopedion.

2. Treatment of Sacculated Aneurysm by Wiring and Electrolysis.—Hare reports six cases of sacculated aneurysm treated by the Moore-Corradi method. This method is not new and in its early history many failures were recorded for the reasons that the operation was not done under asepsis or because so much damage was done to the sac wall that its continuity was destroyed and death hastened. In every instance, the growth was so large that early death was assured, and in several the sac wall was so thin as to be blue or blackish in hue like a great ecchymosis, and bloody serum was oozing through the skin. In many, if not all, of the cases life was prolonged, and in practically all there was relief, total or partial, from pain which was severe before operation. The writer has operated in twenty-two cases without accident, and, as he has found the same to be true with other operators, he concludes that this radical operation is not fraught with danger when properly performed. It is the only one that materially prolongs life, in one case life having been prolonged at least five years. Prompt relief of pain, which is usually permanent unless the growth extends in a new direction, creating a new source of pain, justifies this operation. The diagnosis of sacculated aneurysm should be confirmed by x ray examination, as in fusiform aneurysm this operation is contraindicated. Properly prepared wire must be used.

3. Surgical Treatment of Ascites Secondary to Vascular Cirrhosis of the Liver.—Babler advises the operation of epiplopexy in ascites secondary to vascular cirrhosis of the liver. In this operation the omentum is utilized for the purpose of making vascular channels of communication between the portal and systemic circulation. In recent cases there has been no operative mortality, although two patients were looked upon as hopeless owing to extensive hepatic changes; these last lived eight and fifteen days, respectively. The author's technique is advised for several reasons: Thorough inspection of the abdominal viscera is possible; the entire surface of the omentum can be utilized without disturbing the normal relation of the stomach and transverse colon; compression of the omentum between the muscle and its sheath is prevented; the danger of postoperative hernia and intestinal obstruction is practically eliminated; injury to blood and nerve supply of the recti muscles is avoided.

6. Diagnosis of Malta Fever.—Mohler and Eichhorn conclude that the complement fixation test can be utilized for the diagnosis of Malta fever, and inasmuch as the agglutination test is not always reliable, the former will serve as an aid in diagnosticating this malady. The writers describe this test and give the technique.

7. Epidemic of Septic Sore Throat Due to Milk.—Hamburger describes an epidemic of septic sore throats in Baltimore which was traced to a single dairy, and states that Simon and White have found in smears, furnished by him, an end to end

diplococcus, intracellular in some specimens, each pair seeming to be surrounded by a halo, but with the capsule stain of Welch, Burger, and His. No envelope can be demonstrated. The organism grows in dewlike droplets on agar. Milk is coagulated and acidified by it, and in this fluid it develops in long chains with end to end arrangement and sometimes in tetrad form, division having taken place on two planes. Bile salts have no solvent action upon the organisms. Blood agar plates show a hemolytic zone around individual colonies. The cocci cause uniform turbidity when grown in broth. Inulin is not fermented by them.

8. Sore Throat Due to Milk.—Miller and Capps have been investigating the possible origin of the streptococcic sore throat of a recent epidemic, in the milk supply. Their observations show that the great majority of the victims used milk from one dairy. The large number of cases, over a large portion of the city, appeared suddenly and led the investigators to suspect that the infection was probably spread through milk.

MEDICAL RECORD.

April 13, 1912.

1. John B. Stein: History of Causal Agent of Syphilis.
2. Robert Abbe: Papilloma of Vocal Cords Cured by Radium.
3. Herman B. Sheffield: Congenital Myxedema; Cystic Goitre with Feeble Mentality.
4. M. Gross: Examination of the Duodenal Contents for Diagnostic Purposes.
5. David Felberbaum and Samuel Ehrenreich: Cheyne-Stokes Respiration.
6. Leigh F. Watson: Extension and Recurrence of Breast Cancer through the Deep Fascia.
7. L. M. Stroud: Malignant Tumors.
8. Edmund P. Fowler: Effect upon the Ears of Rapid Transit through Tunnels.

1. Causal Agent of Syphilis.—Stein has recorded the history from Donné, in 1837, to Noguchi, in 1911 and 1912, of the search for the germ of syphilis. The larger part of this work has been done in the last quarter century, culminating with the discovery of *Treponema pallidum* by Schaudinn in 1905, and the final proof that it is the contagium of syphilis by Noguchi in 1911 and 1912. Schaudinn blazed the trail for the work of a host of investigators, and made possible a better knowledge of the prophylaxis, diagnosis, treatment, and cure of syphilis (staining methods, Burri method, the seroreactions and its application by Wassermann and others, and the discovery and application of salvarsan by Ehrlich and Hata).

2. Papilloma of Vocal Cords Cured by Radium.—Abbe records the curative effects of radium upon a rebellious case of recurring warty growths upon the vocal cords. The patient had had her larynx cleared out every six months for over forty-seven years by means of cutting punches. A second case, in a young woman of seventeen years who had an unusually sweet singing voice, became hoarse on account of the proliferation of these papillomata, which covered the whole of one vocal cord and two thirds of the other. Abbe did a tracheotomy under ether anesthesia, and through this wound passed a wire up through the larynx into the mouth. He thus drew up into the larynx a small smooth capsule containing 100 milligrammes of pure radium, which thus occupied a position between the vocal cords, where it was held for thirty minutes, the anesthesia being kept up through the tracheotomy wound. Three months after this one treatment no trace of the growth remained, the cords being entirely healthy in appearance and presenting no sign of disease or scar.

6. Extension and Recurrence of Breast Cancer through the Deep Fascia.—Watson warns us that it is our duty to impress on women the need for an immediate consultation on the appearance of any tumor or growth in the breast, although it may appear small or insignificant. The diagnostic signs of cancer are really its complications, and their presence in positive form means incurability with the most radical operation. Cancer recurs in the fascia and not in the skin, extending through the lymphatics and not through the blood stream. When recurrence appears, it shows that the disease was more extensive than suspected at time of operation. This primary operation should include the removal of the deep fascia over the ribs, clavicle, and sternum and all infected and suspected lymphatic glands, together with the skin, breast, tissue, and fat over the affected breast. The writer notes the contraindications for operation, gives the technique of operation, and postoperative care.

7. Malignant Tumors.—Stroud thinks that the hypothesis that degenerate cells are reproduced by diseased cells through a long line of ancestry will harmonize the theories of Cohnheim and Ribbert. He argues that all malignant tumors are due to the proliferation of degenerate cells in their primal origin and that all other causes of malignant tumors are merely exciting. He describes the links in the chain of morbid events accounting for the primal origin of malignant tumors to be degenerate cells, as parasites through primal hereditary tendencies and the exciting causes of age, sex, trauma, or disturbed metabolism from pathogenic bacteria, etc.

8. Effect upon the Ears of Rapid Transit through Tunnels.—Fowler finds that passengers travelling through submarine tunnels experience a sensation of blocking of the ears, produced by a change in air pressure. He investigated the cause of this phenomenon, conducting very careful experiments using very accurate and sensitive aneroid barometers placed in the hands of an observer in the forward part and one in the rear of the train, and, sometimes, also in the interior cars. Eight readings were made on each trip, which varied greatly, according to the speed at which the train was travelling. The principal cause is the suddenness with which the changes in air pressure occur. No harm should result from air pressure changes greater than those experienced in the tunnels to the normal ear. To those suffering from tubal and catarrhal troubles the subjection every day or twice daily to the extreme air pressure changes would be injurious, because, unless the ear blockage is relieved within a few minutes after its occurrence, retraction of the membrana tympani and blocking of the Eustachian tube are accentuated, especially if the ears are exposed first to an increase and then suddenly to a rapid diminution in air pressure. Relief by the use of inflation by Valsalva's method is condemned, and a better method is explained.

BRITISH MEDICAL JOURNAL.

April 6, 1912.

1. Clive Rivière: Action of Tuberculin and Application to Treatment.
2. D. B. Lees: Pulmonary Tuberculosis Treated by Continuous Antiseptic Inhalations.
3. William Ewart: Perez's Sign; and Audible Motor Crackles.
4. William Gordon: Influence of Strong Prevalent Rain Bearing Winds on Phthisis.
5. D. W. Samways: Genesis of Dicrotic Pulse Wave.
6. M. D. Silberberg: Blood Pressure Readings in Auricular Fibrillation.
7. J. A. M. Cameron: Calcareous Degeneration of Myocardium.
8. T. B. Shaw: Treatment of Syphilis with Salvarsan.

1. Tuberculin.—Rivière gives the effects of tuberculin: First, the immediate effect is the focal reaction, which is of infinite value in the treatment of localized disease. The main obstacle to treatment is at once overcome, blood, carrying antibodies and nutriment, is brought to the area of disease. This area becomes obviously more vascular and the plasma which passes through it is increased. Second, in the period following the reaction there is a general increase in the antibodies in the blood, as shown by the positive phase of opsonic power, so that at the next injection more highly protective blood will flood the diseased focus. The result of the focal hyperemia and the increase of antibodies shows itself in a marked tendency toward healing, which is observable in visible tuberculous processes in the second week after the injection. The practical application of tuberculin therapy to cases of localized tuberculosis has two aims: 1. To irrigate the diseased area by the production of a mild but prolonged focal reaction; 2, to keep the opsonic power of the blood at as high a level for as long a period as possible. The dose and interval must be such that the best reaction is prduced without any excess of symptoms such as would lead to loss of weight or prolonged malaise. Phthisis may be classified for treatment into: 1. Cases in which there are symptoms of autointoxication even when the patient is at rest; 2, those in which these symptoms arise only after exertion; 3, those in which no symptoms are caused by full amount of work. The last two groups are readily amenable to benefit by tuberculin. The first are already responding to autoinoculation and are generally not benefited by tuberculin unless it be by doses which will serve to give a smart reaction which may be a turning point. This is fraught with some considerable risk, but in certain cases the risk would seem to be amply justified by the known good results which at times follow.

3. Perez's Sign.—Ewart describes Perez's sign as the production of sounds audible over the upper thorax by active or passive movement of the arms at the shoulder joint, particularly by raising or lowering them. After some study of cases with reference to this sign Ewart believes that it opens up a new field of observation which may lead to important clinical results. He thinks that for the diagnosis of articular conditions it is by far the finest test that can be applied and should be made in every case. A negative result from auscultation and manipulation of a joint would be the quickest as well as the only conclusive evidence of absolute soundness of the joint. All doubtful cases of apical tuberculosis should be submitted to this test, for there are lesions, chiefly pleural, but sometimes pulmonary, which give sounds under the mechanical traction of movement and not always under that of deep breathing only. There is the no less important fact to be borne in mind also that some of the sounds heard over the apices may be conducted from the sternoclavicular or shoulder joints.

5. Genesis of the Dicrotic Pulse Wave.—Samways believes that he has been able to show by physical and animal experimentation and by clinical analysis that the dicrotic wave is due to the recoil of the first part of the arch of the aorta following its longitudinal stretching. The stretching is produced by the influx of blood from the ventricle in the form of a column the ends of which can be considered as being at the apex of the ventricle and the second portion of the aortic arch. It is therefore a catapultic or ballistic wave and does not depend upon a rebound of the aortic valves. He likewise explains the main pulse wave as due to the elastic recoil of the stretched circular fibres of the aorta.

6. Blood Pressure in Auricular Fibrillation.—Silberberg takes these readings by means of two wrist splints of the Mackenzie polygraph, one applied to each radial, and both made to write on a single strip of paper in one of the polygraphs. The apparatus is adjusted so that the best readings are obtained from both wrists and so that they are about equal in oscillation. Then into an armlet band of a blood pressure apparatus applied to one arm air is gradually pumped, raising the pressure by five to ten mm. of mercury at a time. When the smallest beats of the pulse in the compressed arm are lost the reading of the pressure in the manometer is taken, and this is considered the minimal systolic pressure. If the pressure is then increased until all of the beats are obstructed, this gives the maximal systolic pressure. It is found that in very irregular hearts there may be a difference of as much as sixty mm. between these two readings. The difference is much less when the rate of the heart is slow than when it is fast.

LANCET.

April 6, 1912.

1. H. G. Adamson: Significance of Skin Eruptions. (Lecture I.)
2. William Bain: Pharmacology and Therapeutics of Lecithin and Phytin.
3. Lauder Brunton and W. E. Williams: Angina Abdominis.
4. E. F. Buzzard: Acute Poliomyelitis and Allied Conditions.
5. A. J. Walton: Congenital Malposition of Gallbladder.
6. H. T. Thompson and J. Sinclair: Telegraphists' Cramp.

1. Significance of Skin Eruptions.—Adamson regards the eruptions due to physical injury and those due to invasion of the skin by microorganisms, as defensive reactions which differ on account of the nature of the cells affected or of the nature of injuring or infecting agent, or on account of the combination of both factors. A corn, for example, is the response of the epidermal cells to a long continued injury of a mild grade. If the injury is more severe and more acute the result is a blister. The nature of the response depends directly upon the different factors in the injury and the characters of the cells injured. In the same way those eruptions due to local invasion of the skin by microorganisms are to be looked upon as beneficial reactions, and a careful study of their characters

should aid in determining the type of cell involved and something about the infecting organism. In accordance with this idea of the eruptions being defensive reactions, it is interesting to note the rapidity with which they disappear when the attacking agent has been removed. Adamson goes further and adduces evidence both clinical and experimental to show that in the case of certain cutaneous eruptions there occurs some degree of general immunity reaction toward the infecting organism; this is well illustrated by lupus, in which there occurs a certain grade of immunity to general tuberculosis. It is to be noted, however, that in spite of the existence of such immune reaction, there is but little hope of benefit from methods of artificial immunity, for, in general, the disease is confined so sharply to the skin that the immune bodies fail to reach the affected regions in sufficient amounts to be of value.

2. **Lecithin and Phytin.**—Bain quotes freely from the literature on the pharmacological actions and therapeutical uses of these two substances, and cites some of his own clinical observations and animal experiments. Upon these combined observations he bases the following conclusions: 1. Clinical experience leads to the belief that lecithin is a valuable drug in cases of anemia and debility. He regards it as a metabolic stimulant, for it is scarcely conceivable that the small amount of extra phosphorus and nitrogen given in small doses of a few grains daily can act as a tissue former in any considerable degree. 2. Its beneficial effect upon the nervous system is to be regarded as secondary to improvement in the general nutritive condition, and not because lecithin is a "brain food." 3. Its most striking effect is seen in the blood, the red corpuscles, white corpuscles, and hemoglobin percentage all being increased. 4. Although there is some evidence that phytin may be of some value in the case of herbivora, the evidence in favor of its utilization by carnivora or by man is either negative or conflicting. Experiments on rabbits were not encouraging. 5. Phytase, the enzyme causing cleavage of phytin, though present in plants, appears to be absent from animals; it is suggested, therefore, that if cleavage does occur in animals it is due to the phytase in the vegetable food taken.

3. **Angina Abdominis.**—Brunton and Williams report and describe a case in which the patient suffered severe abdominal pain when he began to walk. It was most intense in the umbilical region and at first was confined to this region, but subsequently extended all over the front and back of the chest. The pain was thought to be of the nature of a true angina and the exhibition of the nitrites was at once successful in bringing relief from the attacks. A curious fact is that the sister of this man has suffered for some years with symptoms in every way similar to those described and has been similarly relieved by the nitrites. On complete physical examination there was found to be some evidence for the belief that both patients were syphilitic.

AUSTRALASIAN MEDICAL GAZETTE.

March 9, 1912.

1. Temple Smith: Government Ophthalmic Hospital, Madras.
2. W. Sydney Sweet: Tumors Met with in General Practice.
3. H. G. Holmes: Absence of the Zygomatic Arch.

BULLETIN DE L'ACADÉMIE DE MÉDECINE.

March 5, 1912.

1. Daniel J. Cranwell: Intraperitoneal Hemorrhage through Rupture of a Graafian Follicle.

March 12, 1912.

2. Ch. Walther and Ch. Monod: A Method of Orchidopexy.
3. S. Pozzi: Alternating Life of Tissues Outside of the Organism, According to the Recent Experiments of Alexis Carrell. A Supplementary Note.

March 19, 1912.

4. De Font-Réaulx and Blanchard: Etiology of Phlyctenular Conjunctivitis.
5. Pamard: Treatment of Syphilis in Pregnant Women.

1. Hemorrhage from Ruptured Graafian Follicle.—Cranwell reports the case of a woman, twenty-four years old, who presented symptoms of ruptured extrauterine gestation sac with great intraperitoneal hemorrhage, but in whom at operation a small opening, 2.4 mm. in diameter, at the upper surface of the left ovary proved to be the sole source of the hemorrhage, all other pelvic organs being absolutely normal. The ovary and corresponding tube were removed and the wound was closed. The patient left the hospital well on the tenth day. No interruption of menstruation had taken place before the hemorrhage, which occurred at the time of an expected menstrual period. Careful examination of the ovary, with serial sections showed that the hemorrhage had taken place from a cavity eleven mm. in diameter, which was that of a normal Graafian follicle. Numerous vessels were to be seen in the tissue surrounding the small external orifice, but no ruptured vessel of any size could be found. The author discovered only three other exactly similar cases in the literature, though more numerous cases had been reported of intraperitoneal hemorrhage and hematocele due, independently of ectopic gestation, to rupture of blood cysts of the ovary, ovarian apoplexy, hemorrhagic pachysalpingitis, and uterine fibroma.

2. Orchidopexy.—Monod describes a procedure originated by Walther, the essential steps of which include a complete exposure of the inguinal canal, isolation of the spermatic cord all the way into the abdominal cavity (in cases where the cord is very short), radical cure of the hernia or hernial invagination, formation of a space in the corresponding side of the scrotum, passage of the testicle just brought down through this opening, and suture of the opening with catgut above and below the cord, thus narrowing it sufficiently to prevent the return of the testicle. One or two sutures, holding the cord to the septum just above the opening, are usually added. By this method both testicles are placed in the same side of the scrotum. The testicle operated on almost invariably assumes a position below the normal organ, which at the same time preserves its ordinary mobility. The cord of the affected side also remains much less rigid than in procedures in which it is fastened to the inguinal canal and scrotum throughout its course. About thirty cases have been operated in by Walther. Seven of these came under observation again after intervals ranging from six months to ten years, and in all the result was good. The method is worthy of more attention than it has so far received.

4. Etiology of Phlyctenular Conjunctivitis.—De Font-Réaulx is struck by the frequency with which *Pediculus capitis* is present in sufferers from

this affection. Among 167 cases of phlyctenular conjunctivitis phthiriasis was observed in 142 instances, and in the remaining twenty-five patients search for pediculi was not possible for various reasons, so that these, too, may have had pediculi. The author puts forth the hypothesis that both phlyctenular conjunctivitis and impetigo, which often coexist, are the result of pediculosis, and recommends that children harboring lice be not admitted to school.

5. Treatment of Syphilis in Pregnant Women.—Pamard reports facts concerning four syphilitic families which he had under observation for periods of twenty to thirty years. In all but one, the husband had followed treatment only irregularly, and the first children borne by the mothers were dead and macerated. In the succeeding pregnancies Pamard administered to the mothers a pill containing one mg. of mercury bichloride each morning with breakfast, adducing reasons such as ease of labor and puerperium, or esthetic considerations, in order to allay suspicion on the part of the mother. In each case, the next infant was born healthy. In one instance, however, the mercury having been omitted by mistake before a third pregnancy, a hydrocephalic child was the result. In none of the cases, moreover, did the mother show at any time any evidence whatsoever of syphilitic infection. In cases such as these, the uterine mucosa can alone be the seat of maternal infection and the remainder of the system is uninfluenced. It is inadvisable to use salvarsan in pregnant women and infants, as mercury has yielded uniformly excellent results and is without danger to life. In the discussion which followed this paper, Pinard supported the assertion of Pamard, that syphilis in the fetus might remain unaccompanied by systemic infection of the mother, stating that all pregnant women he had seen who bore mucous patches had contracted syphilis before or after conception, and never through the ovum. Balzer asserted that he had always found women who had borne infected infants to present syphilitic manifestations subsequently, and did not believe a woman could be the bearer of a syphilitic ovum for nine months without becoming infected. Bar stated that a study of the Wassermann reaction in cases of this kind was being conducted in the Tarnier clinic, which, it was hoped, would permit of definitely settling the question.

PRESSE MÉDICALE.

March 30, 1912.

1. A. Stoffel: New Operation for the Treatment of Spastic Paralyses.
2. Carle Rœderer: Congenital Luxations of the Hip with Late Manifestations.
3. P. Kouindjy: Cinetotherapeutic Treatment of Tabetic Arthropathies.

April 3, 1912.

4. Marcel Labbé: Syndrome of Acidosis and Diabetic Coma.
5. Alfred Martinet: Mechanism of Antiasthmatic Medication.
6. Eugene Andronesco and F. Saratzeano: Value of Wassermann Reaction in the Diagnosis of Inherited Syphilis.

1. Operation in Spastic Paralyses.—Stoffel's operation is for relief in cerebral hemorrhage and Little's disease. Overtension in these conditions is produced principally in the sural triceps (gastrocnemius and soleus combined), the flexors of the knee, the femoral adductors, and the pronators and flexors of the hand. Voluntary movement is not abolished, but is masked by the violence of the spasm. Hence, Stoffel operates on the motor nerve, dividing portions of its fibres. He considers each nerve, not as a simple unity, but as a group of motor and sensory fibres, each portion of which supplies a part of some muscle group. These partial divisions weaken the nerve and, therefore, parts of the muscle group, thus enabling the opposing muscles to exercise their functions. Experience dictates the extent of the cutting to be done in each individual case. The technique is simple, dressings are few, treatment is short, results are admirable. Stoffel advises considerable practice on the cadaver before proceeding to actual surgery on the living patient.

2. Obscure Congenital Luxations of the Hip.—Rœderer recalls that many a congenital luxation of the hip escapes not only the attention of the accoucheur, but many later observers, and that obvious symptoms may not appear till the child has reached the age of four or five years. In one case he describes the child was over nine years old. Reduction is difficult in such cases and relapse is probable.

3. Tabetic Arthropathies.—Kouindjy has found that mercury, far from removing the arthropathies of tabes, frequently permits their first appearance while being administered in full doses. A treatment is required that will cause resorption of the intraarticular and circumarticular infiltrations, and cinetotherapy gives good results, when combining scientific massage with educational gymnastics and movements. The writer begs his readers never to trust to systemic treatment to remove these arthropathies and to begin cinetotherapy as early as possible; this will cause not only the resorption already mentioned, but also impart tone to the muscles surrounding the joint. The treatment is of no value when the arthropathy is advanced, with great destruction of tissue.

4. Acidosis and Diabetic Coma.—Labbé, discussing the present theory of diabetic coma, i. e., that it is due to intoxication by betaoxybutyric and diacetic acids, and noting how some apparent cases have been relieved by an alkaline régime, states his belief that there is a preliminary stage of acidosis. This is amenable to alkalies. The true coma follows and is characterized by a steady and progressive destruction of the bodily nitrogenous substances, a polypeptic intoxication, with elimination of ammonia and aminoacids; it resists all treatment and is rapidly fatal.

5. Antiasthmatic Medication.—Martinet states that an attack of asthma may come from the bronchoconstrictor centre of the vagus, or from the trunk of the vagus, i. e., from excitement of an asthmatogenic region, such as the nasal mucosa, or from tumors, neuritis, or the exciting electrodes of the experimental physiologists. Morphine, although its action is not fully explained, probably acts on the centre. As this drug, when administered *per os*, determines a spasm of the pylorus, it is better given hypodermically or by the rectum. Chloral acts in a similar way to morphine. As to agents which act on the peripheral terminations of the vagus, we have lobelia, adrenalin, atropine, and urethane. The two latter combine well.

6. Wassermann Reaction in Inherited Syphilis.—Andronesco and Saratzeano use the Wassermann technique unmodified, and state positively that the reaction is of the greatest value in inherited syphilis, especially where there are no visible lesions. The mothers of syphilitic children react, but the test is still more trustworthy for the children.

SEMAINE MÉDICALE

April 3, 1912.

R. de Bovis: Construction of a Vagina from a Loop of Intestine.

New Vagina from an Intestinal Loop.—De Bovis's article is a résumé of the literature on the subject; he seems to prefer the operation of Baldwin, described by him in American publications in 1904 and 1907, and the modifications of this operation made by Mori and Halban. Impregnation is not possible through such a vagina, the operation is risky, and the most severe aseptic precautions are demanded.

ANNALS OF SURGERY.

March, 1912.

1. J. H. Gibbon: Indications for and against the Operative Treatment of Simple Fractures.
2. J. M. Hitzrot: Treatment of Simple Fractures; End Results.
3. W. J. Brickley: Luxation of the Ulna forward at the Wrist (without Fracture).
4. J. Homans: Osteomyelitis of the Long Bones.
5. H. Z. Giffin: Diagnosis of Diaphragmatic Hernia.
6. W. J. Mayo: Management of the Opening in the Transverse Mesocolon in Completing the Operation for Posterior Gastrojejunostomy.
7. J. Douglas: Sarcoma of the Small Intestine.
8. H. Drummond: Inversion of Meckel's Diverticulum.
9. E. G. Mark: Primary Sarcoma of the Male Urethra.
10. D. C. Balfour: Combination of Abdominal Retractor.

1. Operative Treatment of Simple Fractures.—Gibbon decries operative treatment of simple fractures as a routine measure and asserts that it is permissible only after the exhaustion of all rational nonoperative means. In certain patellar fractures; fractures near a joint; irreducible epiphyseal separation; some comminuted fractures; where soft tissues interpose between the fragments; or where a nerve has been caught between the fragments, operation may be the best treatment, but in many so called irreducible fractures, conscientious exhaustion of nonoperative measures will often obviate operation. For fracture of the surgical neck of the humerus, instead of trying to control the short upper fragment, the arm should be abducted till in alignment with the upper fragment, and a Buck extension applied for a week or two, the member then being dressed on a triangular splint. Transverse, oblique, or spiral fractures of the humerus, or fracture of the bones of the forearm, even when there is much overlapping, can usually be reduced and maintained by Buck extension, applied from a few days to three weeks. In fractures of the femur in the upper third abduction and elevation of the limb with Buck extension will often give perfect reduction and function, and in almost any case, a useful limb with little or no shortening. If these measures fail after a reasonable trial, open treatment is justifiable, but should not be attempted unless the technique is of a high order.

2. Treatment of Simple Fractures; End Results.—Hitzrot discusses the different methods of treating simple fractures, and concludes that the method of treatment which offers the patient the most satisfactory functional result with the least danger should be the method of election, that the future will show that the methods which most nearly fulfil these requirements are the nonoperative methods of reduction. The more experienced the profession becomes in the handling of fractures, the better the results. Operation must be considered, not the method of election, but of selection for a carefully chosen group of cases, and in selecting the types for operation each case must be considered a law unto itself. Many cases of the various types of fractures are reviewed, in which nonoperative treatment was employed, and in only a few cases were the results not entirely satisfactory.

4. Osteomyelitis of the Long Bones.—Homans noted, in a study of ninety-four cases of osteomyelitis of the long bones, that the great bulk of the infections were medullary in origin, and that the primary focus and earliest manifestations appeared near the end of the bones, at the epiphyseal lines. The upper end of the femur is the most common seat of the primary focus, but the femur has the lowest percentage of general infections, as the inflammatory products can escape easily. In most of the cases the onset was sudden and violent, and the full extent of bone destruction occurred from a few days to two weeks. The upper end of the radius and lower end of the humerus have a complete freedom from disease. The early treatment should be to remove only enough bone to insure good drainage, and later, when necrosis has reached its limit, to remove all the necrotic bone, leaving the periosteum as intact as possible. The Röntgen ray is not trustworthy for detecting the presence or extent of disease in the early stages, but is invaluable later in following the course of the process, and disclosing the extent and location of the necrosed bone.

5. Diagnosis of Diaphragmatic Hernia.—Giffin states that the most difficult and important differentiation here is that between diaphragmatic hernia and elevation of the diaphragm. If there is a history of severe crushing of the lower thorax or upper abdomen followed by pain over these regions with dyspnea and vomiting, and the physical findings point to displacement of the stomach or intestine into the lower left chest, and displacement of the heart to the right, diaphragmatic hernia is probably present. A bismuth meal and the x ray will help in the diagnosis, and may show destruction of the characteristic dome shaped line of the diaphragm, the appearance of lung tissue through the gas bubble in the left chest, and perhaps bismuth in the colon above the bow line of the chest, and these findings are the most important evidence in favor of hernia of the diaphragm. By fluoroscopic examination a paradoxical respiratory phenomenon may be demonstrated as follows; during forced inspiration the right diaphragm descends, while the boundary line on the left ascends; during forced expiration the right diaphragm ascends, while the boundary line on the left descends; upon forced expiration by contraction of the abdominal muscles, the shadow line on the left is again forced high into the chest. This phenomenon is absent in unilateral elevation of the chest.

ARCHIVES OF PEDIATRICS.

March, 1912.

1. A. Sophian: Twenty Cases of Infantile Paralysis.
2. John Ruhräh: Quick Macroscopic Agglutination Test.
3. Leon J. Menville: Bass-Watkins Typhoid Test.
4. A. W. Myers: Subcutaneous Injection of Human Blood in Hemorrhage of the Newborn.

5. Edwin Henry Schorer: Bacterial Counts and Acidity Determinations of Milk.
6. Palmer A. Potter: Edema in Infants.
7. B. Raymond Hoobler: Mineral Salts and Dietary of Infants and Young Children.

2. Quick Macroscopic Agglutination Test.—Ruhräh describes the Bass-Watkins agglutination test of typhoid, because he thinks it has not attracted the attention which it merits. A suspension of dead typhoid bacilli is used in the strength of 10,000 million bacilli in each c.c. in 1.7 per cent. sodium chloride solution to which is added one per cent. liquor formaldehydi. It is stable. One-quarter of a drop of blood is placed upon a glass slide, diluted with one drop of water, and thoroughly mixed. One drop of the test fluid is then added to it, and the mixture agitated for one half to two minutes by tilting the slide from side to side. If the reaction is positive a grayish mealy sediment appears within one minute, giving a granulated appearance easily seen with the unaided eye. This consists of agglutinating bacilli. The specimen may be examined at the bedside or at some later time. It gives trustworthy results in infants and children, all cases of typhoid having been positive and all other diseases negative.

3. Bass-Watkins Typhoid Agglutination Test.—Menville has used this test in eighty cases and obtained a positive reaction in all that were typhoid; in some, however, the reaction was not as marked as in others. In some cases the test was a great aid in diagnosis.

4. Subcutaneous Injection of Small Quantities of Human Blood in Spontaneous Hemorrhage of the Newborn.—Myers, after discussing the use of gelatin solutions used subcutaneously, transfusion in the newborn, human blood serum and horse serum, speaks of the advantages of the subcutaneous injections of human blood. He reports a case of a child who had on the second day, ten bloody stools and the vomiting of considerable quantities of clotted blood. On the third day there were four bloody stools. When the child was fifty-six hours old, three c.c. of blood were drawn from the mother's vein and injected into the subcutaneous tissues of the baby's buttocks. Two and one half hours later, there was another bloody stool. Four and one half hours after the first injection, a second one of five c.c. was given. There were no more hemorrhages, the child making an uneventful recovery. The doses were much smaller than those reported by Schloss-Commiskey, who had recoveries in six out of seven cases treated with ten to twenty c.c. of blood, a varying number of injections being used.

JOURNAL OF EXPERIMENTAL MEDICINE.

April 1, 1912.

1. E. A. Graham: Pathogenesis of the Hemorrhagic Diseases of the Newborn.
2. G. Baehr: Glomerular Lesions of Subacute Bacterial Endocarditis.
3. S. P. Kramer: Function of the Circle of Willis.
4. S. T. Darling: Experimental Infection of the Mule with Trypanosoma hippicum by Means of Musca domestica.
5. S. T. Darling: Infection of Mules by Trypanosoma hippicum through Mucous Membranes.
6. J. Erlanger and E. G. Festerling: Respiratory Waves of Blood Pressure; Method for Making Continuous Blood Pressure Records in Man.
7. A. Carrel: Ultimate Results of Aortic Transplantations.
8. A. Carrel: Technique for Cultivating a Large Quantitiy of Tissue.
9. R. Ingebrigtsen: Influence of Heat on Different Sera as Culture Media for Growing Tissues.
10. H. G. Barbour: Constricting Influence of Adrenalin upon Human Coronary Arteries.
11. W. Bartlett: Study of Arteries in Shock.

1. Pathogenesis of the Hemorrhagic Diseases of the Newborn.—Graham, in consequence of the insufficient information concerning the causes that underlie the hemorrhagic diseases, undertook to learn whether, by the experimental use of a single agent, the clinical and pathological picture of more than one of these diseases could be produced; to determine whether the differences between Buhl's disease, Winckel's disease, malæna neonatorum, icterus gravis neonatorum, etc., are sufficient to warrant the belief that they are separate entities, or whether all may not represent merely different expressions of the same general process. Chloroform was the experimental agent used, because of the close resemblance noted at autopsy between a case of late chloroform poisoning in the adult and a case of Buhl's disease in an infant. When gravid animals were chloroformed, their offspring showed changes characteristic of the pathological and clinical pictures of the various hemorrhagic diseases of the newborn; the differences between the various members of this group are not such as to indicate fundamentally separate etiologies. On the contrary, there is evidence strongly suggestive that primarily all are manifestations of an insufficient supply of available oxygen in the tissues with the train of consequences that this implies. Experiments upon guineapigs, rabbits, cats, and dogs showed that those conditions of the newborn characterized by a hemorrhagic tendency, icterus, and fatty changes, are probably all syndromes, the result of a number of toxic agents. All of them, however, have been produced by a single agent. A picture indistinguishable from that called Buhl's disease has been obtained by the use or chloroform, also Winckel's disease, melena, etc. Chloroform is probably not the only substance that has this power, but is a member of a group of agents, the effects of which are similar to those caused by a lack of oxygen. The essential features of these conditions have been produced by direct asphyxiation of the fetus. A deficiency of oxidation, general, local, or selective, is the underlying factor of these symptoms and pathological complexes, thus bringing these diseases into the general category of acute yellow atrophy of the liver, eclampsia, pernicious vomiting, cyclic vomiting, phosphorus poisoning, etc. In human beings, chloroform and asphyxia must in many instances be the determining causes; in other cases different factors are to be sought.

3. Function of the Circle of Willis.—Kramer experimented upon fifty dogs and three monkeys. The animals were etherized and two c.c. of a three per cent. solution of methylene blue were injected into a carotid or vertebral artery. The circulation of the blood in the artery that was being injected was not interfered with except by insertion of the needle. The animals were killed two minutes later, and the brain and spinal cord were removed. It was concluded that the circle of Willis is an anteroposterior anastomosis that operates only when either the carotid or vertebral arteries are tied. This was shown also to be the case by injecting drugs into the different vessels and determining the effect. The injection of 0.33 c.c. of chloroform into the right carotid produced a fall in blood pressure from which there was a quick recovery. The res-

piratory and vagus centres were unaffected. Both vertebral arteries were then tied, and the same amount of chloroform was injected into the right carotid, producing complete and permanent stoppage of respiration with vagal slowing of the heart and fall in pressure, the usual effect after vertebral injection.

7. **Ultimate Results of Aortic Transplantations.**—Carrel reports two cases. In the first experiment a segment of popliteal artery, extirpated from the leg of a young man and preserved for twenty-four days in cold storage, was transplanted upon the abdominal aorta of a small bitch. The animal lived in excellent health for four years and two months, became pregnant several times, and finally died during labor. The abdominal aorta was normal, but the human arterial segment was slightly dilated, and its wall was composed of connective tissue only. In the second experiment, a segment of dog's jugular vein, preserved for twenty-four hours in cold storage, was transplanted upon the thoracic aorta of a fox terrier. In spite of slight lesions of the cord due to the interruption of the aortic circulation during the operation, the animal remained in excellent health. After two years and two months the dog died of an epidemic disease. The descending aorta was normal. The transplanted segment had about the same calibre as the aorta, but its wall was composed of connective tissue, with no evidence of muscular or elastic tissues. The walls of the transplanted segments contained neither muscle nor elastic tissue fibres and were not thicker than those of the artery, nevertheless, they were able to withstand the pressure of the blood without undergoing marked dilatation. The results show that, in one experiment after four years and in the other after two years, the segments transplanted upon the abdominal and thoracic aortas were still efficient.

MONTHLY CYCLOPEDIA AND MEDICAL BULLETIN.

March, 1912.

1. Henry S. Upson: Dental Disease as It Affects the Mind.
2. Hermon C. Gordinier: Chronic Acetanilid Poisoning a Perfectly Definite Symptom Complex.
3. Frank Neall Robinson: Symptoms and Treatment of Pneumococcus Infection in Pulmonary Tuberculosis.
4. Boris Sidis: Causation of Psychopathic Maladies (*To be continued*).
5. Robert H. Ivy: Imperfections in the Diagnosis and Treatment of Pathological Conditions of the Teeth and Jaws.

1. **Dental Disease and the Mind.**—Upson, from a skiagraphic study of the dental conditions of some 350 to 400 patients suffering from mental aberration, is convinced that dental disease among defectives and the insane is often present in a causal relation. He gives detailed illustrative histories of seven patients, including three adults and four children, in whom recovery from attacks of insanity of various grades, delusions, or mere irritability and nervousness, was brought about by extraction of decayed or impacted teeth and amputation of abscessed roots. Skiagraphic study of the jaws is strongly advised in cases of obscure mental and nervous disorder, even the possession of thirty-two well placed teeth being no indication that skiagraphs can be dispensed with. The more hopeless mental disorders of childhood and adolescence, viz., imbecility and dementia præcox, are among those furnishing the most striking examples of prompt improvement and ultimate recovery through relief of dental lesions; the cases selected, however, should be characterized by aberration, not by extinction of mental power. Incorrigibles, nervous and sleepless children, as well as those with impulsions and obsessions, are well suited for dental therapy. Neither kind nor location of dental lesion determines the type of mental disturbance present, which may include not only mania, melancholia, and other emotional disorders, as well as mental and moral defect in children, but also dementia, as it occurs from adolescence to senility, and paranoid forms of insanity. Absence of pain, moreover, is no proof that a dental lesion is harmless; in fact, upon studying cases, it is evident that the mental and nervous symptoms usually either part company with pain or vary in inverse proportion with it.

3. **Pneumococcus Infection in Pulmonary Tuberculosis.**—Robinson found pneumococci, along with the tubercle bacilli, in the bloody sputum of a number of cases of lung tuberculosis. This organism, by bringing about a mixed infection in the lung tissue, is responsible for attacks of bloody sputum in these cases. A stage of onset attends the infection with the pneumococcus, the symptoms consisting of malaise, slight aching of the back and calves, and an increase of cough and expectoration. These symptoms usually precede the bloody expectoration by from three to five days, but if the sputum is examined when they appear, a preponderance of pneumococci can be found. An abrupt rise of temperature of from one to two degrees and a rise in the pulse accompany the prodromes. With the onset of bloody sputum there occurs a slight drop of temperature, usually followed, in untreated cases, by a secondary rise. In treating these cases, give ten grain doses of creosote carbonate in capsules every three or four hours, and keep the patient in bed. The temperature falls within forty-eight hours, and if the case has been diagnosticated and treated before the bloody sputum is shown, the latter fails to appear, while the symptoms of infection are relieved. If the treatment is started after the blood has appeared, the blood and fever disappear in two or three days. The treatment should be continued for a week or ten days after cessation of the symptoms, the sputum being watched for pneumococci until they are greatly reduced in number.

5. **Diagnosis and Treatment of Affections of the Teeth and Jaws.**—Ivy deplores the fact that the physician, as now instructed in the medical schools, knows little of the lesions of the teeth, while the dentist is ignorant of general pathological processes. A rational basis for treatment is missed in many conditions of the teeth, jaws, and face because of these deficiencies. The author advocates a short course in medical schools on the pathological processes of the teeth and jaws, with their diagnosis and treatment, and that the dentist be instructed in general pathology and physical diagnosis, with a few hours in clinical medicine and more particularly surgery, including practical work in a general surgical dispensary.

JOURNAL OF INFECTIOUS DISEASES.

March, 1912, No. 2.

1. W. L. Holman: Rapid Filtration of Agar and Gelatin.
2. C. Krumwiede, Jr., J. S. Pratt, and M. Grund: Cholera.
3. D. J. Davis: Plasma Cells in the Tonsils.
4. D. J. Davis: Bacteriology and Pathology of the Tonsils with Especial Reference to Chronic Articular, Renal, and Cardiac Lesions
5. W. B. Wherry: Amebacidal Action of Emetin.
6. J. C. Torrey: Bacteria Carried by City Flies.
7. W. P. Larson: Complement Fixation Reaction in the Diagnosis of Contagious Abortion of Cattle.
8. F. B. Clarke, R. C. Hamill, L. J. Pollock, A. H. Curtis, and G. F. Dick: Studies on Pellagra Based on Its Occurrence in 1910 in the Cook County Institutions at Dunning, Ill.
9. T. Addis: Bactericidal and Hemolytic Powers of "Paraffin" Plasma and of Serum.
10. O. C. Gruner and J. R. Fraser: Bacillus Mesentericus and Allied Organisms.
11. D. J. Healy and J. H. Kastle: Parturient Paresis (Milk Fever) and Eclampsia.
12. J. H. Kastle and D. J. Healy: Toxic Character of the Colostrum in Parturient Paresis.
13. D. J. Healy and J. H. Kastle: Internal Secretion of the Mammæ as a Factor in the Onset of Labor.
14. S. Rideal and E. K. Rideal: Rideal-Walker Test and Rideal-Walker Method.

4. Bacteriology and Pathology of the Tonsils.—Davis reports a series of 113 cases in which extirpated tonsils were examined bacteriologically. Many others were examined grossly or microscopically, but for various reasons were not suitable for bacteriological work. Of this series twenty-eight come under the heading of arthritis of varying types. In twenty-five of these, hemolytic streptococci were obtained as the predominating organism. In two cases the pneumococcus predominated, in the remaining case the streptococcus mucosus. In the nephritic series were ten cases, some mild, others severe, two hemorrhagic in character. In nine of these, hemolytic streptococci were found. In the one case which did not reveal streptococci a small aerobic, Gram positive, nonliquefying, nonhemolytic bacillus was found in the crypts in nearly pure culture. Ten patients with endocarditis were examined, nearly all of whom were at the time suffering from arthritis or gave a history of having had it in the past. Hemolytic streptococci were found in six cases in large numbers. In the remaining cases were large numbers of pneumococci. Sixty-one patients with tonsillar hypertrophy were examined, nearly all of whom gave histories of repeated attacks of tonsillitis. In fifty the hemolytic streptococcus was obtained as the predominating organism. These streptococci proved virulent for rabbits and other animals, invariably localizing in or about the joints and producing multiple arthritis. It only occasionally localizes on the heart valves. The multiple arthritis in the animals may become chronic, lasting for months. The exudate is mucoid early, later becoming purulent; usually it contains streptococci, though in a few instances it was sterile. The bacterial flora of the surface of the tonsils is usually very different from that of the crypts. Subcultures from the surface, particularly in chronic infections, are quite unreliable for determining the crypt flora. The crypts of enlarged tonsils in nearly all cases contain large numbers of virulent streptococci, and these cases may therefore be considered as streptococci carriers.

6. Bacteria Carried by City Flies.—Torrey, in order to determine the true status of the fly as a bacteria carrier, made a series of observations in New York city during the months of June, July, and August. The flies caught were those continually circulating in and out of the open windows of tenements of the poorer grade that were within some seventy-five feet of the windows of the laboratory. His summary is as follows: 1. Flies examined up to the latter part of June were free from fecal bacteria and carried a homogeneous flora of coccal forms. 2. During July and August there occurred periods in which the flies examined carried several millions of bacteria, alternating with periods in which the number of bacteria were reduced to hundreds. The scanty flora probably indicated the advent of swarms of recently hatched flies. 3. Fecal bacteria of the colon type were first encountered in abundance the early part of July. 4. The bacteria in the intestines of the flies were 8.6 times as numerous as on the surface of the insect. 5. On the surface of the flies the colon group constituted 13.1 per cent. of the total; and within the intestine 37.5 per cent. of the total. 6. Of the lactose fermenters, isolated and identified, 79.5 per cent. belonged in the colon aerogenes group and 20.5 per cent. in the acidi lactici group. 7. Fifteen cultures of streptococci, isolated and identified, were distributed among the equinus, fecalis, and salivarius groups; none was of the pyogenes type. 8. The most important isolations were three cultures of the *Bacillus paratyphosus*, Type A. 9. Bacteria of the paracolon type were frequently encountered during August.

8. Studies on Pellagra.—The five authors take up certain phases of the disease, Clarke giving a brief description of the clinical manifestations. Hamill an examination of the central nervous system, while Pollock and Curtis report the results of transfusion in twelve cases. They conclude that the mortality in the selected severe cases did not fall much below that of pellagra in general. The most that could be maintained was that the heart action was strengthened, the color and appearance of the skin improved, and the patient was temporarily aroused from stupor, only soon to revert into the condition which existed prior to transfusion, with death the ultimate outcome. Dick reports the inoculation of four monkeys with pellagrous blood and serum. The experiments, however, failed to demonstrate any infectiousness of the blood of pellagrins for monkeys. In one case the blood of a pellagrin was toxic for the monkey.

PRACTITIONER.

March, 1912.

1. A. P. Beddard: Anemic Vomiting.
2. J. Dundas Grant: Some Appliances of Use to the General Practitioner in the Treatment of Diseases of the Throat, Nose, and Ear.
3. John D. Malcolm: Remarks on 400 Operations Involving the Peritoneal Cavity, and a Comparison of the Death Rate, 3.75 per cent. with That of the Writer's Earliest Work.
4. Lawrie McGavin and Ralph D. O'Leary: Report and Analysis of 500 Operations Performed under the Influence of Spinal Analgesia by the Use of Stovaine Glucose Solution.
5. C. Paget Lapage: Congenital Hypertrophic Stenosis of the Pylorus in Infancy.
6. Chad Woodward: Causation and Treatment of Dislocation of the Ulnar Nerve Reviewed from the Anatomical Standpoint. With Report of a Case Successfully Treated.
7. Douglas Freshwater: Inunction Treatment of Syphilis as Carried Out at Foreign Spas.
8. Philip Hicks: Morbid States Produced by Chronic Movable Kidney.
9. Mark S. Fraser: Relation of Chorea to Rheumatism: An Analysis of 300 Cases.
10. M. C. S. Lawrance: Minor Accidents in General Practice
11. C. E. L. Burman: Simple Obstructive Jaundice with Huge Dilatation of the Common Duct.

12. A. E. CRABBE: Cerebellar Tumor Causing no Symptoms Till Shortly before Death.
13. M. LAHIRI: Autoserum Treatment of Ascites: Cirrhosis of the Liver in an Infant.

1. **Anemic Vomiting.**—Beddard describes a condition that, he thinks, is not infrequently met with in anemic girls which is apt to be mistaken for gastric ulcer. The symptoms are pain in the epigastrium and vomiting excited by almost everything that is placed in the stomach, and point to hyperesthesia of the mucous membrane of the stomach, which in turn is due to dilatation of the heart. The mucous membrane of the stomach is so hyperesthetic that whatever touches it causes pain and vomiting, and this is often associated with pain and tenderness of the skin and muscles under the left breast, though there is nothing the matter with these structures. The differentiation from gastric ulcer is made by means of the following points: In hematemesis any severe retching or vomiting may produce streaks of blood in the vomit, but an attack of hematemesis is an almost certain evidence of the presence of an ulcer. In ulcer the pain has a constant relation to food; it is relieved more or less completely by vomiting, and no pain is brought on by exertion between the attacks caused by food.. The patients are usually clear that the degree of pain depends very much on the kind and quantity of food, that solid food gives more pain than liquid. In anemic vomiting the pain is brought on or aggravated by food, and may be relieved or lessened by vomiting, but the patients are equally clear that the pain and vomiting have not a constant relation to meals; that they may have some of their worst attacks apart from food altogether. Sudden exertion, or being tired out, will bring on the same pain. It makes little difference to the pain what kind of food they take; liquid food, even water, excites severe pain. In gastric ulcer, before perforation the tenderness of the abdominal wall is limited to a small area, and rigidity is a marked symptom even when the tenderness is slight. In anemic vomiting, the tenderness of the abdominal wall is over the entire area represented by the stomach, is often extreme, and yet rigidity in the true sense is absent. Nothing is more curious and obvious about anemic vomiting than the almost complete absence of constitutional disturbance, although a severe attack may have lasted some hours. The temperature is normal and the pulse but slightly affected; signs of collapse are absent, and the whole appearance is unlike that of a patient with acute peritoneal trouble. The heart is dilated in anemic vomiting. If on examination the heart is found to be of normal size and no tenderness of the skin is present, it is safe to conclude that the case is not one of anemic vomiting, but if both of these signs are present it may be of this nature. Treatment is absolute rest in bed. The patients are usually half starved and in most cases, after a day or two in bed on light solid food, there is no difficulty in getting the patient to take three square meals a day. The drugs used in ulcer of the stomach are of no value. Two drops of Fowler's solution three times a day is useful, to which may be added ten grains of citrate of iron and ammonium. The patients should be kept in bed until the heart has returned to its proper size or cannot be made to contract any more.

4. **Analysis of 500 Operations Performed Under Spinal Analgesia.**—McGavin and O'Leary present a very elaborate analysis, which can be summarized very briefly. The preparation of the patient, the position on the table, the site of puncture, the difficulties encountered in making it, and in obtaining sufficient rise are first discussed. Failure to enter the spinal theca occurred only in three cases; in two the cause was not obvious, in the third the patient was so obese that the needle failed to reach the canal. The rise was insufficient in six; the cause in one was an acute lumbar kyphosis, in one a faulty cannula, in three faulty technique, in one unknown. A second injection was required in thirteen. All patients that returned to the hospital for a second operation, sixteen, were satisfied to submit themselves to the method a second time and some demanded it. General anesthesia was added in seventeen cases, mostly because of a recession of the analgesia just before the close of the operation. Vasodilatation was noted in only six cases. The rapidity of the rise of analgesia was fairly constant, reaching the umbilicus in five minutes, the nipples in seven. It was very rapid in one or two cases. In one it reached the clavicles in three minutes; reason unknown. The addition of strychnine was abandoned as of little or no use. Vomiting was noted in fifteen; in four before operation, in nine during operation, and in two afterward. Only two were due to abdominal irritation. Rigors were noted in six; of these three were catheter cases. Pyrexia was noted in 327; the average height of the temperature was 100.5° F. The theories as to its cause are discussed. Headache occurred in thirty-two cases, in one severe and persistent, in one persistent but not severe. Backache was noted in four cases, none persistent or severe. Two patients complained of dimness of vision for a few minutes during the operation. One girl fainted. Two patients had epileptic fits during the operation. Albuminuria after operation was found in only three cases. Retention of urine was met with in two. Priapism for twenty or thirty minutes was noted occasionally. Marked relaxation of anal and urethral strictures was observed. The writers believe there are no contraindications, provided a very high rise is not in question. Only five postoperative complications were noted; four of lobar pneumonia and one of acute bronchitis. Deaths numbered sixteen, none due to the method of producing analgesia. The saving to the anesthetic account of the hospital was very great.

6. **Dislocation of the Ulnar Nerve.**—Woodward discusses the etiology of dislocation of the ulnar nerve, and says that treatment should be invariably by operation, as all attempts to encourage the nerve to settle down in its bed by keeping the arm in extension for prolonged periods by splints or plaster of Paris have resulted in failure.

8. **Chronic Movable Kidney.**—Hicks urges that in the discussion of neurasthenia too little attention is paid to the prolapse of one or both kidneys. He describes in some detail the following neurasthenic symptoms as produced by chronic movable kidney. Lassitude, headache, neuralgia, loss of flesh, abdominal symptoms, insomnia, tachycardia, mental symptoms, which cover a wide area

and are very definite in many cases, muscular tremor and incoordination, hysteroepilepsy, albuminuria, pelvic symptoms, and appendix colic. Concerning the examination for the detection of a movable kidney, details are unnecessary, but he thinks certain points need to be driven home. 1. It is rarely desirable and often useless to examine in bed after a night in the recumbent position; many movable kidneys have been missed in this way. 2. The examination should always include both the recumbent and the erect positions and is best made late in the day after the patient has been up and about for some hours. 3. Both sides of the abdomen should always be examined with equal care. 4. The degree of the descent of the kidney should be estimated as accurately as possible. 5. The condition of the kidney should be noted with regard to tenderness, or any palpable enlargement. 6. It should always be ascertained whether it is possible to return the kidney by gentle pressure to its proper place in the loin, and if possible whether there are adhesions maintaining it in a bad position. He thinks operation is rarely demanded, but that the symptoms may all be relieved by a belt or truss when properly fitted and worn.

9. Chorea and Rheumatism.—Fraser finds from the analysis of 300 cases that the majority of cases of chorea are closely associated with rheumatism, of which the chorea is a cerebral manifestation, and thinks that possibly all cases of true chorea are rheumatic in origin.

BERLINER KLINISCHE WOCHENSCHRIFT

February 26, 1912.

1. K. Kreibich: Development of Retina Pigmentation.
2. J. Strasburger: Emanation Contents of the Arterial Blood in Inhalation of Radium Emanation and Its Introduction into the Intestine.
3. E. Frank: Relation of the Hypophysis to Diabetes Insipidus.
4. Nikolai Paus: Peptic Ulcerations.
5. Richard Pollak: Vibriolike Forms of *Bacillus fæcalis alcaligenes.*
6. Heinz Wohlgemuth: Appendicular Inflammation in Women: Its Relation to the Annexa and to Extrauterine Gravidity.
7. Ludwig Neufeld: Ozena, Chronic Diphtheria, and Diphtheroid.
8. Julius Katz: Statistics of Tuberculosis.
9. Max Berliner: Iodine Menthol Injections in Tuberculosis.
10. E. Surányi: Remarks on the Contribution of U. Friedemann and E. Herzfeld on Immunity Reaction with Lipoidfree Serum.
11. Leonard K. Hirshberg: New Method of Liberating Saccharose from Dextrose, Pantose, Levulose, Lactose, Maltose, and Invert Sugar in the Urine.

March 4, 1912.

12. D. von Hansemann: Altruistic Diseases.
13. G. Jochmann: Septic Endocarditis.
14. J. Ferrán: Answer to the Remarks of Metchnikoff Criticising the Efficiency of Cholera Vaccination
15. Otto L. Klieneberger: Treatment with Salvarsan of Syphilitic and Metasyphilitic Diseases of the Nervous System.
16. K. Takata: Normal Height of the Pulmonary Apex.
17. Ad. Czerny: Deodorization of Feces in the Sick Room.
18. Rheindorf: Importance of the Oxyures in Appendicular Inflammation in Children.
19. Rommel: Luxation of Cervical Vertebra.
20. Carl Franke: Parametritic Abscess with Perforation through the Foramen Ischiadicum into the Gluteal Region.
21. Manfred Fraenkel: Röntgen Rays in the Fight against Tuberculosis.

March 11, 1912.

22. Eduard Sonnenberg: In Memory of Joseph Lister.
23. Hermann Lüdke: Bacillar Dysentery.
24. R. Ehrmann: Diagnosis and Therapeutics of Disturbances of the Secretion of the Stomach.
25. Hugo Apolant: Nature of Mice Tumors.
26. Werner Schulemann: Vital Coloration and Chemotherapeutics.
27. Martin Kretschmer: Diagnostic Importance of Newly Found Contents in the Leucocytes in Scarlet Fever.
28. Hans Schirokauer: Sugar Metabolism in Pregnancy.
29. Rheindorf: Importance of the Oxyures in Appendicular Inflammation in Children.
30. Robert Behle: General and Infant Mortality during the Excessively Hot Quarter of 1911 in Prussia, Especially in Ber[illegible]

1. Development of the Retina Pigmentation.—Kreibich states that he was able to observe the development of the pigmentation of the retina from the myeloid of Kühne. He could do this in the retinal pigmentation epithelium over the tapetum of a cow's eye with clouding of the lens as well as in the normal cow's eye. The myeloid granule was changed into the pigmentation granule, and the myeloid body appears around pigmentated bodies or dark pigmented crystals in the round myeloid bodies, filling them entirely and, finally, the myeloid body was changed into protoplasm. He says that in the same way the retina pigmentation of the human eye develops. A part of the granules is still sudanophilic, while another part only becomes sudanophilic if the menalin is extracted.

3. Relation of the Hypophysis to Diabetes Insipidus.—Frank remarks that the importance of this gland upon the growth of the organism has been proved physiologically in the cells of the front lobe of the hypophysis, while the cells of the intermediate stratum produce the effective materiæ of the watery extracts, especially the pituitary diureticum. Clinically it can be demonstrated, supported by experimentation, that the pars intermedia of the hypophysis, through its internal secretion, has an influence upon the action of the kidneys, and that diabetes insipidus of man can be traced to a pathological overproduction of the gland. But not all cases of diabetes can be traced to such a source. The theory would be adaptable only to such cases as would occur as a sequence to cerebral affections. The other class of diabetes insipidus the author calls idiopathic, and divides it again into luetic and hereditary types. He believes that the luetic idiopathic cases could also be shown to be of pituitary origin. These two points he takes for granted, while he thinks that the hereditary diabetes can also be traced to pituitary origin in such a way that there exists in these persons a hereditary overstimulation of the gland.

6. Appendicular Inflammation in Women: Its Relation to the Annexa and to Extrauterine Gravidity.—Wohlgemuth bases his observation upon an interesting case from which he concludes, as a positive fact, that chronic appendicular inflammation may be the cause for the seat of gravidity in the tubes.

9. Iodine Menthol Injections in Tuberculosis.—Berliner refers to a former publication of his which appeared about two years ago. He repeats his statement that he has effectually used in the first or second stage of tuberculosis injections of the following combination: Menthol, ten grammes; eucalyptol, twenty grammes; iodipin (twenty-five per cent.), fifty grammes. He prepares this combination fresh for every injection and remarks that it causes absolutely no pain. The patients observe immediately after the injection a change in the sensorium of smell produced from the etheric oils, while the saliva shows a few days later an iodine reaction, which demonstrates that the iodine will be discharged not only by the kidneys but possibly also by the lungs. Although he used one c.c. of the combination daily for ten consecutive injections, he has never seen any injurious effects. He gives up to thirty injections.

15. Remarks on the Treatment with Salvarsan of Syphilitic and Metasyphilitic Diseases of the Nervous System.—Klieneberger concludes, from his observations, that salvarsan does not influence paralysis at all, and tabes very little. The results in syphilis of the central nervous system are more or less favorable, and salvarsan treatment seems to have several advantages over the old specific treatment with which the same results were procured. The combination of salvarsan and mercury will give the best results.

17. Deodorization of Feces in the Sick Room.—Czerny has found that Uhlenhuts's method of deodorization of feces with antiformin is very good. The receptacle should contain about fifty c.c. of a ten per cent. antiformin solution, which makes the deposit entirely odorless. He also found that diapers immersed in a five per cent. antiformin solution will become odorless.

18 and 29. Importance of the Oxyures in Appendicular Inflammation in Children.—Rheindorf reviews our method of treatment of oxyuriasis and calls attention especially to our very poor results. He suggests tentatively the theory that the appendix may become the seat of oxyures which there cannot be reached by any remedy given by mouth or per anum. This would correspond to the location of typhoid bacilli in the gallbladder. Furthermore, he thinks that we should pay more attention to appendicular inflammation caused by such oxyures. Beside the autoinfection and the infection from man to man, he believes that drinking infected water can play an important rôle.

27. Diagnostic Importance of Newly Found Contents in the Leucocytes in Scarlet Fever.—See editorial article, page 708 of the JOURNAL for April 6, 1912.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

March 12, 1912.

1. STRAUB and SCHLAYER: Uremia and Acid Toxicity.
2. BENNECKE: Poor Results Obtained with Blood Transfusion in Pernicious Anemia.
3. VON GRAFF and VON ZUBRYZYCKI: Hemolyses in Horse Blood Produced by Cobra Toxine Used in Pregnancy and in Carcinoma.
4. KÖNIG: Radical Operation of Large Hernia Especially of the Abdomen with Perfect Closure.
5. DENIG: Surgical Treatment of the Eye in Injuries from Lime.
6. SKUTETZKY: Metabolic Assimilation in a Case of Polymyositis Acuta.
7. KOERBER: Treatment of Scarlatina with Eucalyptus.
8. MÜLLER: Quinine in Pregnancy.
9. BARCANOVICH: Radical Treatment of Malaria with a New Arsenic Silver Combination, "Argentarsyl."
10. DALMER: Evacuation of a Fecal Stone through the Bladder.
11. JANUS: Technique of Röntgen Ray Treatment of Deep Seated Tissue.
12. LINDNER: Carcinoma of the Stomach from Surgical Point of View.
13. NASSAUER: Dry Treatment of the Vagina.
14. LOENING: Phenyldimethylpyrazolonamidomethansulphurous Acid Sodium, a New Antipyretic and Specific in Acute Rheumatism of the Joints.

March 19, 1912.

15. KROGIUS: Medical or Surgical Treatment of Appendicular Inflammation.
16. CRÄMER: Cæcum Mobile and Chronic Appendicular Inflammation.
17. GOLDMANN: Retrogressive Motion in Tubiform Systems.
18. HAMBURGER: Late Forms of Tuberculosis.
19. BERGEL: Hemolyses, Lipolyses, and the Rôle of the Uninuclear Nongranulated Basophilic Cells.
20. EDEN: Treatment of the Luxatio Peroneorum.
21. DIETRICH: Statistical and Etiological Remarks on Peptic Ulcer of the Duodenum.
22. HOFMANN: Perfect Extirpation of Glands of Palate.
23. HAFFICH: Detrimental Effects of Camphor.
24. NAST-KOLB: Ligature of the Inferior Gluteal Artery on Account of Subcutaneous Traumatic Laceration.
25. MÜLLER: Rare Complications Produced by a Diverticulum of Meckel.
26. PHILIPPI: New Disinfectant for Cuspidors.
27. PORT: Apparatus for Drawings of Cervical Curvature in Scoliosis.
28. LUBOSCH: Importance of Morphological Education of Students of Medicine.
29. SCHLESINGER: Children of Drunkards among the Untalented School Children.

March 26, 1912.

30. MAGNUS: Relation of the Head to the Members.
31. MUCH: New Immunobiological and Clinical Studies of Tuberculosis in Reference to Leprosy.
32. AUTENRIETH and FUNK: Colorimetric Estimation of Grape Sugar and Indican in the Urine, and of Iron in the Blood.
33. KAHN: Serum Contents of Adrenalinlike Substances.
34. SCHMITT: Clinical Experience with Joha.
35. TSCHMARKE: General Putrid Peritonitis and Its Treatment with Special Reference to Appendicular Inflammation.
36. EISLER: Röntgen Diagnosis of Carcinoma of the Stomach.
37. BURK: Habitual Subluxation in the Carpometacarpal Joint with Consecutive Tendovaginitis in the Styloid Process of the Radius.
38. FUNKE: A Practical Instrument.
39. SCHLAGINWEIT: Improved Areometer for Determination of the Specific Gravity of Very Small Quantities of Urine in the Test Tube.
40. EHRMANN: Röntgen Sexual Sterilization.
41. OPPENHEIMER and LANDAUER: Condition of Nutrition of Children in Public Schools of Munich.
42. ZUELZER: Effect of Hormonal.
43. HOKE and RIHL: Toxicity of Salvarsan after Intravenous Injection in Experiments on Dogs and Rabbits.
44. KÖLLE: German Sanatorium in Davos.
45. CRÄMER: Cæcum Mobile and Chronic Appendicular Inflammation.
46. VERATTI: Adelchi Negri.

1. Uremia and Acid Toxicity.—Straub and Schlayer have observed that uremia very often appears with a diminution of the partial pressure of carbonic acid. This does not seem to be a sequela of the uremia, but the authors think that this toxic acidity is in direct relation to the uremia.

3. The Hemolyses in Horse Blood Produced by Cobra Toxine Used in Pregnancy and in Carcinoma.—Von Graff and von Zubryzycki state that investigations during the last years have shown that there exist certain analogous conditions in metabolism, the action of the serum, and of the red blood corpuscles in persons suffering from carcinoma and in pregnant women. The logical sequence was to find out if the examination of the serum of carcinomatous patients would act similarly toward the hemolyses in horse blood produced by cobra toxine, as did the serum of pregnant women. Their experiments showed that in 81.2 per cent. of forty-three carcinomatous patients the cobra reaction was positive. But this reaction was not specific, as it also appeared in other diseases and in benign tumors. They thus found that the cobra reaction would appear in normal sera and sera of patients suffering from other diseases in about ten per cent., while in malignant tumors it was seventy per cent.; the reaction, therefore, could not be used diagnostically. The diagnosis of pregnancy with the cobra reaction can be made positive only after the fourth month of pregnancy.

7. Treatment of Scarlatina with Eucalyptus.—Koerber reports on the results obtained in the Eppendorf Hospital with eucalyptus oil treatment in scarlet fever, based upon the experience of Robert Milne, of London. The treatment consists in painting the patient over the entire surface of the body, "from head to the soles of his feet," with pure eucalyptus oil. This painting is done during the first four days, twice daily; in the consecutive six days, once daily. At the same time the tonsils during the first two days are painted every two hours with a ten per cent. solution of carbolic acid. The results obtained did not agree with those reported by Milne.

16 and 45. Cæcum Mobile and Chronic Appendicular Inflammation.—Crämer states that cæ-

cum mobile is no disease *per se*, and therefore does not need any special treatment. The diagnosis of chronic appendicitis should be revised, as there exists a chronic typhlitis without inflammation of the appendix; this disease is not as rare as was usually accepted, and the diagnosis, although difficult, can be made. The treatment is absolutely medical and only in very exceptional cases will an operation become necessary.

17. Retrogressive Motion in Tubiform Systems.—Goldmann is in favor of the theory of ascending currents in mucous canals and gland ducts and, hand in hand with this, the possibility of a retrogressive infection. The possibility of such actions has been taken into consideration by many physicians, especially in the system of the gallbladder.

23. Detrimental Effects of Camphor.—Happich warns against the use of camphor, and states that although the opinion as to the maximum doses varies greatly, the authors are agreed that from 2.5 to four grammes of camphor given in one dose act very toxically. The normal human organism will stand ten or even twenty injections, each of about 0.1 gramme during twenty-four hours, but it must be remembered that in sick persons grape sugar, as well as oxygen, cannot be used in the normal quantity for the production of glucuron acid for the absorption of camphor. The quantity of the camphor injected should therefore be carefully watched.

JAHRBUCH FÜR KINDERHEILKUNDE.

March, 1912.

1. Dm. Ssokolow: Differential Pneumograph and Its Application in Children.
2. Arnold Benfey: Casein Milk and Newly Born Infants.
3. Carl Beck: Casein Milk in Gastrointestinal Disease.
4. M. Kassowitz: Rhachitis. Osteochondritis Rhachitica (*Continuation*).
5. Leo Silberstein: Symmetrical Gangrene of the Skin in Scarlet Fever.

2. Casein Milk and the Newborn.—Benfey's observations were made in Finkelstein's clinic in Berlin, the "home" of the casein milk. In all, eighty-three cases were treated in newly born infants; twenty-two infants were in the first week of life, fifty in the second, ten in the third. In one case the age was unknown, but the weight, 2,300 grammes, makes it very probable that the infant was a very few days old. Among eighty-three cases there was only one failure, which was in an eight months' premature child with some edema and cyanosis. This child died after four weeks' observation. Benfey's results are very remarkable. In some cases the Wright curve remained stationary for some time. This was due to the fact that sufficient sugar had not been added to the food. One should start with an addition at least of three per cent. of sugar. Benfey, in this connection, clearly shows the superiority of the maltosedextrin preparations over cane sugar. In cases free from infection (grippe, pneumonia, etc.) Benfey reports 100 per cent. of cures; in cases with infection, 71.8 per cent. In conclusion, the author says: 1. One gets better results with casein milk *if properly used* than with any other artificial feeding in newly born infants; 2, the daily amount of casein milk should be from 150 to 200 grammes to a kilogramme body weight; 3, the sugar that is added to the casein milk should never be less than three per cent. In general begin with five per cent. and go up to six, seven, or eight per cent. if the bowels remain good; 4, the malt sugar preparations give far better results than cane sugar.

3. Casein Milk in Gastroenteritis.—Beck used casein milk in 175 cases in infants. Of these cases 110 were dyspepsia, eight toxic enterocatarrh, forty enterocolitis, and seventeen decomposition (Finkelstein nomenclature). There were only twelve deaths among all these cases which could not have been averted with any other feeding. Four of these patients were brought into the hospital moribund and four had bronchopneumonia; of the other four deaths one was a case of toxic enterocatarrh, and three were very severe decomposition. According to Beck's observations fourteen days of casein feeding suffices in most cases (Finkelstein and Meyer recommend from six to ten weeks). Beck comes to the conclusion that casein milk offers the best method of treatment of diarrhea in infants.

ROUSSKY VRATCH

February 4, 1912.

1. R. Gonder: Untoward Effects of Salvarsan and Arsenophenylglyzin.
2. V. M. Mintz: Hemorrhagic Mammary Gland.
3. I. I. Manuchin: Disintegration of Leucocytes in the Tissues. Method of Blood Counting.
4. M. O. Shajkevitch: Dementia Præcox and the Clinical Picture of Manic Depressive Attacks (*To be continued*).
5. G. A. Lubenetzki: Significance of Calcium Salts in Nitrogen Metabolism in the Mammalia.
6. G. A. Kolosoff: Ergotism, Etiology, Clinical Picture, Course, and Treatment (*To be continued*).

1. Untoward Effects of Salvarsan.—Gonder, working in Ehrlich's laboratory, determined by a series of experiments on mice that the addition of even minute traces of calcium salts to salvarsan increased the toxicity of the latter. Thus, when the syringe is boiled in tap water which contains calcium, the traces of lime adhering to the syringe are sufficient to affect the toxicity of salvarsan. When brought in contact with an alkaline medium, as happens when injected into the circulation, the calcium is thrown out of solution, and is found on autopsy to have caused embolism. This toxic effect of calcium, however, may be prevented by the addition of a small quantity of sodium citrate, which keeps the lime in solution. The salts of magnesia exert a similar action. With the lime in solution, the action of salvarsan is not changed. Similar results were obtained with arsenophenylglyzin. The author also determined the effect of the addition of bacteria to arsenophenylglyzin. The addition of dead cultures of *Bacillus pyocyaneus* to the latter diminished the curative effect.

2. Hemorrhagic Mammary Gland.—Mintz made a careful study of several cases of a peculiar pathological condition of the breast in women over thirty years old. Without any premonitory signs one of the mammary glands begins to secrete a yellow serum, the secretion continuing for some years without any variation of the quality or quantity of the fluid; eventually the secretion becomes sanguineous, and in some cases the development of carcinoma completes the clinical picture. The underlying pathological changes consist in an increase in epithelial elements which undergo degeneration, the condition being due to an abnormal involution of the glands. In view of the possibility of development of cancer, such breasts should be removed.

3. **Disintegration of Leucocytes.**—Manuchin observed a disintegration of leucocytes when the blood is mixed with one third of one per cent. acetic acid. The loss of white cells rises from twelve to twenty per cent. After this initial loss, the more resistant leucocytes remain intact for twelve to twenty-four hours.

5. **Calcium in Mammalia.**—Lubenetzki concludes from a series of experiments performed on animals and on himself, that in the former the administration of calcium shows a tendency to increase the elimination of uric acid and allantoin, while in the latter the elimination of endogenous uric acid is diminished.

February 11, 1912

1. V. M. Bechterev: Fundamental Principles of Psychiatry as an Objective Science.
2. V. I. Berezin: Investigation of the Isolated Heart of Frogs and Fish.
3. E. I. Ridnik: Intravenous Hedonal Narcosis in Gynecological Operations.
4. A. D. Nurenberg: Influence of Internal Secretions on the Digestive Juices.
5. G. A. Kolosoff: Ergotism. Etiology, Clinical Picture, Course, and Treatment (*To be continued*).
6. A. N. Natanson: Causation of Injuries to the Optic Nerve; Evulsion of the Optic Nerve (*To be concluded*).

1. **Psychiatry.**—Bechterev regards mental diseases from the standpoint of evolutionary monism and argues against the subjective study of the insane. Mental affections are merely the expressions of some general pathological condition, such as arteriosclerosis, autointoxication, abnormal internal secretions, specific infections, and other conditions of perverted metabolism. The investigation of mental diseases, therefore, should proceed along the lines of an objective study of the body as a whole, including biochemical investigations of the metabolism. The treatment of mental diseases resolves itself into the correction of the underlying causes of perverted metabolism, as well as such specific treatment which may be found to influence the organism as a whole. In discussing the increased prevalence of insanity and prophylaxis, we see the cause in lowered nutrition brought about by improper living, rather than in the supposed effect of mental strain.

3. **Hedonal Narcosis.**—Ridnik reports on the results of intravenous administration of hedonal for general anesthesia. The method of administration was as follows: Fifteen grammes of hedonal were dissolved in two litres of warm physiological salt solution. The solution was filtered three times and the filtrate put into a flask fitted with a delivery tube and thermometer. The flask was then placed into a glass reservoir with water at a temperature of 39° to 40° C., the temperature being maintained by the addition of either hot or cold water, as required. The injection was made into the superficial median vein, the cannula being secured in the vein during the entire operation. The rate of flow was seventy-five c.c. in a minute and the total amount of fluid varied from 300 to 900 c.c. In some cases repeated injections were required to maintain the anesthesia, the amount introduced reaching 1,800 c.c. Narcosis was induced in four to twelve minutes, generally seven to eight. As a rule there was no period of excitement, the patients falling into a natural sleep. The reflexes were abolished in this order, first, the corneal and, in two to three minutes, the motor and sensory. The indications for repeated injections was the return of the motor or sensory reflexes as evidenced by manifestations of pain. Under hedonal anesthesia sixty operations were performed, forty-nine major, requiring abdominal section, and eleven minor. The ages varied from seventeen to fifty-seven years. Most of the patients were anemic, and a few suffered from arteriosclerosis and fatty heart. With the exception of a slight lowering of temperature and pressure and increase of respiration there were no untoward effects.

4. **Internal Secretions and Digestion.**—Nurenberg demonstrated by experiments on dogs that thyroid extract administered with the food increases the secretions of intestinal juices and causes hemorrhages in the intestinal mucosa. The increased secretion takes place during digestion, continuing after it is over. It also continues for some time after the administration of thyroid has been discontinued. A similar effect was observed on the secretion of the pancreas. These results were not obtained when iodine alone was administered.

Proceedings of Societies.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Special Meeting in the Borough of Brooklyn, February 5, 1912.

The President, Dr. Robert E. Coughlin, in the Chair.

The Prevention and Treatment of Ureteral Fistula, with Report of a Recent Case.—This paper, by Dr. Walter Aikman Sherwood, will be published in the Journal.

Dr. Paul M. Pilcher said he did not believe we knew how many ureters were injured and tied in operations, especially those for cancer of the cervix. Such accidents were probably not infrequent, the patients either dying or recovering without the injury to the ureter being discovered. One point of interest was that if a ureter should chance to be cut, and should drain directly into the peritoneum, it did not necessarily follow that the patient was going to die. The ureter might become blocked, and the kidney on that side would then stop functioning in a short time.

The statistics which had been published on the subject showed that injury to the ureter took place in from ten to thirteen per cent. of all operations involving the complete removal of the uterus for carcinoma of the cervix. Therefore, if surgeons were going to continue their attacks upon this surgical condition they must consider in every case the possibility of injuring the ureter. In the second place, it was important to know what was the usual course in these cases following injury to the ureter at operation. In his own experience, in those cases in which the injury was not discovered at the time of operation the ureteral fistula healed spontaneously in a majority of instances—some of them in six months. The statistics of Johns Hopkins Hospital, Doctor Kelly's clinic, and also those of Weibel, showed that a considerable number of cases healed without further operative interference. In the prevention of this accident, it was indicated

in every case of cervical carcinoma, where hysterectomy was to be done, to catheterize both ureters and leave the catheters in place. The small catheter, No. 6 of the French scale, was as a rule too small for practical use, and even with these in place it was often impossible for the operator to locate the ureter. Therefore, it was advisable to use a much larger catheter if possible. The catheter was useful, not only in helping to avoid the ureter, but also to aid in the immediate recognition of the ureter when it had been divided.

As to the indications for treatment, if the ureterovaginal fistula started at the ureterovesical junction, in the absence of an infection of the kidney, the opening in the vagina might be located, and its closure stimulated, by using the actual or electric cautery. If the ureter defect were higher up along the pelvic portion of the ureter, it was useless to try any vaginal application. If the fistulous tract started nine or ten centimetres from the ureter opening in the bladder, nephrectomy was the operation of choice. If the ureteral tract started at any point within the pelvis, even though it was somewhat removed from the bladder, it might be possible to isolate and raise up the ureter and implant it into the bladder. If it were found that this implantation could not be done after the abdomen had been opened, the ureter might be tied, and the kidney itself would cease to function. If this expedient were undertaken, silk should be used for the ligature or else the fistula would become reestablished. In all cases of ureteral fistula where a known infection of the kidney was present, with long continued high temperature, nephrectomy was indicated, if the second kidney was present and functioning normally. Doctor Pilcher's records showed two cases of ureterovaginal fistula which closed,—one, spontaneously after a number of years, and another, spontaneously, after a plastic vaginal operation had seemingly failed of its object. In a third case of persistent ureterovaginal fistula, referred to him by another surgeon, nephrectomy was advised in the presence of marked symptoms of infection of the kidney, and an extensive pyonephrotic kidney was removed. In a fourth case of his own, in which an entire section of the ureter was removed, during an operation for cancer of the cervix uteri, a ureterovaginal fistula resulted. Nine months after the original operation a considerable improvement in the urinary discharge from the vagina was apparent. Eleven months after the operation, the patient was found to be in excellent health, having gained thirty pounds in weight, and there was no urinary leakage from the vagina during the day, though some slight urinary discharge at night.

The important question remained as to what was best to do with a ureter which had been cut during an operation and this had been recognized before the closing of the wound. If the patient were in considerable shock, it would be better to drain the ureter into the vagina and to do a later implantation into the bladder. If the patient's condition was good, an immediate ureterocystostomy was indicated. Personally, he preferred making an opening into the bladder, drawing the ureter through a separate stab wound in the bladder, fastening the split ends of the ureter to the interior of the bladder, closing the incision into the bladder by two layer sutures, and attaching the peritoneum covering the ureter to the peritoneum covering the bladder. The ureter should be made to enter the bladder obliquely. The sutures used should be of silk. The ordinary ureterovaginal fistula, which did not occasion too much disability on the part of the patient, should be allowed at least a year to close itself, unless there was some indication of renal infection. A ureteroabdominal fistula was a more dangerous condition, and demanded an earlier and more radical treatment. A ureterointestinal fistula should be operated on as early as possible. It should be remembered that all cases are not as successful as that so ably presented by Doctor Sherwood, and that all successful implantations of the ureter into the bladder were not followed by a functioning ureter.

Dr. J. HERMAN BRANTH said it was stated in the paper that the catgut suture employed was defective. He had had some experience with the Pagenstecher hemp suture, and had always found it very efficient for external suturing.

Dr. A. ERNEST GALLANT said that seven years ago he removed a full term dead fetus eleven months after impregnation. There was a discharge of urine from the vagina, and the stools, which were copious, were found to be mostly urine. The spontaneous recovery from ureteral fistula he believed to be very common. At a recent meeting of the Section in Surgery of the New York Academy of Medicine Dr. Edwin Beer had given the results of a careful experimental study of the effect of ureteral obstruction on kidney function and structure. Sixty dogs were employed for this purpose, and the researches extended over four years. He found that after ligation of the ureter hydronephrosis developed in aseptic kidneys, with cessation of secretion, at about the third week. The kidney then began to shrink, and at the end of three months there remained only a fibrous mass not more than one fourth the size of a normal kidney. If before the end of three weeks the ligature was removed, and the unobstructed kidney taken out by nephrectomy, the released kidney was found capable of functioning satisfactorily. If, after ligating a ureter, septic organisms were introduced, the kidney and its pelvis became distended, kidney substance disappeared, and at the end of three months there was found only a mere cystic shell of the kidney and its capsule. In the septic cases removal of the ligature and nephrectomy of the unobstructed kidney always led to a fatal result. The importance of these investigations, Doctor Gallant thought, could not be overestimated, since they taught us, first, that the occlusion of an aseptic kidney might result in no harm except atrophy of the organ; second, that if within three weeks the ureter was reimplanted in the bladder, the kidney would resume its function; and, third, that a ligated septic kidney degenerated beyond redemption. If accidentally ligated, cut, or otherwise injured, the ureter should at once be repaired, reimplanted, or released, or later the complete removal of the kidney would be an imperative necessity.

The Dietetic Treatment of Cardiovascular Disease.—This paper, by Dr. EDWARD F. CORNWALL, will be published in the JOURNAL.

Dr. Robert O. Brockway thought Doctor Cornwall's paper an unusually simple and direct presentation of the subject. He believed that the views expressed in it were entirely correct, and this was well illustrated in a case of his own. The patient was a man of fifty-seven years, a carpenter, who first consulted him February 26, 1911. November 19, 1910, he had been struck on the head by a dumbwaiter, but the blow was not a severe one. Two weeks later some degree of aphasia developed, and when he came to Doctor Brockway he talked with more or less effort and hesitation. At that time the weight of the patient, whose height was only five feet, three inches, was 187 pounds, but he stated that he had previously weighed as much as 207. His pulse was 72 and his blood pressure 270 mm. He was a heavy eater, and considerably addicted to alcohol. Doctor Brockway reduced the eating of meat to twice a week and otherwise restricted his diet to as great an extent as seemed advisable in the case, while alcohol was cut out altogether. The result of this regimen was very satisfactory, the patient gradually improving in every way. On May 14th his weight was 160 pounds and his blood pressure 170 mm., and he stated that he felt better than he had for ten years past. Since then this improved condition had continued. The man had no difficulty in keeping up his reduced diet (refraining entirely from the use of alcohol), and found that he had no lack of ambition or energy.

Dr. Louis F. Bishop said he was in entire agreement with the views expressed by Doctor Cornwall. He had tried to make a very careful study of the question of diet in cardiovascular disease, but he had found that what patients wanted to know was just what they ought to eat, and not exactly how many calories or how much protein their food should represent. He then cited two or three cases showing the good effects of dietetic treatment. The first was that of a patient referred to him by a Brooklyn physician, who was suffering from fibrillation of the auricle, shortness of breath, and other symptoms of cardiac weakness. He had been taking digitalis in various forms, and this was at once stopped. He was placed on a diet from which meat, fish, and eggs, and all preparations of food from them, were excluded, and a full dose of castor oil every other day prescribed. He was also directed to walk every day as far as his "wind" would permit. Under this régime his condition had improved to such an extent that he was able to resume his occupation, though the fibrillation still remained. Notwithstanding this, however, Doctor Bishop had not found it necessary to give any digitalis, and the only thing in the way of medicine which the patient had taken was the castor oil. Another case was that of a medical director of one of our largest life insurance companies. One year before consulting Doctor Bishop he had had an apoplectic stroke, and he was nervous about himself and suffering from great depression. His blood pressure was 230 mm. He had previously been allowed a certain amount of meat, but now, as in the other case, all meat, fish, and eggs were excluded from the diet. He was told that he must learn to eat cheese (which was a safe protein) and directed to exercise every day till his breath was exhausted and then, after resting, go on again. He had previously been treated by a number of physicians, without benefit; but now he steadily improved. He was in the fresh air practically all day, and one day recently, he informed Doctor Bishop, he had walked rapidly from his home in Fifty-fifth Street down to Eighth Street with perfect comfort. In these two cases, therefore, satisfactory results had been accomplished with nothing but diet and hygienic measures. In this class of cases, the speaker went on to say, nuts constituted a very good addition to the ordinary diet, and purées of tomatoes and of potatoes were also serviceable. We often feared to prescribe too rigid a diet, but there was really no danger of the patient's carrying out the strictness to an injurious extent. In all cases exercise, up to the patient's ability, was an essential part of the treatment. Ten persons died from degenerative changes, the result of remaining quiet, to every one that died from overexertion. In all cases he insisted on castor oil being taken at least once a week, and it was his usual practice to order a dose of it every day for three successive days at the beginning of the treatment. As he had frequently had occasion to remark, he was fully convinced that arteriosclerosis and so called Bright's disease were due to intestinal putrefaction.

Dr. Ransford E. Van Gieson said it was well known that the value of any food depended on its digestibility. When the food was thoroughly digested there were no toxine products. Nothing gave the general practitioner more trouble than regulating the diet in heart cases and, indeed, in cases of various other kinds, as, for instance, typhoid fever. In these cardiovascular cases there were changes in the arteries of the stomach as well as in those of other parts of the system. Here we should employ foods which were of value on account of their digestibility, and reject those likely to be injurious on account of toxine products. He had found his top milk mixture very serviceable. It consisted of four parts of milk, four parts of lactine solution or whey, and four parts of boiled water, and it was sweetened very slightly with malt extract.

Doctor Cornwall, in closing, said that the quantity of food which he had recommended was much less than that mentioned as requisite in the textbooks. He usually allowed a certain amount of meat, and he believed this was desirable as long as there were not given in association with the meat such articles of diet as would tend to render it putrifiable. He was somewhat doubtful about the availability of tomatoes, as he believed they contained oxalic acid, which was an objectionable substance. Nor did he believe that castor oil, a medicine which had to be repeated, was the best laxative for this class of cases. Personally, he had found that he could usually secure sufficient action of the bowels by means of the diet alone. Raw cabbage was a very useful article in this connection, and it could be eaten in the form of cold slaw made with olive oil, but no vinegar. Cheese did not agree with some persons, but Edam cheese was one of the best kinds.

Some of the Abuses of Surgery.—Dr. H. Beekman Delatour said that the medical profession, ever jealous of the high position which it had long held in society, had, through its various associations, striven to keep its ranks free from sus-

picion and to warn the public against impostors. Sometimes it had fought unwisely and lost, more often it had fought wisely and won; but sometimes it had lost its righteous battles through a misguided public sentiment, and laws had been enacted permitting charlatans to practise medicine. During the past few years there had been a growing feeling within our own body that practices were creeping in which were unprofessional and tended too much toward the commercial. In this connection he spoke in strong condemnation of the practice (forunately not so prevalent now as formerly) on the part of certain members of the profession of receiving commissions from druggists and instrument makers, especially the receipt of a so called professional discount from the manufacturers of trusses, elastic bandages, etc. These same manufacturers, he said, had been known to secure the work in hospitals by giving commissions either to an officer of the institution or to some member of the house staff who could use his influence to have them designated for the purpose. Such practices were beneath the proper dignity of the profession and against our moral obligations to the patients who trusted us, and he did not doubt that under an antitipping law they would be actionable. What a spectacle it would be for a practitioner of medicine to be haled to court for receiving a tip from an instrument maker! The speaker next attacked the newer, but, he believed, growing and more deceitful, practice of fee division. In dealing with this topic he expressed the opinion that there had always been a great error in the charges of the family doctor, who had never got his just dues. When the latter met a consultant he was certainly entitled, on account of the extra trouble and time involved, to a larger fee than when he saw the case alone. This fee, however, should be paid by the patient directly, and not through the consultant. One way was legitimate and right; the other, dishonest. When it came to the division of operating fees it was fair to believe that the man who would accept such a division would also select his operator, not on account of his ability for the special work, but because of the percentage of the operation fee he was willing to surrender. It was frequently argued that when the family doctor turned a patient over to the surgeon his earnings from the case at once ceased, and therefore the surgeon should as a matter of justice pay back to him part of the fee; but if we could not properly treat a case, and some one else had the requisite skill to do so, was it not our sworn duty to advise the patient to this effect and put him in the line of proper treatment? It should also be considered that when an operation fee was paid, it many times included a long after treatment, which in some instances reduced the actual operation fee to a very small sum. The important question, however, was whether we were dealing honestly with our patient. If we sold his case to the highest bidder, we were not.

Another practice which concerned the profession very much, but to the general practitioner seemed apparently a small matter, was the effort made by some to minimize the value of surgical operations. This was done in two ways, first, by incorrectly stating to the surgeon the true financial standing of the patient, so that the normal fee for a given operation would be cut down, and, secondly, by referring the patient directly to some hospital; informing him that if he went direct to the hospital he could have the services of some particular man, but would not have to pay an operation fee, as if he had gone to the surgeon's office first. In this way the public were informed by our own colleagues how to receive surgical care free. Once they had learned it in respect to surgery, they began to apply it to medicine as well, and thus the advice might become a veritable boomerang to the family doctor. The profession should stand together. While fees might occasionally be charged which were exorbitant, these were the great exception.

Still another abuse which had rapidly grown in the past ten years was the practice of operating by men of inexperience. This had been helped by the attitude of the hospitals, in more generally opening their wards to the profession, and in appointing to their staffs young men who had had little or no general experience. Hospital managers seemed to forget that the public looked to them to offer the very best medical and surgical attendance, and of late years selection had often been made because of the desire of a director to place on the staff his family physician or some relative, without regard to his professional attainments. The advent of antiseptic surgery had greatly decreased the dangers from infection, but in no way could it increase the judgment of the operator. Doctor Delatour had at various times seen operations in some of our best hospitals in which the time consumed was from four to six times that which an operator of average skill would take. Some of these were done by members of the regular hospital staff, and others by outside physicians who were operating by courtesy of the hospital regulations. Worse even than the length of time taken by the inexperienced was the abandoning of the case as inoperable, and the placing of the patient in a state of chronic invalidism, because the operator either became afraid of the task he had undertaken or else was unfamiliar with the proper technique. An incomplete operation was worse than none at all, and if some of the methods now in vogue continued, the brilliant surgical achievements of the past would be undone by the folly of the present. Many operations were undertaken by the family doctor because they were apparently so simple, as, for example, circumcision and the repair of the lacerated cervix and perineum. In reality, however, these procedures were not simple. They were comparatively devoid of risk, but the incorrect performance of them might leave behind conditions worse than the original trouble. Many badly done circumcisions came to the surgeon for correction, and all operators knew of the difficulty of securing satisfactory results in lacerated cervix and perineum. Curetting of the uterus was looked upon as one of the simplest of operations, yet the complication of perforation of the uterine walls was not infrequent, even in competent hands. When this accident occurred, however, the competent operator knew just what to do. A case was cited in which in this city, within six months, an operator, who was a graduate of a hospital in which he had had a year's surgical training, perforated a uterus, dragged down with his curette a loop of bowel, cut it across to see

whether it had a lumen, and, finding that it was intestine, pushed it back, unsutured, to discharge its contents into the abdominal cavity. These, the speaker said, were but some of the abuses which, if more care was not exercised, would bring surgery into disrepute, and the work of the masters who for years had struggled to perfect the art would be brought to naught.

Dr. Algernon T. Bristow said that some time ago two physicians who were not members of the county medical society said to him: "You could double your membership if you would take up the discussion of questions which really concern the profession." It seemed to him an encouraging sign of the times that our medical societies were now trying to wake up. For instance, the recent address of the president of the Medical Society of the County of New York was principally devoted to the economics of the profession. He believed that many of the things which we criticise in some of our brethren were not due to the fact that medical men were bad, but rather to the economic conditions which surrounded us. It was certainly true that we were not in a proper financial position, and the question was not only an economic one, but also a sociological one. The speaker here referred to the action of the board of health in discharging thirty-five of its physicians in order to appoint seventy-five nurses, who, he said, were expected to do what was practically doctors' work. A recent estimate, based on careful investigation, had placed the average earnings of physicians throughout the country at twelve dollars a week. Under these circumstances what chance had a man who should be ill for a year, or what was to become of his family in case he should die? The crux of the situation was that men were forced to do things considered dishonorable in the profession because they were in want. We should therefore get together and stand up for our rights. The existing evils could not be cured by merely passing resolutions. The New York Academy of Medicine and the Kings County Medical Society had adopted resolutions to the effect that fee splitting was an offense punishable with expulsion; but of what use was such action? Certainly no one would accuse himself, and therefore no legal evidence could be secured in a case of this kind. Hence the remedy lay a great deal deeper. The salaries paid to physicians in official positions were much smaller than those received by lawyers. No one was doing more useful work than Doctor Park, of the health department, yet his salary was only $3,500, while that of an assistant district attorney, who was able to attend to some private work in addition to his public services, was $7,500. A sanitary inspector received $1,200 a year, but an adjunct assistant district attorney $4,500: and, moreover, the working hours of inspectors had now been so extended that they had practically no time for any private practice. Unjust demands were constantly made upon the medical profession. Having referred to the dispensary abuse, Doctor Bristow said that the hospitals not only compelled the men of their staffs to work for nothing, but actually asked contributions of money from them. The one thing that could bring about a cure of these evils was loyalty on the part of the profession itself. It was essential that we should put our affairs on a sound financial basis, and the basis of this was personal loyalty to one another.

Doctor Branth spoke in condemnation of the holding of three, four, five, or even more hospital appointments by a single surgeon or physician. Under these circumstances, he said, it was impossible that the patients entrusted to his care should receive the thought, time, and attention which were their due. No physician, therefore, should have more than one hospital appointment, and this was desirable also for the reason that it would allow a much larger number of the profession to secure hospital positions. He also condemned the exclusive right of hospital surgeons to operate in the institutions with which they were connected, believing that opportunities for this should be afforded to others. All licensed physicians, he said, should be permitted to use the private wards or rooms of hospitals, as well as those on the regular staff, and upon the same terms; also they should be allowed the use of the operating room, though they should furnish their own instruments. He related instances showing the grasping practices of some hospital surgeons in getting operations (sometimes unjustifiable) and large fees, and then paid his respects to the young men who started out on their professional careers as specialists. They had had little or no experience, yet, as specialists, they did not hesitate to demand special fees. A real specialist was a physician well seasoned and experienced in general practice, who with riper years devoted himself to some special branch of medicine for which he was peculiarly fitted by nature. Such were Valentine Mott, Samuel Gross, Gaillard Thomas, Lusk, and Skene.

The speaker then made several suggestions, among which were the following: The wards in the public hospitals ought to be open at certain parts of the day for all physicians desirous of increasing their medical knowledge, and experiments with new remedial agents, made with due caution and under consultation, ought to be permitted. In our large apartment houses, and also in the luxurious private residences of the wealthy, a hospital room and operating room with aseptic facilities should be installed. Such a plan would to some extent relieve the hospitals from overcrowding, these institutions being intended principally for the poor. Our profession demanded constant application and much more study than the law. Some years ago a very wealthy man of Yonkers made an effort at suicide by cutting his throat, but the physician who attended him saved his life as by a miracle, as the patient had lost much blood. Payment for his services, however, was refused. The physician then sued for $10,000, but was awarded a verdict of $5,000, as that was all a human life was valued at. What a farce this was when compared with lawyers' fees!

We physicians, he went on to say, ought to oust all commercial and competitive spirit, as unworthy of our noble profession. We ought to be mutually on such kindly terms that one in doubt about a case could go to any colleague and ask assistance in a friendly way. A consultation demanded by the patient, or his family, should alone be regarded as a

consultation, and should be paid for as such. Fee splitting, however, was obviously undignified and unprofessional. If true colleagueship were generally observed in the profession, we should be more thrifty and be more highly esteemed by the community. Unnecessary and bad work would meet with general condemnation and we should, in fact, elevate our standing in every way. As it was, however, in the courts physicians could always be had to swear for their party, and, the two sides being as antagonistic as the two parties at law, the public found amusement at the cost of our dignity.

In conclusion, Doctor Branth said he rebelled against a gag. He therefore protested against the present form of gag which barred licensed physicians from practising in other States. A duly licensed physician should have the right, he believed, to practise wherever the Star and Stripes waved.

New Inventions.

NEW ANTRUM AND SINUS INSTRUMENTS.

By A. M. Anderson, M. D.,
New York,
Adjunct Professor of Rhinology and Laryngology, New York Polyclinic School and Hospital.

All the instruments shown in the accompanying cuts, except the round chisel, were designed and made by me for use in the treatment of empyema of the sinuses intranasally.

Antrum irrigator. Fig. 1 is a long needle, curved at right angles, with a handle and a tip, upon which to slip a rubber tube, connecting it with the syringe. To use the instrument, fill the syringe with the required solution, connect with irrigator, which is held as one holds a pen, introduce the irrigator into the nose with the point downward and push it back into the middle meatus between the middle turbinate and the wall of the antrum, until the point reaches the normal opening of the antrum. Then turn the point outward, toward the angle of the lower jaw, and with a slight bend of the wrist and hand, press the point outward and downward until it slips into the antrum. To be sure that the point is in the antrum, hold the irrigator between the thumb and the index finger and rotate it gently. Should the operator fail to find the normal opening, a slight pressure will force the point through the antrum wall, as it is very thin at that point. After everything is ready, the patient's head is inclined downward to prevent the water from running back into the throat. At first it is well to use a light pressure until the water begins to run out of the nose, and then increase pressure as necessary. By disconnecting the syringe, filling it with air, and forcing it into the antrum, most of the water in the antrum can be blown out. I have used this instrument in more than one hundred cases without injury in any of them.

Antrum chisel. Fig. 2 is a modification of Myles's round or hollow chisel for making the initial opening into the antrum. After the anterior part of the lower turbinate has been removed sufficiently to expose the wall of the antrum in the lower meatus, the chisel is introduced into the nose with the point turned outward at right angles to the nose—or horizontally—and is driven through the wall and withdrawn. The chisel makes an opening large enough for the point of the punch to enter.



Fig. 1.—Antrum irrigator.

Combination punch. Figs. 3, 4, and 5 show the combination punch for the sphenoid, frontal sinus, and antrum better than I can describe them. However, a few words concerning their use will be added. After the opening has been made into the antrum with the round chisel, the antrum punch is introduced into the nose with the curved point downward and carried back until the round point is opposite the opening. By turning the point of the instrument outward and upward it readily enters the opening, which can then be enlarged in any direction, making a clean cut surface, which heals readily without leaving any ragged edges. I have used this antrum punch for more than two years and have operated in sixty-four cases successfully. By turning a set screw the punch can be reversed and used on the other side. The cutting part of the antrum punch is about one quarter of an inch or six mm. in diameter.



Fig. 2.—Antrum chisel.

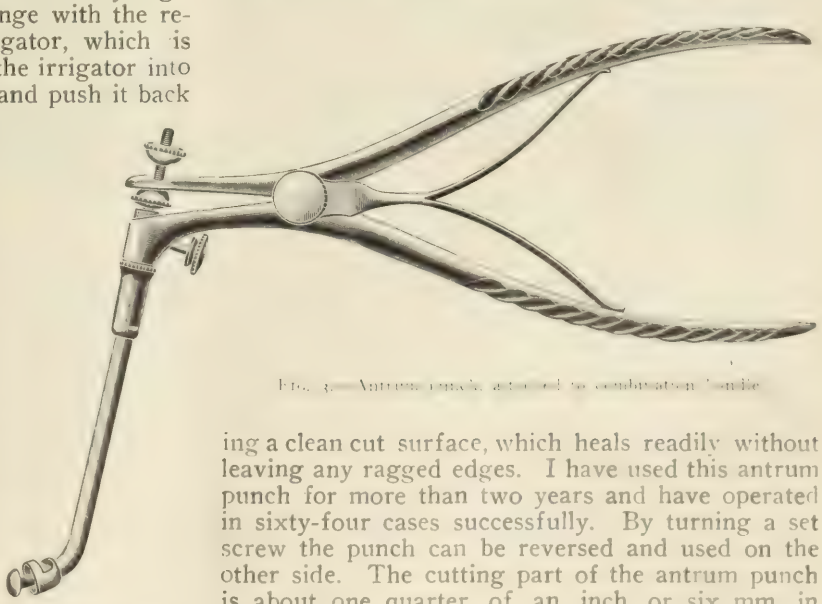


Fig. 3.—Antrum punch, adapted to combination handle.

Sphenoid punch, Fig. 4, shows everything except the size and length. The length of shaft or cannula is five inches and the cutting part is made in two sizes, one about three mm. and the other about five mm. in diameter.

Frontal sinus punch, Fig. 5, is the same as the antrum punch in shape and construction, except it is smaller and longer and has a larger curve. The length of the shaft is four inches and the cutting

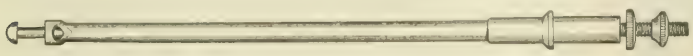


Fig. 4.—Sphenoid punch.

part is about three mm. in diameter. The distance between the cutting parts when the punch is open is usually about eight mm., but can be lengthened or shortened as desired. As all of the cutting

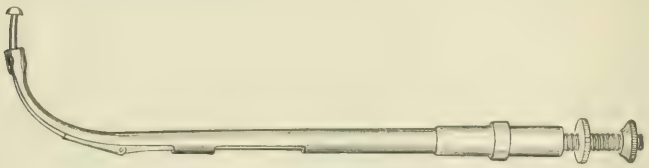


Fig. 5.—Frontal sinus punch.

points are round, they will cut in any direction the operator may desire. The same handle is used for the three punches.

271 West Eighty-fourth Street.

A NEW APPARATUS FOR THE INTRAVENOUS INJECTION OF SALVARSAN,

And a New Apparatus for Obtaining Freshly Filtered, Sterile Water for Intravenous Application.

By Maximilian Stern, M. D.,
New York.

My excuse for introducing another apparatus for the intravenous injection of salvarsan lies in the fact that there are still some inconveniences and dangers to be overcome which the apparatus I am about to describe eliminates.

Its component parts are two four ounce all glass syringes, with corks and rubber caps to fit, two special cocks or valves, the needle, and three short pieces of rubber tubing. The corks must fit the syringe barrels accurately and the rubber caps (medicine dropper bulbs) must fit the tips of the barrels. After sterilization the barrels can be loaded, one with saline and the other with salvarsan, being previously capped at the tips, corked, and put into the satchel to be carried to the bedside. In preparing the solutions it is only necessary to slide on the rubber tips and stand the barrels upright in beakers. In this position they are easily filled, and contamination incident to pouring from one vessel to another is avoided. The other parts of the apparatus are assembled and sterilized in a towel, which is not to be opened until needed.

The two syringes are now fitted with their respective plungers and the corks and caps are removed and laid aside. They are then laid side by side on the bed, close to the patient, and connected with the rest of the apparatus by the rubber tubes which fit the glass tips snugly. These rubber tubes are connected to the arms of a Y shaped cock. This being a two way cock permits of a stream either from one syringe or the other, controlled by a handle which indicates by the direction in which it points, the syringe from which the solution can be expelled. With the aid of this valve it is possible to inject a small quantity, first of one solution, then of the other, with very little inconvenience. The long end of the Y cock is connected by a short piece of rubber tube with another valve, to which is attached the needle. This three way cock has at one end on its handle a small ball, which indicates the direction of a current passing through it and has an opening on its side through which blood is seen to pass when the needle has entered the vein, thus obviating the necessity of connecting the needle *after it is in place,* and also preventing the admission of an air bubble and the soiling of the hands and the bed with blood. When the blood is seen to issue through the side opening, the ball on the handle being turned down, the tourniquet is quickly removed and the ball is turned up, thus stopping the further escape of blood and permitting the stream to pass from the direction of the syringes through the side vent.

The Y valve should now be turned toward the salvarsan syringe and air expelled from it through

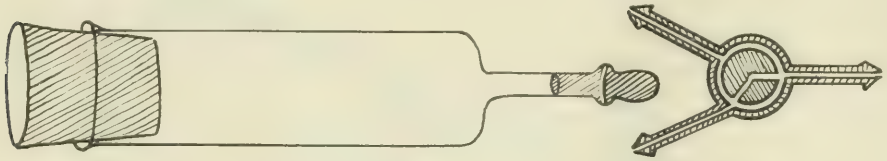


Fig. 1.—Syringe corked and capped.

Fig. 2.—Y valve.



Fig. 3.—Three way valve.

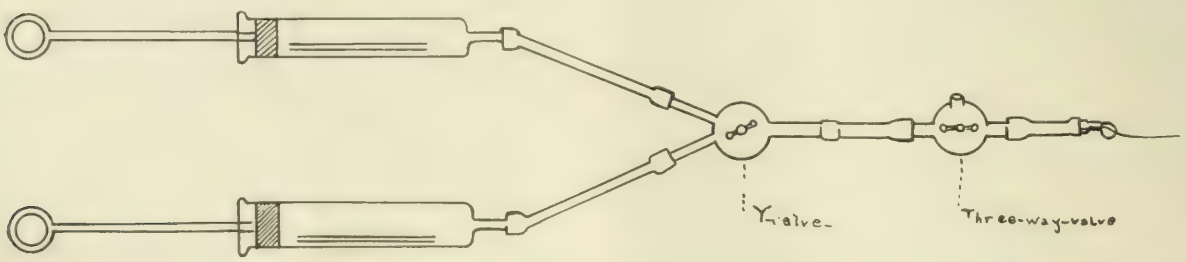


Fig. 4.—Apparatus assembled. Corks and caps removed from syringe barrels and pistons inserted.

the vent in the lower valve, after which the Y valve is turned toward the saline syringe in order to expel air and salvarsan from the tubes. The three way cock is now adjusted with its handle horizontal, and saline is injected into the vein, the successful accomplishment of which will be evidenced by the nonappearance of bulging at the site of the puncture. By turning the Y valve a small quantity of salvarsan may now be injected, after which saline by again turning the valve. This is repeated at intervals until the last injection of saline has cleared the tubing and needle of all salvarsan, when the needle can be withdrawn without fear of salvarsan escaping into the tissues outside of the vein.

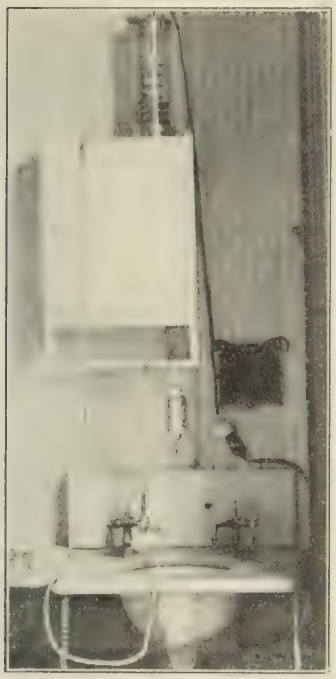


FIG. 5.—Water sterilizer, filling directly from filter. Heating spiral inside of container, connected with street current through rheostat.

During the injection a hot water bag has lain across the syringes and the solutions have been kept warm. This is of great importance and a decided advantage, as reaction and chill are in a great measure due to the injection of cold solutions, which is inevitable when many feet of tubing are employed.

While it may seem irrelevant here to enter into the matter of obtaining water suitable for our purpose, recent experiments have shown that it is more important than we have been accustomed to think. According to the recent observations of Wechselmann, nearly all reactions were avoided by having the water *not only free of solids, but also fresh.* The reason for this is little understood, but the fact remains that water, however sterile, if not prepared the day of the injection, causes reactions which are conspicuously absent when freshly sterilized, filtered water is employed. The reaction was always supposed to be due to the toxic effects of the drug. Wechselmann discovered that when water was freshly prepared reactions were absent in 150 injections consecutively. These results have also been proved by the experiments of Homer F. Swift and Arthur W. M. Ellis, who tabulated their results in such a way as to show at a glance the effects of salvarsan when injected with differently aged specimens of sterile water. In one group of their cases there were fifty-three which, when injected with the old water, gave rise to reactions in forty-eight, while in the group injected with salvarsan prepared in fresh sterile water there were forty-five cases out of fifty-six which showed absolutely no febrile reaction.

This was my own experience, though it has been only recently that I learned the reason for my good fortune. It is for this reason that I am impelled to describe the apparatus I have been using for preparing the water. In the illustration it will be observed that the water is forced up into the sterilizing container directly from the aqueduct tap through a filter, which latter is the ordinary Berkefeld commonly used in laboratories. It is an efficient filter and will eliminate the minutest solid particles, as well as many bacteria, if not all. The container is provided with a heat coil operated by electricity and controlled by a rheostat. Thus we have a convenient water apparatus, which may also be used for an irrigator and does away with the necessity of drawing the water into a pitcher and pouring into the sterilizer. According to the most recent advices from Professor Ehrlich and Professor Schreiber, neosalvarsan will be prepared much as usual, except for the omission of alkali, and it will be convenient and safe to employ the apparatus.

Briefly, the advantages of the syringe apparatus are that it makes possible the injection of warm solutions, no matter how slowly, that no air can possibly be injected, that no solution will be injected outside of the vein into the tissues, that the needle, being connected before the puncture, insures cleanliness of the hands and linen, and lastly, that the apparatus comprises few parts, which are easily sterilized, and permits of the solutions being injected from the vessels in which they were originally mixed. The water apparatus is efficient and takes the place of what would necessarily be a large and expensive affair. In its absence one would be obliged to rely on the sterile water of the apothecary shop, were the hospital not close at hand.

80 WEST 114TH STREET.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Urology. The Diseases of the Urinary Tract in Men and Women. A Book for Practitioners and Students. By RAMON GUITERAS, M. D. (Harv.), Professor of Genitourinary Surgery, New York Postgraduate Medical School; Visiting Surgeon to the Columbus and Postgraduate Hospitals, Consulting Surgeon to the City and French Hospitals, etc. With Nine Hundred and Forty-three Illustrations in the Text and Seven Plates. In Two Volumes. New York and London: D. Appleton & Co., 1912. Pp. Volume I, xxii-667; Volume II, xix-757.

Every friend of Doctor Guiteras should read his book, for it abounds in evidences of that genial good fellowship and Olympian point of view that have so endeared the author to his peers and to his students.

To begin with the most important matter, the illustrations number 943, not to mention several plates, and they really illustrate every detail of the text. Thus one sees pictures of two saccharometers; two urinometers, and three centrifuges; several illustrations are devoted to explanations of how to exercise the upper extremities and trunk; while two methods of administering rectal irrigations are precisely depicted. We particularly congratulate the author in that he has only once fallen into the common error of using one illustration to depict two different conditions (Fig. 281, pyelonephritis; Fig. 312, tuberculosis).

In his overwhelming generosity, however, we sometimes feel that Doctor Guiteras has given us too much. Surely no third year student requires to have the act of micturition twice illustrated as it is in Figs. 237 and 244, while the need of representing in one picture a curved bistoury wound with cotton except at the point, in another the same placed along the index finger, and in a third, both finger and bistoury in the act of opening a prostatic abscess upon the floor of the urethra, where prostatic abscesses are never found, is not entirely clear.

But the very generosity, which in the matter of illustration adds to the value of this work by the multiplication of concrete examples, unfortunately detracts somewhat from the value of the text, for the result of a multiplication of words is not necessarily a multiplication of images. Indeed if any adverse criticism may be ventured it is that the author, in speaking frankly and familiarly from the heart, fails sometimes to attend closely to what others have already written upon the subject, and at other times injects here and there in the text certain *obiter dicta* that are calculated to confuse the student.

The same habit of mind injects confusion into the well-conceived plan upon which the chapters are ordered.

Thus the first part of the book covers the general topics, history of urology, anatomy, uranalysis, asepsis, instrumentation, urethroscopy, cystoscopy, general symptoms, diagnosis and therapeutics, including anesthesia, while the second part deals in order with diseases of the kidneys, bladder, etc., but without grouping even such important topics as tuberculosis, stone, and operations. Thus instead of giving a good picture of genitourinary tuberculosis in one section, we find this topic scattered through six widely separated chapters which, in spite of frequent and somewhat inaccurate repetitions, fail to produce a clean cut impression.

Within the chapters the same lack of precision is felt. Of this the chapter on cystoscopy is a good example. It covers forty pages and includes twenty-four illustrations, yet depicts no up to date instrument, except that of Lewis and an instrument of the author's, which we do not remember to have seen described elsewhere, and in which we fail to discern any original features except "the principal one—the elimination of the obturator." The method of finding the ureter orifices is mentioned on page 221; the insertion of ureter catheters is, however, not described until page 230. The direct catheterizing instrument is preferred, because, "with the direct instrument it is much easier to catheterize the ureters of ninety-five per cent. of the patients, if this percentage can be catheterized; I feel quite certain that they cannot be, the first time, in pathological cases."

The descriptions of the renal function tests, cystoscopy, and searching for stone lack instructive details.

Among the inaccuracies and oversights which are perhaps inevitable in a book of this sort we venture to call attention to the following:

"Vesical tuberculosis probably never occurs primarily in the bladder. . . . It is probable that not over one per cent. of the cases of genitourinary tuberculosis occur primarily in the bladder." (Vol. II, page 95.)

"Nitric acid solution has been named as a suitable remedy for dissolving phosphatic calculi, and this might possibly be accomplished; but in order to do so, the solution would presumably have to be of such a strength as seriously to damage the bladder." (Vol. II, page 91.)

"Partial nephrectomy may be employed when but one pole of the kidneys is diseased. This is not a practical operation." (Vol. I, page 547.)

In discussing the use of urotropin (of the value of which the author seems extremely sceptical) he says, referring to tuberculosis, "I only use it in cases of pyonephrosis with retention of pus" (Vol. I, page 554), while in the same connection in another place he says: "When cystitis is present, I give some urinary antiseptic, usually urotropin." (Vol. II, page 103.)

Referring to gonorrheal epididymitis, he states: "In my practice, I palpate every case of gonococcal complication of the organ, and it is with extreme rarity that I find that the testis proper is involved."

In describing the intramuscular injection of alkaline solution of salvarsan, he says: "Then an acute pain develops in the site of the injection that lasts for five or six hours. There is pain and redness resembling erysipelas over the seat of injection, that may gradually increase for three or four days." (Vol. II, page 718.)

In discussing the treatment of stricture by dilatation, no mention is made of the size to which the stricture should be dilated, nor the duration of dilatation. In Chapter Sixty-five, on bubo, tuberculosis is scarcely mentioned, and the puncture operation not considered.

The following quotation is calculated to excite profound emotion: "His symptoms were those of prostatic obstruction. While undergoing a digital examination by rectum, he remarked that pus was running out of his urethra. I accordingly continued to massage his prostate until the pus ceased flowing, when he was able to urinate. I might add that this patient developed a septic phlebitis and a septic pneumonia from which he died."

The author's skill in diagnosticating atrophic conditions of the prostate by rectal touch, is manifestedly superior to that of most of his contemporaries. He mentions several cases in the text of which perhaps the most striking is summed up in the following sentence: "The prostate was completely atrophied and the ejaculatory ducts could be felt running down to a thickened nodule, evidently the remains of the caput gallinaginis."

An actually dangerous doctrine is enunciated on page 558, Vol. I: "I believe that there are many cases of tuberculosis of both kidneys in which the process is cured under improved general conditions of treatment and hygiene, and consequently increased bodily resistance." This is supported by two illustrative patients with tuberculosis of both kidneys, the bladder, and the prostate, one of whom had greatly improved at the end of a year, while the other had become apparently well and so remained for five years.

These cases are the more noteworthy in that pathological reports the world over fail to record any like them.

Every man's views on the prognosis and treatment of gonorrhea are bound to be interesting, if only for the reason that they are sure to differ from those of every one else. Turning to this topic in the present volumes, we are not disappointed.

There is a striking illustration entitled March of the Gonococcus in the Male which evokes in our memory the immortal strains of Gounod. Two pages further over, with an incisiveness worthy of Ricord himself, the author thus describes the gonococcus: "Owing to a peculiarity in its method of division, it usually occurs in pairs, each half resembling a kidney, or bean, in shape and the pair having the appearance of a French roll."

In Vol. II, page 369, we note the following statement: "N. B. Cure.—A patient is well when there is no more discharge, when the urine shows no more shreds, and when there is no more frequency of urination nor feeling of discomfort in the parts," and the following quotations from page 402 are difficult to reconcile with the accepted views concerning gonorrhea: "Patients of mine, with both acute and chronic urethritis, have married contrary to my advice, and have not infected their wives locally and have had healthy children with normal eyes." "As long as there is the slightest discharge, or there are the minutest shreds in the urine, especially if these contain pus cells, or there are gonococci or pus in the massaged products from the prostate or vesicles, or as long as there are lesions demonstrable by the urethroscope in an unhealed state, the practitioner should refuse his sanction to marriage." "When no gonococci or pus can be found upon repeated examination the patient can be allowed to marry and we can feel that, although he may infect his wife, that it is extremely improbable and that as far as we are concerned we have taken the necessary precautions." Perhaps, however, the following statement is meant to be explanatory: "In the case of a man who marries a prostitute, and such marriages are frequent, he notices in many cases that he has been subjected to infection."

In reference to the local treatment of acute urethral gonorrhea in the male, the following instructions are noteworthy: "In cases in which the acute symptoms are moderate, balsamics can be given internally in addition to the treatment just outlined; or the direct treatment by urethral injections of the silver derivatives, especially a one quarter or one half per cent. solution of protargol, by means of a urethral syringe; or better, hot sitz baths and the alkalies with the balsamics can be given together with the local treatment."

A further illustration of the same subject is found in Vol. II, pages 387-388: "Personally, I do not employ permanganate solution, save in those acute cases of moderate severity or of the subacute form, in which the patient has special reasons for hurrying the disappearance of the discharge and requests quick treatment. In such cases, daily irrigations with permanganate solution are given once or twice a day in the manner described by Janet and offer a means of shortening the attack."

"Personally, I never give irrigations at the beginning of an acute attack of gonococcal urethritis; and even when the attack is subacute and I give local urethral treatment, I prefer injections of the new silver derivatives, especially protargol, before beginning irrigations."

"I think that, in routine cases, nitrate of silver solutions employed every other day, beginning with a weak solution and gradually increasing the strength, are much better than irrigations of permanganate of potash, and I continue to use nitrate of silver in spite of the fact that the newer silver salts have been employed by many in the irrigation treatment."

The accomplished author has probably added notes to these volumes from time to time over a long period of years and has not taken the trouble to delete descriptions of procedures which he no longer uses. Careful editing would have done away with many of the objectionable portions of the work, and doubtless a second edition, passed through competent hands, will produce a more compact and valuable treatise.

The Surgery of Oral Diseases and Malformations. Their Diagnosis and Treatment. By GEORGE VAN INGEN BROWN, D. D. S., M. D., C. M., Oral Surgeon to St. Mary's Hospital and to the Children's Free Hospital, Milwaukee; Professor of Oral Surgery, Southern Dental College, Atlanta, Ga., etc. Illustrated with 359 Engravings and 21 Plates. Philadelphia and New York: Lea & Febiger, 1912. Pp. x-740.

"In the preparation of this work the author has endeavored to meet certain demands, the urgency of which has been borne in upon his mind after more than thirty years' experience in the treatment of oral diseases and malformations. . . . It is well known that grave consequences might be often avoided by the early detection and correction of quite simple mouth diseases. . . . Many extrabuccal affections might also be checked in their incipiency if dentists, who have opportunity to observe them during early stages, fully recognized their significance."

Containing as it does a wealth of information hitherto almost inaccessible, or so scattered as to be obtainable only after extensive search, and that information presented in orderly sequence simply, clearly, and with the emphasis many of its phases demand, this work assuredly does fill a gap formerly vacant in our own and foreign medical literature. The author is to be congratulated on having in a most admirable way achieved the objects he had in mind when he wrote his preface. Every laryngologist, physician, and dentist will find it of great help in his work. For the first time we are able to secure a complete and accurate work on diseases of the mouth and its adjacent and tributary parts written in a clear, succinct, and conservative style, with descriptions of the appropriate measures, medical as well as surgical, to treat the conditions under consideration.

Beginning with an excellent chapter on general surgical principles, the author takes up successively pathological dentition, infectious diseases, including practically every known infection through whose agency the mouth can become involved; diseases of the mucous membrane of the mouth; a most detailed and exhaustive consideration of the nervous system and the buccal region, including central and peripheral nerve lesions and affections of the individual nerves having relations with this territory, their pathology and treatment; neuralgias and the dental factors in their causation; diseases of bone and periosteum; traumatisms; affections of the temporomandibular articulation; the surgery of the jaws; diseases of the salivary glands and lymph nodes of the mouth; benign and malignant tumors of the mouth and jaws; diseases and tumors of the maxillary sinus and the various surgical procedures indicated; diseases, tumors, and malformations of the tongue. Of special interest to the rhinologist is the chapter on nasal deformities and diseases in relation to the maxillæ. The author has not, however, gone sufficiently into detail as to the later treatment of the cases in which his method of rapid widening of the upper jaw has been employed, nor is the description of the apparatus used or of the technique of the operation entirely satisfying. His well known achievements in harelip and cleft palate repair enable him to speak authoritatively on these matters and his methods are clearly and plainly set forth. The illustrations are in keeping with the high character of the text and the press work is excellent. The work is to be unqualifiedly recommended.

Studies in Psychiatry. Volume I. By Members of the New York Psychiatrical Society. Nervous and Mental Disease Monograph Series No. 9. New York: The Journal of Nervous and Mental Disease Publishing Company, 1912. Pp. v-222. (Price, $2.)

Volume number nine of the valuable Monograph Series of The Journal of Nervous and Mental Disease Publishing Company is a collection of fourteen of the papers which have been read at the meetings of the New York Psychiatrical Society during its existence of more than nine years. Other papers are promised for subsequent volumes. A detailed consideration of the different papers is impracticable; suffice it to say that the character of the New York Psychiatrical Society and the standing of its members insures the value of the collection to those interested in psychiatry

Ophthalmic Myology. A Systematic Treatise on the Ocular Muscles. By G. C. SAVAGE, M. D., Professor of Opthalmology (Defects of the Eye) in the Medical Department of Vanderbilt University, Author of New Truths in Ophthalmology and Ophthalmic Neuromyology, etc., etc. With Eighty-four Illustrative Cuts and Six Plates. Second Edition. Published by the Author. Pp. xii-685. (Price, $4.00.)

Whately, to illustrate the results of fallacy in the premises in logic, wrote an argument in 1815, just after the battle of Waterloo, to prove that no such person as Napoleon Bonaparte ever lived, and the fallacy was hidden so cunningly that it was difficult to detect. It is evident that there is a fallacy somewhere in either the premises of Helmholtz or of this writer, but we are not about to decide in which. Savage states that the difference between his teaching and that of Helmholtz hinges on the correct answers to four questions: 1, Is the centre of the cornea always the anterior pole of the eye? 2, Is the central point of the macula always the posterior pole? 3, Do all secondary visual lines cross the visual axis at the nodal point? 4, Do all secondary visual lines cross the visual axis at the centre of the retinal curvature—the centre of rotation? Helmholtz answers yes to questions 1 and 3, no to 2 and 4; the author says yes to 2 and 4, no to 1 and 3. Starting from such diametrically opposite premises the results can hardly fail to differ widely, and it does not indicate a slavish adherence to either to say that back of these questions must be a syllogism in which one author or the other has introduced a fallacious fundamental premise. Savage seems to the ordinary reader to write very clearly on the subject of the fundamental principles of ocular rotations and, if his argument contains the fallacy, he has concealed it very well, seemingly even from his own mind. The chapters on the various forms of hyperphoria and hypertropia present the author's well known views and need no comment. Some of the operations differ in technique from those ordinarily seen, and deserve to be tried. The suggestion, based on the author's personal experience, that lenticular astigmatism corrective of corneal astigmatism may be caused by the contraction of fibres of Bowman's muscle, which is supplied by the sympathetic and is therefore not affected by cycloplegics, is interesting, and possibly has a bearing on the fact noticed repeatedly by us that the actual astigmatism of the eye when in use may differ in both degree and axis from that present when the eye is under the influence of a cycloplegic. Savage's view of presbyopia differs from that generally accepted. He believes it to be due to an increasing weakness of the ciliary muscle, or rather perhaps of Mueller's muscle, instead of to the physiological condensation of the lens, which makes it less inclined to change its shape when the fibres of the zonula are relaxed. Acting on this belief he thinks presbyopia can be deferred

by means of daily exercise of the ciliary muscle with concave spheres. If this were the true explanation of presbyopia it would seem logical to expect it to set in distinctly later in students, who give their ciliary muscles plenty of exercise, not to say hard work, for many years to keep them in fine physical condition, than in men accustomed to an outdoor life, who use these muscles very little in comparison, yet in actual practice we see the onset of presbyopia at just about the same age in both classes of people, and we know that the condensation of the lens takes place with equal rapidity in both. But even if the ophthalmological reader cannot agree in all points with the writer he will find the work very interesting and stimulating.

Handbook of Mental Examination Methods. Nervous and Mental Disease Monograph Series No. 10. By Shepherd Ivory Franz, Ph. D., Scientific Director and Physiologist, Government Hospital for the Insane, Professor of Physiology, George Washington University. With Thirty-three Figures and Diagrams. New York: The Journal of Nervous and Mental Disease Publishing Company, 1912. Pp. ix-165. (Price, $2.)

The object of the author of this book has been "to place in the hands of psychiatrists, neurologists, and students methods of examination which have been successfully used in psychological practice, to the end that the mental examination of patients may be conducted in a more systematic and scientific manner," and the result is highly commendable. The work is largely psychological in character, taking up a consideration of the various mental processes and the tests for determining their deviations from the normal. The methods used are adaptations from those of the psychological laboratory, simplified and made practical for routine clinical work by the elimination of time consuming details. Chapter eleven gives a scheme of general examination which forms an excellent outline for routine work, the results to be amplified by special tests according to the individual indications. References are appended to each chapter.

Die rationelle Ernährungsweise. Praktische Winke über das Essen und den Nutzen oder Schaden der verschiedenen Nahrungsmittel. Von Dr. med. A. Lorand, Karlsbad. Leipzig: Dr. Werner Klinkhardt, 1911. (Through Rebman Company, New York.) Pp. xv-388.

This work on rational dietetics by A. Lorand, the author of *Old Age Deferred*, is a sequel to that book. Intended for popular distribution, it is written in plain language, free from technical terms. It takes up serially the influence of food upon the human body, the principles of rational dietetic methods, irrational or pernicious methods, the benefits and harmfulness of the various articles of food, and vegetarianism.

The author then turns to the practical side of his subject. He discusses foods having special effects (peristalsis, uric acid production, flatulence, etc.), and points out in a familiar way the management of the diet in constipation, gout, obesity, emaciation, etc., with a chapter of points to those who are forced to eat at restaurants and hotels. The closing chapters treat of the elevation of the various functions through nutrition, the increase of muscular strength, and the influence of diet upon old age and longevity.

The absence of technicalities gives this book special value for physicians who wish to acquire a good elementary knowledge of dietetics and derive pleasure at the same time—advantages seldom afforded by books on the subject.

NEW PUBLICATIONS.

Citron, Julius.—Immunity. Methods of Diagnosis and Therapy and Their Practical Application. Translated from the German and Edited by A. L. Garbat, M. D., Assistant Pathologist, German Hospital, New York. Twenty-seven Illustrations, Two Colored Plates, and Eight charts. Philadelphia: P. Blakiston's Son & Co., 1912. Pp. xiii-209. (Price, $3.)

Pels-Leusden, Friedrich.—Surgical Operations. A Handbook for Students and Practitioners. Only Authorized English Translation, by Faxton E. Gardner, M. D., of New York. With Six Hundred and Sixty-eight Illustrations. New York: Rebman Company, 1912. Pp. xxxi-726. (Price, $7.)

Abrams, Albert.—Spondylotherapy. Physiotherapy of the Spine Based on a Study of Clinical Physiology. Third Edition, Enlarged. San Francisco: Philopolis Press, 1912. Pp. xxiv-673.

Levinsohn, Georg.—Die Enstehung der Kurzsichtigkeit. Mit 3 Abbildungen im Text. Berlin: S. Karger, 1912. Pp. 88.

Sopp, A.—Die Zuckerkrankheit (Diabetes) ihre Ursachen, Wesen und Bekämptung. Würzburg: Curt Kabitzsch, 1912. Pp. 71.

Miscellany.

Possible Discovery of the Cause of Epilepsy.—Dr. H. M. Greene reported in detail to the Fortnightly Medical Club, of Portland, Oregon, on April 16, that the convulsions in epilepsy suggested to him the possibility that they might be caused by a toxine as the result of bacterial growth in the blood. He obtained a specimen of blood from an epileptic in whom convulsions developed one year after an attack of scarlet fever. Professor E. F. Pernot, of the Portland Bacteriological Laboratory, suggested a process of blood culture, whereby after repeated attempts a very small micrococcus was cultivated and also a large diplococcus. Later Doctor Greene obtained a second specimen from the same patient, to be sure that it was not accidental, and found the same organism. He then obtained a specimen from another epileptic and found apparently the same organisms as in the first case.

The small micrococcus, writes Doctor Greene to the New York Medical Journal, does not stain by any of the methods ordinarily employed. Observations were made in culture and by hanging drop. He expects to have a bacterin made from this organism and administer it to the patient.

Status of the German Privat-Dozent.—German university circles are discussing an edict of the Minister of Education relating to the system of auxiliary university teachers known as privat-dozents, according to the *Sun* for March 31, 1912. The Minister has decided that a man shall cease to be a privat-dozent when he fails to exercise teaching functions for four academic terms without explanation or official permission, or when he accepts employment outside his university.

The custom hitherto prevailing of conferring the title professor on a privat-dozent who has exercised his functions for ten years is to be dropped. At present there are 135 medical and 130 philosophical privat-dozents attached to the University of Berlin.

Formerly a student could become a privat-dozent by simply taking his degree. Subsequently he had to be officially nominated, while present regulations require the writing of a special scientific thesis and a test lecture, with oral examination, before the authorities. Up to 1898 the privat-dozents were subject to the various faculties of the universities, but in that year a law was passed transferring them to the jurisdiction of the Ministry of Education. German university professors are freely recruited from the ranks of the privat-dozents.

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Original Communications.

REMINISCENCES OF THE ORTHOPEDIC SURGEONS OF THE LATTER HALF OF THE NINETEENTH CENTURY,*

BY V. P. GIBNEY, M. D.,
New York.

An invitation to ramble in the reminiscences of the latter half of the nineteenth century was hard to decline, albeit it was a reflection on my rapidly advancing years. Inasmuch, however, as the Fellows of the academy, members of this section, have grown up within my range of vision and many like myself have passed the meridian of life, I hesitated only for a moment when our chairman added an appeal to the invitation.

It was in the early seventies that my interest in this specialty was awakened by the teachings of that giant in orthopedic surgery, Louis A. Sayre. The name had already become familiar to me in my undergraduate days in Lexington, Kentucky, for it was an honored one in that State and my professor at Bellevue claimed it as his own by adoption. In generosity and in hospitality and in forcefulness of expression he was Kentuckian through and through, even if "Bottle Hill," New Jersey, known in modern days as Madison, was his birth place. As a student I became fascinated with his personality, and while in after years our paths diverged, my admiration for his genius never faltered. I came to know his likes and his dislikes, and before my graduation I had become familiar with the names of Bauer, of Henry G. Davis, Detmold, and Taylor, all among the pioneers. His adjunct was Leroy Milton Yale, for many years a lecturer in the college made famous by the names of Sayre, of Flint, of Van Buren, of Fordyce Barker, and of James R. Wood. It was not my fortune to serve under Doctor Sayre in Bellevue Hospital, for my lot was soon cast with Dr. James Knight in the Hospital for the Relief of the Ruptured and Crippled. Doctor Knight and Doctor Sayre were different types of men and yet each left his impress on orthopedic surgery. One was an advocate of the expectant treatment, the other of the operative as well as the mechanical. There was plenty of room in this town for men of their type. I grew to manhood under Dr. James Knight, living under the same roof for thirteen years, and while my early instructor, Doctor Sayre, disapproved, our friendship continued to the time of his death.

The "Ruptured and Crippled" in those days did not tolerate any operations save Achillotomies and fasciotomies. Those were our major operations, and while Doctor Knight believed in clinical instruction, going so far as to advertise lectures during the winter, students and doctors who had plenty of time soon tired of division of the tendo Achillis, and after a season or two the clinics passed into desuetude. We could not hold the audience. Doctor Knight came from Baltimore, having received his license to practise from the Medicochirurgical Faculty of Maryland. In the early sixties he converted his own home in Second Avenue into a hospital for the ruptured and the crippled. He was the pioneer in orthopedic hospitals, and his powers of persuasion drew many men of wealth and prominence to his aid. It was not long before he had a hospital on the corner of Forty-second Street and Lexington Avenue under way, and with an endowment fund large enough to care for 200 children. He was an optimist in therapeutics, a firm believer in the *vis medicatrix naturæ*. He cared little for elaborate histories, relying on his memory, which enabled him at all times to recall the good features in a case. My faith, in the early years of my interneship, in his accounts of the cure of infantile paralysis and of hip disease was so childlike that I found myself giving prognoses that got me into trouble as I grew older.

Not having a free hand as an assistant (and a good assistant should rarely ever have a free hand!) I grew into a great note maker, trying to keep full records of all cases that came into the hospital as well as those treated in the out patient department. The securing of end results had a fascination that I have never outgrown.

In those years I came to know another pioneer, a past master in the mechanical side of orthopedic surgery, Dr. Charles Fayette Taylor. For many years he worked along quietly as did Doctor Knight, doing good work, founding a hospital, and getting results that excited the admiration of the small army of younger men who had entered upon this campaign as their life work. In Doctor Taylor's later years he became more aggressive and we induced him to come out into the open and tell how he prospered. In the Academy of Medicine he often clashed with Doctor Sayre, and it was "Greek meet Greek." Doctor Knight never allowed himself to be drawn into these discussions, but sent the recorder of these reminiscences to represent our

*Read at a meeting of the Section in Orthopedics of the New York Academy of Medicine, November 17, 1911.

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hospital. There was one notable exception. The good doctor was devoted to static electricity and had an abiding faith in its efficacy in the treatment of all the neuroses of women, as well as of a great many of the diseases commonly assigned to the neurologist. One room in the out patient department of the hospital and one or two on the wards fairly reeked with ozone, and when the doctor was too ill or too busy with administrative business it became my duty to handle the big machine and note the effects of the scintillating sparks as they passed from the electrodes to the different parts of the anatomy of the patient seated on the insulating platform. It was in the eighties I think that Dr. William J. Morton returned from Paris, fairly bubbling over with enthusiasm about static electricity. He called at the hospital and I presented him to my chief who soon reveled in the joy of having met a kindred spirit. Morton induced him to prepare a paper and read it before the Academy of Medicine. That was a memorable night and the paper was received with applause. The leading lights in electrotherapeutics praised, but did not criticize.

In this way the strong convictions of these leaders came out in bold relief. The story of the plaster of Paris jacket, so ably championed by Doctor Sayre, was a living issue in the seventies, and to his industry and enthusiasm the world is indebted for a practical knowledge of its application. And yet it was not until the last decade of the nineteenth century that the Hospital for the Ruptured and Crippled profited by its use. I think I am correct in stating that Dr. Charles Fayette Taylor never became convinced of its value. The reason too is quite obvious. He was a born genius in the construction and the uses of mechanical devices for the prevention and correction of deformities.

The Boston men were in the habit of making pilgrimages to New York to sit at the feet of Doctor Taylor, and I have heard that dean of the orthopedic guild in Boston, Dr. Edward H. Bradford, declare that Taylor was far and away the most skillful in the construction of splints of all those who flourished in the latter half of the century.

Speaking of Bradford leads me to dwell for awhile on the enormous amount of first class work done in Boston. I found myself running over to that classic city from time to time, and the man who was regarded as the pioneer in New England was Buckminster Brown. His followers, and their name is near legion, belong to our own time, and, much as I would like to tell of the evolution of the specialty in Harvard University, I must refrain for there are no old men among the Boston galaxy.

De Forest Willard, only recently passed into the Great Beyond, stands out as a beacon light in the City of Brotherly Love. I am under the impression that the specialty was not sharply defined in Philadelphia until toward the close of the century.

Let me ramble a while in pastures beyond the sea. For in the early eighties I had the rare good fortune of becoming intimately acquainted with Hugh Owen Thomas at his home in Liverpool. To follow him from eight o'clock in the morning until one or two in the afternoon at No. 11 Nelson Street, personally examining from a hundred to a hundred and fifty patients, gathered from all walks of life and from all countries, and then to mount with him his dogcart in the afternoon and visit the poor in the slums of that bustling city, to meet him at the same hour on Sunday morning and see him handle two hundred patients and sit with him at luncheon and hear him talk politics with Charles Bradlaugh and have him question you about Robert G. Ingersoll—whom he adored—was indeed an experience that one loves to remember. Thomas was an inveterate cigarette smoker, and he was never, during office hours, without one, though not always lighted. Immobilization was his aim in the treatment of all joints, and his apparatus was complicated. He had no use for plaster of Paris, and did not hesitate to condemn its use in orthopedic surgery. In going from room to room with this wizard he would devote as much time to the poor devil from the street cleaning department, seated on one of the forms in the "shilling room," as he would to one of the aristocracy in the "guinea room." He would fit up a fractured patella of a laboring man, while he waited with a splint hurriedly put together in the workshop in the attic, and start him at work the same morning. He would turn to me and say "Doctor, I can do more work for a shilling than any other man in Liverpool can do for a pound." The drop wrist of lead palsy presented to him purely a mechanical problem, or rather one of rest. He would call up to his workshop and have sent down a bit of bar steel with a plate on either end. With a pair of wrenches he would bend the steel so that when bandaged to the palmar aspect of the forearm and hand, the wrist and hand would be in sharp hyperextension. Over this bandage he would stamp with sealing wax his initials, and say to the patient, "Come to see me in three or four weeks." And when the patient did return and Mr. Thomas broke the seal and unwound the bandage, there was no drop wrist. On one occasion while going through the wards of the Great Ormond Street Hospital for Children with Edmund Owen, we came upon some patients wearing the Thomas splint, and Owen remarked that the patients called it the *Saint Thomas splint*. He told me also on this occasion that he had often tried to get Thomas to come to London, but succeeded only in getting him down some Friday evening when he would return on the midnight train in time for his morning hours. Thomas told me himself on one occasion, when I asked him about a vacation, that he had not had one in thirty years. It was in his rooms that I came to know so well his nephew, Robert Jones, whom we all know and love so well. In some of those rambles I came to know McEwen, of Glasgow, Annandale, of Edinburgh, Howard Marsh, William Adams, Noble Smith, Charles MacNamara, and last but not least William J. Little, all of London. A day with Doctor Little at his country home on the road to Canterbury revealed to me the simple hearted man that he was. He had retired from practice and had gone back to the farm. I tried to engage him in talk about his deeds in orthopedic surgery, but he seemed far more interested in the garden and in the construction of earth closets of which he was, in his declin-

ing years, making a profound study. And yet his name goes down to posterity as the pioneer of our specialty in Great Britain.

I should love to dwell on incidents in the association with these men of the nineteenth century did not time prevent, but you must allow me to cross the channel and mention at least Professor Wolff and Doctor Beely in Berlin, and Albert Hoffa, then in Würzburg. These men adorned our profession and their home life, especially that of Hoffa, was typical of these large hearted men.

You must bear with me while I say a word of our own Detmold who with Little learned orthopedic surgery from Stromeyer; they were the connecting links between the then past and the present. Among the gifted ones I came near forgetting one who broke away from the "American Idea" and published a treatment of hip disease without the use of traction apparatus, Dr. Joseph C. Hutchinson, of Brooklyn.

Coming down toward the close of the century many of us can recall the names and the enthusiasm of Milton Josiah Roberts, who when we were organizing the first orthopedic society in this city, chafed at the delay in bringing out his inventions, of Charles F. Stillman, beloved of the surgical instrument makers, Sam Ketch, genial and lovable, Abel Mix Phelps, a firebrand from Chattanooga. He left an enduring reputation, and was one of the few among us who carried the war successfully into Europe.

And now, after all, what of the nineteenth century has remained? The American Idea in the treatment of joint disease, traction with immobilization, so tenaciously resisted beyond the sea, is giving way to immobilization. Excision in hip disease, so brilliantly exploited in the later half of the nineteenth century, is seldom done in the present. It is now done *en dernier ressort.* Electricity and massage and mechanotherapy, so popular in the treatment of the paralyses of poliomyelitis, have given way in a measure to tendon transplantation, to arthrodeses, and nerve anastomoses.

The good work goes on apace and retrospection enables us to profit by the errors of the past, and to hold fast to the good things that have been tried and not found wanting.

16 Park Avenue.

SALVARSAN AND THE WASSERMANN TEST IN SYPHILIS.*

A Serological Study of 474 Administrations in 416 Cases.

By M. L. Heidingsfeld, M. D.,
Cincinnati,
Professor of Dermatology, University of Cincinnati; Dermatologist, Cincinnati Hospital.

Fifteen months have elapsed from the time that the writer presented to this Academy of Medicine his earliest experience with salvarsan, and twelve months have passed from the time that the remedy has come into more or less general use. It is needless to state that the optimism necessarily borne from the almost incredibly favorable results of early, though somewhat limited experiences, has waxed, rather than waned, and that the foundations of its future lofty and indispensable position in the therapy of syphilis are laid broad and deep. Fifteen months ago, the statement was made that "salvarsan has already demonstrated itself to be the most remarkable of all curative agents, if not an unfailing specific, in the successful treatment of syphilis." Although the remedy has possibly not proved to be an unfailing specific in every instance, nevertheless there has been no occasion for any material change of sentiment. Quite the contrary, a larger and wider experience inculcates a greater respect for, and a higher estimation of its well established virtues. The trend of general sentiment is strongly in this direction, and though there are the same contingent of skeptics and detractors, their number is probably proportionally less, and their ranks give every prospect of becoming thin, and ever more thin.

ABUSES IN DIAGNOSIS AND TREATMENT.

The writer is of the opinion that greater abuses are to-day practised in the diagnosis and treatment of syphilis than at any time in the history of medicine. This is a somewhat bold, sweeping statement, but there is much reason for its assertion. The writer does not infer that the average case fails to receive better average treatment at the hands of the average physician than heretofore; quite the contrary, he believes that much better treatment is accorded. He maintains, however, that facilities for according careful and proper attention have also improved a thousandfold, and the average physician has utterly failed to keep the pace. The subject of syphilis has become, in a few brief years, a highly specialized department of medicine, in which training, equipment, and fitness play no unimportant rôle. I believe that it is entirely outside the province of the average physician, whether he be general practitioner or specialist, to accord the average case of syphilis proper and adequate attention. With careful Wassermann control, dark field microscope, and the thousand and one other facilities at the command of the present day well equipped syphilologist, error in diagnosis and inadequate therapy should be a thing of the past; it is far from true with the physician who essays such cases without proper facilities and equipment. This is not directed as a reproach or censure of such physicians, because the writer is fully aware that there are countless individuals who, by reason of environment or condition, must deprive themselves, at least for the time being, of specialized attention; but it is also noteworthy that there are many practitioners who will fail to discriminate, and foist upon a worthy and deserving patient, a character of attention with which they would not for a moment be personally satisfied. I have rarely encountered syphilitically infected physicians who are satisfied with anything short of personally demonstrated *Spirochæta pallida,* and confirmatory and control Wassermann tests. This is as it should be, but we should not claim any privileges for ourselves that we do not wish to accord our patients. I trust, and sincerely hope, that the time will come,

*Presented to the Cincinnati Academy of Medicine, February 5, 1912.

and come soon, when every case of syphilis, in every community and hamlet, will be accorded proper specialized and privileged attention.

SKEPTICISM.

A spirit of blind and unwarranted skepticism, which manifested itself in the very beginning against salvarsan (as is wont in everything new), still persists, and continues to exert a more or less baleful influence. It exists, naturally, for the most part among those who have had little or no personal experience, and whose impressions are based upon a somewhat limited and usually one sided perusal of the literature or from evidence of colored and doubtful character. The influence is baleful, because it has deterred many an individual from receiving urgent attention that would doubtless have proved most beneficial in character. Much skepticism and prejudice against salvarsan exist because of its supposed unfavorable effect upon optic and acoustic apparatus, the more or less groundless basis of which the writer will take up later in the clinical study of cases. The prejudice and skepticism against salvarsan are no different in nature than that which existed and still exist against the antitoxines, x rays, and other measures of unquestioned and indispensable efficacy.

THE WASSERMANN REACTION.

The writer is firmly of the opinion that syphilis cannot be intelligently and satisfactorily treated without the aid of a careful Wassermann control. There is no occasion at the present day to enter into a discussion of the merits of a Wassermann reaction. If there is one fact which has been established beyond peradventure of reasonable doubt, it is that a positive Wassermann test means positive syphilis (frambesia and kindred diseases of spirochetal nature excepted). It is also equally well established that the Wassermann test progresses from a positive to negative and vice versa (with definite exceptions, to which allusions will be made later), directly in ratio with the clinical progress of the case toward recovery or relapse. To treat a case of syphilis without the aid of a Wassermann control is virtually attempting to sail a ship on the boundless main without the directing aid of compass and rudder. It is virtually pure guess work. The treatment of syphilis in the past has been largely of that character; it will remain so largely in the future unless some control such as the Wassermann is exercised. Without its aid the writer would lack assurance whether his case was progressing favorably or unfavorably, whether the treatment should be repeated or discontinued, whether the same or some other therapeutic agent should be called into play, whether the prognosis augurs favorably or unfavorably, whether early marriage can be encouraged or discouraged. A careful and properly made Wassermann test gives all this wealth of information, without which the treatment of the case must remain more or less empirical and tentative in character. It is unfortunate that the Wassermann reaction is of such intricate and technical character that it cannot be generally employed. It is regrettable that the large percentage of cases are deprived of the important fund of information which the Wassermann test imparts.

The average case of syphilis reveals little regarding its satisfactory or unsatisfactory progress from a clinical standpoint, regardless of the character of the attention. Clinical experience has taught us that many patients with little, indifferent, or no treatment have progressed most favorably, often to an apparently spontaneous recovery, with a negative or practically negative Wassermann test, after a lapse of only five or ten years. On the other hand, there are innumerable patients who have received the most persistent, painstaking, and varied treatment who show a strong positive Wassermann reaction after the lapse of ten or more years, and in whom there develop eventually severe and distressing lesions on the part of the nervous and circulatory systems, or the system at large; and neither of these two classes of cases will present for years clinical evidence of untoward or unfavorable nature.

DISREPUTE OF THE WASSERMANN REACTION.

It is unfortunate that the Wassermann reaction has reaped a share of disrepute. Personal experience leads the writer to concur with those who have given the matter much study and investigation, particularly the men of careful, concise, painstaking laboratory methods, that it is absolutely unwarranted. There are a few principles relative to the Wassermann test that have escaped general notice and which have led many into serious and unfortunate error. The Wassermann reaction is not a test for active syphilis, namely, the spirochætæ or their toxines, but it is a test for the products of their reaction, namely, the antibodies. Every patient with syphilis, until cured, must have spirochetes, but no patient will have antibodies until that particular patient inaugurates a fight against the invasion. There are patients who doubtless put up such weak resistance that antibodies are never formed in large enough number to show a positive Wassermann reaction; that is particularly the case in severe and malignant syphilis, where the patient proceeds to a rapid and unfavorable termination, with active manifestations of syphilis and negative Wassermann reaction. The writer has observed a number of such cases, several of which became Wassermann positive only after one or more repeated administrations of salvarsan.

It is also noteworthy that a negative Wassermann test frequently attains in locomotor ataxia, and in cerebrospinal syphilis. It is a clinically observed fact that syphilis frequently directs its destructive influence against one particular system, such as the skin, mucous membranes, viscera, osseous, circulatory, or nervous systems. If the disease, therefore, is directed chiefly against the cerebrospinal system. it is possible that the reaction is therefore also limited to this system. In such an event, it is clear that the blood may show a negative Wassermann reaction and the spinal fluid a positive one. If this is true, repeated spinal punctures for Wassermann control, globulin reaction, and leucocyte count becomes as much an essential *sine qua non* in the satisfactory and successful treatment of cerebrospinal syphilis as blood examinations in cases of syphilis directed elsewhere.

Another fundamental cause of disrepute is faulty technique. The Wassermann test is an exceedingly

intricate and delicate biochemical examination. No one is qualified to undertake such an examination except after careful training and special fitness. (These statements and what are to follow are general inferences, not directed against any particular individual or set of individuals. The writer sincerely hopes that they be accorded no personal application and that they occasion no personal affront.) In addition, the individual must possess an unusual degree of conscientious sense of duty, carefully and faithfully well performed. Any individual can slop through a Wassermann reaction without serious difficulty, and under the circumstances it may be immaterial whether the equipment for the test be absolutely inadequate or of the highest degree of perfected efficiency. Extreme cases, strongly positive and absolutely negative, may permit a possible reading; these, as a rule, do not require a Wassermann test, but the work can possess little or no material value if the borderline and less positive cases cannot be distinctly read. The Wassermann reaction is a test of such delicate qualitative and quantitative character, involving so much attention to numerous special details, that it requires such specialized and undivided attention which cannot be accorded by the average practitioner of medicine. Confrères have confided to me that the Wassermann test is of no aid or service in diagnosis and treatment; that the readings were unsatisfactory. Investigation in some of these instances revealed inadequate equipment, careless and indifferent methods, inattention to proper details. In one instance, the individual was using the same uncleaned and unsterilized pipette for ten different serums! The intended slur of the physician who stated that the Wassermann test was unreliable because his examinations of his own and attendant's blood, which were distinctly nonsyphilitic, were positive, and those of two syphilitic patients were absolutely negative, requires no comment. It leaves only one inference, namely, a wretched Wassermann examination or a wretched diagnosis. Many instances have come to my notice of negative Wassermann tests, particularly from laboratories of smaller communities, which the writer has found to be strongly positive upon repeated examination.

WASSERMANN MODIFICATIONS.

Many modifications of the Wassermann test have been developed in the past few years which have had several particular objects in view, namely, simplicity and greater delicacy, with a corresponding higher number of positives and greater reliability. No one with any degree of authority, can seriously or conscientiously question the reliability of the Wassermann reaction. Positive Wassermann reaction means only positive syphilis. As already stated, it may not reveal the presence of the disease in every case of syphilis—possibly on the ground of lack of delicacy, possibly for other reasons. But it never errs on the unsafe side, namely, positive and no syphilis, as is occasionally wont to occur, as Wassermann has pointed out, in some of the various modifications. There is an important reason for every step in the Wassermann reaction. It is a chain of links of definite sequence. Every modification is a short cut, and, as Wassermann has pointed out, the omission of a single link is a possible source of error on the wrong side.

It is a sort of present day fad for the laboratory man to send a report of a Wassermann test with two or more modifications—e. g., Wassermann and Noguchi negative, Tschernogubow positive. They could add, for the elucidation or ambiguity of the consultant, a few others, Dungern, Wechselmann, Stern, Bauer, Brieger, and Renz, etc. The writer has never been committed to such a policy. The Noguchi and Tschernogubow modifications are very popular in America, but they have never found general favor, because rabbits are more easily immunized with sheep than with human corpuscles, and because there is danger of the dissolved hemoglobin in a patient's serum, forming an unspecific complement binding with the immunized serum. In the Tschernogubow reaction, where uninactivated serum is used, numerous forms of nonspecific inhibitions occur, which seriously prejudice the character of the result. Swift, Pedersen, and Sleeswijk report many unspecific Noguchi reactions, and Wassermann and Plaut express themselves as utterly opposed to its use.

The writer believes that any one method, such as the unmodified Wassermann test, is sufficient to engross the entire attention of the operator. None, except those with practical experience, can readily conceive the many intricacies and attention to details, entailed in a proper Wassermann examination. The writer has observed that such a commonplace factor as sheep's blood is often a most important and troublesome consideration. His laboratory assistant never undertakes the examination without testing at least two specimens, sometimes four, and even six, and the variations depending on the quality of the sheep, the condition under which they are slaughtered, etc, are extremely marked in almost every instance. It is much better to be engrossed with the details of one method, and thereby acquire the utmost thoroughness and familiarity, than to scatter your efforts over a larger and possibly less effective field.

The writer is strongly of the opinion that the Wassermann test should, if possible, be made under the direct control and watchful eye of the clinician. The interpretations are more intelligent, slight variations are better comprehended, and the clinician and laboratory assistant become immeasurably helpful to each other.

SEROLOGICAL ANALYSIS.

Eleven hundred and thirty Wassermann tests were made in 416 cases and salvarsan was administered 474 times, from December 25, 1910, to February 1, 1912. A deep muscular injection of the alkaline solution was employed only in the first twenty-eight cases, during a period of twenty-one days, from December 27, 1910, to January 17, 1911. The remainder, with few exceptions, infants in particular, had intravenous administrations of salvarsan, almost uniformly 0.6 gramme in dose to adults, male and female alike. The administrations were made in ambulatory private practice, during the consultation hour, and not a single administration was attended by any incident of untoward character. A Wassermann examination was made imme-

diately prior to the administration and was repeated, wherever it could be conveniently arranged, every thirty days, until the blood was negative in character. When the blood was once negative, the examination was repeated in sixty days. If again negative, in ninety days, and then at three to six months' intervals, in accordance with the special indications of the case. It is needless to state that the Wassermann examinations could not be pursued in all the cases. Some of the patients absented themselves voluntarily; others, owing to foreign residence or enforced absence, involuntarily. The vast majority, however, reported regularly and the serological study could be much more carefully and consistently carried on than is ordinarily permissible in clinical and hospital practice. In only 144 cases of the 417 treated was there a record of but one Wassermann test, and a very large percentage of these received salvarsan for a period less than sixty days.

The analysis is as follows:

A strong positive Wassermann reaction was converted to a negative in 117 cases; a weak positive to a negative in eighty-one cases; a strong positive became negative, relapsed to strong positive and eventually became negative in ten cases; a negative became strong positive and eventually negative in seven cases; a strong positive became weak positive in seventeen cases; a strong positive remained unchanged in sixteen cases; a weak positive remained unchanged in two cases; a strong positive became negative and relapsed to strong positive in fifteen cases; a weak or negative Wassermann reaction became strongly positive in seven cases. Briefly summarized, 215 cases progressed from positive to negative Wassermann reactions, or seventy-nine per cent. (eliminating the 144 which could not be followed); seventeen improved, six per cent.; thirty-three showed no change, twelve per cent.; and seven retrogressed, three per cent. The salvarsan was administered twice in fifty cases, or in eighteen per cent. treated, three times in four cases or in a little over one per cent. of the cases treated.

An interesting point is the comparative serological study of the deep alkaline injections, a method that has been more or less generally discarded, and the intravenous. Of the twenty-eight patients who received the intolerable deep muscular injections, nine, or thirty-two per cent., withdrew themselves from observation immediately after treatment. Of the remainder, ten, or 55.5 per cent., required a second intravenous administration, and one of these remained unfavorably unchanged after a third administration. The latter case, a very malignant type of syphilis, benefited materially, however, from the deep muscular injection from a purely clinical standpoint.

CLINICAL OBSERVATIONS.

It has already been intimated that much skepticism and prejudice for salvarsan are based upon its supposed influence upon optic and acoustic nerves. Several of these cases have come to the writer's notice, that possess interesting and instructive significance. The individuals who advise against the use of salvarsan because of skepticism in this direction are often prone to forget that optic neuritis and impaired hearing were occasional complications in cases of syphilis, where no arsenic in any form had been previously administered. The writer is impressed that he encountered possibly more of the cases before the days of salvarsan than since its introduction.

Case. October 22, 1911, R. R., aged twenty-three years, barber, presented himself with multiple hard chancres, a florid roseola, and characteristic adenopathy, with spirochetes demonstrable upon dark field illumination, and Wassermann reaction strongly positive; 0.6 salvarsan was administered intravenously, October 22d. A second Wassermann test, made November 26th, was also strongly positive in character. On December 6th, patient complained of impaired vision of left eye. Dr. Edward Thompson, his oculist, reported a very severe optic neuritis with total loss of central vision of the left eye and an incipient optic neuritis of the right eye, which threatened to produce total blindness. An exceedingly serious problem was presented. If the optic neuritis was due to syphilis, heroic treatment was strongly indicated to promptly arrest the neuritis in the right eye and save the patient from total blindness. If it was due to salvarsan, the prognosis, none too favorable for preserving what vision remained, would be absolutely unfavorable if salvarsan was administered a second time. In view of the strongly positive Wassermann reaction, and the possibility of the optic neuritis being purely syphilitic in character, salvarsan (0.6) was administered a second time, December 7th. The progressive inflammatory process in both eyes, in place of being aggravated, was promptly arrested. December 12th, with the aid of Dr. Edward Baehr, one quart of a Fischer alkaline salt infusion was administered intravenously, five days after the second administration of salvarsan. To what extent this treatment influenced the case favorably is difficult to conjecture. December 18th, the right eye was normal and all active inflammation had disappeared from the left. Wassermann examination was absolutely negative December 21st, and again January 25, 1912.

No case with the exception of the foregoing, has thus far come to the writer's personal experience, where there has been any impairment of the ocular or auditory apparatus, actually manifested after the administration of salvarsan. Two patients presented themselves, where there was impairment of the hearing in one ear, prior to the administration. One of these cases cleared entirely four and one half months after the treatment was given. The second case has remained unchanged after an interval of two and one half months. One case of congenital interstitial keratitis in a boy of fifteen years, promptly subsided under the influence of salvarsan, after other measures, pursued for over a year, entirely failed. Another case, one of acquired interstitial syphilitic keratitis, which persistently baffled all other forms of treatment, yielded temporarily to salvarsan, but relapsed when the Wassermann reaction again became positive. The interstitial keratitis improved again when the treatment was repeated.

LOCOMOTOR ATAXIA.

The writer has employed salvarsan in a number of cases of locomotor ataxia. Without entering into a detailed description of these cases, he can state that, although some of these patients have failed to show material improvement, a number have been materially benefited, and none, to all appearances, has suffered any impairment. The cases which progressed from a strong positive Wassermann to a negative, showed the most material improvement; the fulminating pains and gastric crises not only subsided, but there was often a marked increase in weight and improvement in general well being. When the Wassermann reactions relapsed, the pains

usually recurred. The cases with a negative Wassermann reaction prior to treatment, and with strong positive Wassermann reactions that failed to be influenced, seldom showed much improvement. The writer is of the opinion that systematic spinal puncture should be made for Wassermann and globulin control and leucocyte count in all cases of locomotor ataxia, which show a primary negative blood Wassermann reaction. Without exercising some control measure of this character, the treatment must remain more or less tentative and empirical.

PERIOSTITIS GUMMOSA.

A number of patients presented themseles with a complicating periostitis gummosa of the tibia. Most of these evidenced the customary general improvement, and the change from a positive to a negative Wassermann reaction. The periostitis gummosa, however, underwent no favorable change; the lesions remained sensitive to pressure, undiminished in size, and painful at night. They eventually yielded to large doses of iodides, after mercurials also signally failed.

ALCOHOLISM.

Patients that were addicted to alcoholism, to the least immoderate degree, showed generally the least degree of relative improvement. The writer has long since been impressed that alcoholics, as a rule, show a marked intolerance to syphilis. A very large proportion of the cases which made slow, tedious, and unsatisfactory progress under salvarsan treatment, were patients more or less immoderately addicted to alcohol. A Wassermann relapse in the cases was often preceded by a period of indulgence. The writer absolutely interdicts the immoderate use of alcohol until the Wassermann reaction has remained negative for a period of at least six months.

MALIGNANT SYPHILIS.

The marvelous results of salvarsan in cases of severe and malignant syphilis require no comment. It is of interest to note that many of these cases are prone to show a negative Wassermann reaction prior to salvarsan treatment and later a strongly positive one. This, as intimated earlier in the paper, can be readily explained on the basis that these, for the most part, weakened systems, fail to react against the disease until whipped into line by the salvarsan, and antibodies in sufficient number to show a positive Wassermann reaction are formed. In the writer's experience, Wassermann relapses are rather frequent in malignant cases. They usually yield, however, to repeated treatment; a few, however, from at least a Wassermann standpoint, have been exceedingly refractory.

SALVARSAN IN OTHER AFFECTIONS.

Salvarsan, in the writer's experience, has been of little or no value in affections other than syphilis, in which arsenic plays a therapeutic rôle. No appreciable effect could be noted in lichen planus. Psoriasis complicating syphilis was uninfluenced. Two cases of epithelioma of the tongue, probably developed from syphilitic leucoplakia, with a positive Wassermann reaction, remained uninfluenced by its administration. Salvarsan, however, exerted wonderful influence over a number of cases of severe stomatitis—of syphilitic and nonsyphilitic nature. Several cases of persistent stomatitis, of nonsyphilitic and nonmercurial nature, with negative Wassermann reaction, yielded to its administration. The kindred relationship of the spirillum dentium, which plays an important rôle in mouth affections, *to the Spirochæta pallida,* must, in a measure, account for these results.

SYPHILIS AND THE WASSERMANN REACTION.

The therapeutic and diagnostic mentor of syphilis is the Wassermann test. However valuable and indispensable it may be as a diagnostic agent, it bids fair to develop far more potent properties as an aid in therapeusis. With few exceptions, the progress of the Wassermann test measures the progress of the case. Fortunately the few exceptions can usually be recognized. A negative Wassermann reaction in severe and malignant syphilis presents for diagnosis and prognosis active manifestations in the weak and debilitated individual. But even in these cases, the Wassermann test not infrequently comes to the rescue with a reaction that is first negative, then positive, and eventually negative. Negative Wassermann reactions in brain and cord syphilis present spinal fluid complement fixation, excess of globulin, and leucocyte count. On the whole, the Wassermann test remains the key note of the situation—strong, weak, negative, favorably progressing or unfavorably relapsing Wassermann tests indicating strong, weak, negative, favorably progressing or unfavorably relapsing syphilis.

THE WASSERMANN REACTION AND SALVARSAN.

Salvarsan, from the writer's experience, should be repeated in thirty days after the first administration, in all cases which were originally strongly positive and failed to show at least some material improvement within that period. It is true that some of these cases will eventually become negative in another thirty to sixty days, but relapses in this class of cases are frequent. In the writer's experience relapses are somewhat more common in early untreated syphilis, with strong Wassermann reactions, than in cases with original weak Wassermann reactions or strong Wassermann reactions in patients who have received some previous mercurial treatment. There is, therefore, greater pretext for repeating the treatment early in strong, fresh syphilis than in other forms. The writer has also observed that the results were uniformly better if the treatment was repeated within relatively short intervals, than if the intervals were longer. It is therefore possible that it may eventually become a fundamental principle to repeat a salvarsan administration in all cases within thirty days or possibly less, irrespective of the nature of the case and the character of the Wassermann test. In all cases where the Wassermann reaction was not absolutely negative in ninety days, the treatment was repeated. Any evidence of relapse or retrogression on the part of the Wassermann test was followed by a repetition of salvarsan, provided an interval of sixty to ninety days had elapsed since previous administration. Patients who progressed unfavorably after two administrations, or underwent no material change after three administrations, were withdrawn from salvarsan and received

mercurial injections. A few of these proceeded to a rapid negative Wassermann test, but the greater number remained uninfluenced by both measures. One of these patients, with very severe ulcerative lesions of the mucous membranes, the uvula destroyed and the soft palate since glued to the vault of the pharynx, has been restored to perfect health and free from all symptoms, but in spite of three salvarsan administrations and several courses of mercurial injections, preserves the strongest scale of positive Wassermann reaction.

The most intractable cases from both a clinical and therapeutic standpoint, never show any Wassermann improvement. Some show actual retrogression, beginning with a weak positive and gradually becoming strongly positive in character. Patients who show at any time any marked diminution in the Wassermann scale, even though they relapse, present a more or less favorable prognosis in reference to an ultimate negative Wassermann test. Relapses in the Wassermann test from negative to positive, are progressively less frequent in the writer's experience, the longer the interval of quiescence; e. g., there are more Wassermann relapses in cases which have been negative one month, than in those which have been negative two; two months, more than three, etc. Relapses after six months of negative Wassermann tests have thus far been relatively infrequent.

CONCLUSION.

Before closing, the writer begs to make acknowledgement to Fräulein Erna Sommerkorn, formerly of the Krankenhaus Friedrichshain, Charité Krankenhaus, and Privat Laboratorium Wollf-Eisner, Berlin, for the carefully made Wassermann examinations and for her personal aid in the compilation of the cases.

In recapitulation, the writer is impressed that salvarsan, though not an unfailing remedy, is by far the most effective present day agent which we possess for the treatment of syphilis. It effects an apparent clinical cure, with negative Wassermann reaction, in about eighty per cent. of the cases treated. A fair share of the remaining twenty per cent., with the aid of mercurials and repeated administrations, give promise of still proceeding to a negative Wassermann test in due course of time. Salvarsan fails utterly in probably more than one per cent. of cases. From the writer's personal experience, salvarsan cannot effect any material harm and can be safely administered in ambulatory practice; the administration of salvarsan has not been followed by complications on the part of the ocular and auditory apparatus, with possibly one exception. In this instance, it is probable that syphilis, and not salvarsan, was the causative factor, inasmuch as the Wassermann test remained strongly positive in character. Readministration of salvarsan did not aggravate but apparently cleared up the condition. The Wassermann complement fixation is the oracle and mentor in syphilis diagnosis and therapeusis. The diagnosis and treatment of syphilis without Wassermann control and other specialized aid, must be unscientific and in a large degree, unsatisfactory in character.

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THE DIAGNOSIS OF THE PROLONGED FEVERS.*

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In choosing a topic in answer to your president's invitation I thought that the diagnosis of the prolonged fevers might be of practical interest to a society like this, which consists almost entirely of general practitioners. Few problems which demand solution offer more difficulties to the general practitioner, to whom are not available the routine advantages which are at the command of the hospital physician. In spite of all these aids how often must the latter admit his failure! How much more difficult is the position of him who is denied these facilities of the laboratory, without which the great strides which have been made in the last twenty years in the differentiation of obscure febrile diseases would have been impossible. How great this advance has been few of the younger members of this society can realize. Given a case of prolonged fever twenty years ago, and the diagnosis would lie between malaria, typhoid fever, tuberculosis, obscure suppuration, or if one wished to be ultrascientific, cryptogenetic sepsis. In those days bacteriology was still in its infancy; the plasmodium, the pus cocci, the tubercle bacillus, and a few other organisms were well known, but the colon, the typhoid, and the diphtheria bacillus were still novelties. There was no Widal test; leucocyte counts were made only in suspected leuchemias, and the Wassermann reaction was not even dreamed of. These were the days of Paradise for the ward men in the hospital, whose routine clinical work began and ended with tests for albumin, sugar, and casts, and an occasional blood count. They were the reverse for the practising physician and the poor patient. If quinine failed to act—and judging retrospectively New York must have been a tropical jungle, if one could draw inferences from the freedom with which quinine was administered in those days—all that could be done was to resort to one of the newly discovered coal tar antipyretics; or, if the fever still persisted, hypodermics of phenic acid would be injected as a last resort.

How marvelous are the changes which the patient labors of the laboratory workers have effected, and how many clearly defined types of prolonged fevers have been differentiated! Yet in spite of all our advances much remains to be done till all the obscure places in this wide field are illuminated. Many of these cases are still unexplainable, even if one employs the most elaborate clinical and laboratory tests during life and at autopsy. A case which was recently under my care may be cited to show this.

Case I. A young woman, twenty-eight years old was admitted to Mount Sinai Hospital August 13, 1911. Two years previously an oophorectomy had been performed. For two or three years she had had numbness in all her fingers. Four days before her admission to the surgical service there was a sudden onset of gangrene of the right foot which necessitated an amputation above the knee. The gangrene was embolic in origin, although no source for an

*Read before the Eastern Medical Society, December 8, 1911.

embolus could be discovered. The irregular and intermitting fever persisted in spite of the amputation, the healing of which was rapid and uncomplicated in every way. The temperature after the transfer to the medical side was very peculiar, running a high continuous course for four or five days and then suddenly dropping to normal where it stayed for a week and then it suddenly rose again for another cycle like a relapsing fever. No spirilli or any other organism could be found in the blood cultures. After two such cycles the temperature ran an irregular septic type till the end. The leucocytosis was multinuclear and ranged between 10,000 and 20,000. The eosinophilia was always high (fourteen to eighteen per cent.). Occasional myelocytes were found. Repeated blood cultures were negative. The Wassermann test was negative. There was marked cyanosis, but no cardiac lesion could be discovered at any time. The blood was tested for methemoglobin, but none was found. For a time gangrene was threatened in the second and third toes of the left foot, but these symptoms gradually abated. There were indefinite lung signs at the left apex, due probably to a healed tuberculosis. There was a marked arteriosclerosis, but no thromboangitis. There were trophic changes in the fingers, a moderately enlarged thyroid and exophthalmus and a slight general glandular enlargement. Death occurred from asthenia, November 1, 1911.

The autopsy by Doctor Baehr did not clear up the pathological condition since nothing was found in the heart except some terminal thrombosis at the apex which was recent. The valves were normal. The kidneys and spleen were studded with large old infarcts. The arteriosclerosis was only moderate.

As another type of undetermined prolonged fever I would mention the cases which are by no means infrequent in occurrence, where irregular fever persists for years, without any cause being discovered. Two such cases I now have in my practice. Both are in women in the forties; one of whom has fever for three years, the other for five years. It is usually remittent, running up to 102° F. in the afternoon whenever it is taken; exercise usually increases it. At times the leucocytosis rises to 10,000, at other times the white count is normal. Every attempt to find a cause has failed. All treatment has been ineffectual. The general health in both of these patients is better now than it was when the fever was discovered.

To solve such problems we must look to future developments; causes which now seem trivial may be the etiological factors in some of these cases. The more the fever problem is studied, the more complex it becomes. Some recent clinical reports emphasize this fact. Thus Ehrlich would explain the occurrence of fever in some salvarsan injections which were made in Dresden as being due to the liberation of endotoxines of the bacteria during the sterilization of the water which was used in the injections. Hale White[1] has reported some cases where the taking of carbohydrate food brought on attacks of fever of 102° and 104° F., lasting almost a week, until the temperature gradually returned to normal. Finkelstein's alimentary fever is too well known to require more than mention. Finally, there remain those mysterious cases of nervous and hysterical fever, the authenticity of which cannot be doubted. In passing I would call attention to the possibility that in some of these cases of supposed nervous fever, especially in neurasthenic blondes, the fever may be the prodromal symptom of tuberculosis; such cases have occurred in my practice.

Until all these problems will have been solved we shall always have obscure prolonged fevers. To refer to all the types and possibilities is an impossible task. I shall only refer briefly to some of the leading features of this wide problem to open the discussion of this subject.

TYPHOID FEVER.

This is naturally the first possibility which comes up in the differential diagnosis of any continued fever, but no time will be spent in its consideration, as sooner or later in the vast majority of cases the Widal reaction is obtained, and the correct diagnosis rendered possible through its aid and other clinical features. In cases with an abrupt onset in which the clinical symptoms are so atypical we are fortunately aided by the early appearance of the Widal reaction. Where this reaction appears late it is only exceptional that a careful study of the case will leave one in doubt in the differential diagnosis of prolonged fever, where typhoid fever is suspected. Where the Widal reaction remains negative in such cases two possibilities should especially be considered.

1. Trichinosis;
2. Acute miliary tuberculosis.

How close the resemblance of typhoid fever and trichinosis may be, no one can realize, unless one has had the chance to observe these patients, especially if, as so often happens, the cases are sporadic. The onset and course may be atypical, the edema about the eyes slight or transitory; the muscular pains may not be complained of if they are moderate or if the patient is stuporous; an atypical roseola may be present; the intestinal and catarrhal symptoms may be identical. At the beginning the white blood count may be low and the eosinophilia may be within the normal limits. It is only toward the third week that the white count begins to rise to 15,000 or more, and then the eosinophilia at once establishes the diagnosis. All writers have agreed that the number of the eosinophiles is less than normal, and that they may even disappear entirely in typhoid fever. Still, four years ago, I had a case of typhoid fever in which there was an eosinophilia of fifteen to twenty per cent. throughout the original attack and the relapse. The Widal and the blood culture were both positive. The most careful search for intestinal parasites or other causes of eosinophilia was negative. When examined three months after her recovery the eosinophiles were normal, and have remained so since.

ACUTE MILIARY TUBERCULOSIS.

This is another disease which may closely resemble typhoid fever, and the failure of the case to defervesce in the absence of the Widal reaction should always raise the question of this possibility. Here again the resemblance of these two diseases may be so close as almost to defy differentiation, especially as for some unexplained reason a partial Widal reaction may occur in some cases. It is also to be remembered here that the Calmette and Von Pirquet tests may also be negative, and the blood count, moreover, may show a leucopenia. The general symptoms of onset, fever, catarrhal and intestinal symptoms, prostration and enlarged spleen, may be identical. In the differential diagnosis increased respiration and pulse, moderate cyanosis,

[1] *British Medical Journal*, October 7, 1911, p. 795.

absence of roseola, the previous history of tuberculosis, the finding of some evidence of an old tuberculous lesion in the lungs, glands, bones, or epididymis, chorioidal tubercles, etc., may all be useful. The fever is less regular, is more oscillating, and may even be of the inverse type. Sweats are more frequent, and the anemia and emaciation are more rapid. As a rule, intestinal symptoms are much less marked, and there is usually less stupor, unless the disease takes on the meningeal type.

Two cases may be cited to show the difficulties in the diagnosis of tuberculosis:

Case II. A young woman, twenty-three years old, whose previous history was negative, except for a recent abortion, was admitted to Mount Sinai Hospital in September, 1911. She had been ill for two weeks before admission with pneumonia of the entire right lung; the onset was sudden, the symptoms were characteristic. The persistence of the fever and the signs of consolidation justified the admitting diagnosis of unresolved pneumonia. As there were vague signs of fluid at the right base she was aspirated several times without, however, any result. Gradually the signs cleared up at the base, but they persisted posteriorly in the middle and upper lobes, most markedly in the middle lobe. The x ray picture gave a well defined shadow along the fissure, and as a leucocytosis of 12,000 to 15,000 with eighty per cent. multinuclears persisted with a more or less continuous fever between 101° and 103° F., the diagnosis of interlobar empyema was made. Several unsuccessful punctures were made along the fissure line. A pneumothorax followed these aspirations. The lung collapse was peculiar, for it was not complete; the suspected area in the middle lobe did not collapse; crepitant râles appeared here and the breathing was bronchial rather than amphoric, as it was elsewhere in the right chest. The patient was none the worse for the pneumothorax; the air gradually became absorbed, and the general condition improved. But soon after, moderate fever and moderate leucocytosis returned; the physical signs did not show much change except that the lung had apparently expanded, and crepitant râles were heard all over the base. Suddenly the temperature rose to 103.5° F., the patient looked more septic, and the signs along the fissure became more marked, and extended to the axillary line. Rather than aspirate again, it was decided to operate. Doctor Elsberg concurring in the diagnosis of interlobar empyema, she was operated upon under tracheal insufflation by the Elsberg method. Numerous aspirations being negative, the fourth rib was resected. Both upper and middle lobes were found to be considerably infiltrated, and the pleura was much thickened. Nothing could be obtained on aspiration of the fissure and the adjacent lung. A number of small tubercles having been found on the surface of the lungs one of these was excised. On microscopical examination the small tubercle proved to be tuberculous. The patient made a complete recovery from the operation, but the fever and her general condition have remained unchanged. After the operation a von Pirquet test was made, with a negative result. Sputum tests were impossible as at no time was there any sputum.

Thus the case was one of tuberculous pneumonia which had run an atypical course. It has remained localized in a portion of one lung after having involved this entire lung. There has been no breaking down, and all the signs by means of which such a lesion could be recognized clinically have failed to afford any clue.

The failure of repeated tests for tubercle bacilli in the sputum or discharges should not deter us from making a diagnosis of tuberculosis when the clinical history and findings warrant the diagnosis. Not infrequently erroneous diagnoses are made because bacilli have not been found. A patient, man fifty-three years old, who died very recently from what was clinically pulmonary tuberculosis; still, over fifty examinations of the sputum and pus by six competent observers failed to reveal any bacilli. At the autopsy a most advanced pulmonary tuberculosis was found. The section of the lung swarmed with bacilli, and yet not one was ever found in spite of four months' patient search for them in all possible ways.

I am indebted to Dr. H. W. Koles for the privilege of reporting the following interesting case:

Case III. Patient, aged fifty years. History began with a gastrointestinal attack, at which time the physician who examined him found what he considered to be an enlarged abdominal organ, which was diagnosticated as carcinoma of stomach or liver. As he did not fully recover his usual health, and as there were occasional elevations of temperature, he sought further medical advice. No evidence of stomach or liver involvement was present three months after the above mentioned attack, but a splenic enlargement was made out and as heart, lungs, and other organs were apparently normal, he was advised to leave the city to recuperate and was treated on the basis of an old malaria. He regained his health sufficiently to return to business, but was never perfectly well; he complained of pain in various parts of the body, with slight temperature changes which culminated in a severe attack of pain in cervical region as well as in one ankle, and a daily temperature rise of one degree to three degrees. This condition continued for four months, during which time a number of consultants saw him. Every known laboratory test was made, all of which were negative as to diagnostic aid including Widal, von Pirquet, Wassermann, repeated sputum, blood counts, blood culture, urine and feces. No lesion could be determined, but the patient had his evening rise of temperature, at first to 102° F., after a while to 100°. He had an anemic pallor, anorexia, marked prostration. Every disease was considered and every possible symptom was looked for, but no definite diagnosis was made. He recovered slowly and was able to leave his bed and later on to go out and even attend to business in a small way. Arthralgias, however, persisted and occasional periods of elevated temperature intervened. As every therapeutic measure had been tried without avail, he was induced to try an ocean trip.

He reached Berlin early in the spring and as his condition had not improved, he consulted several prominent medical men in that city, but no positive diagnosis was made. Professor Kraus examined him several times and had several radiographs made of the chest. These showed shadows in the mediastinum, which he considered to be enlarged bronchial lymph nodes; and, as the Calmette reaction was faintly positive, he considered them to be tuberculous. He was referred to a sanatorium in Badenweiler where he stayed several months without improving in health. No bacilli were ever found, nor did the blood or the physical examinations reveal anything that would indicate the nature of his illness; his temperature kept going up and down in an irregular manner. After trying Switzerland and France he finally returned home. Several weeks before his return the cervical glands on the right side began to swell and his abdomen became distended. When he arrived in this city he presented the appearance of a patient with peritonitis, with adenitis of various regions of the body. He had a distressing cough, without expectoration, was markedly anemic and emaciated and unable to eat.

A laparotomy was therefore performed. This revealed a large abscess in the right iliac fossa; the intestines were agglutinated and there was marked enlargement of the mesenteric glands. Some tissue and a gland were excised; the microscopical examination, however, could not determine whether the condition was tuberculous, syphilitic, or chronic inflammatory.

He recovered from the operation, but the asthenia increased and he died within four weeks after his return from Europe.

The autopsy by Dr. F. S. Mandlebaum showed a general miliary tuberculosis of all the organs and all the serous membranes. The sections were examined by several pathologists but they revealed neither ordinary tuberculosis, leuchemia, or Hodgkin's disease. Doctor Mandlebaum

regarded the lesions as due to bovine tuberculosis. As all the tissues had been preserved in alcohol, cultures could not be made to prove this bacteriologically.

CHRONIC INFECTIVE ENDOCARDITIS.

Next to be considered is chronic infective endocarditis, the recognition of which in the majority of cases affords striking evidence of the great advance in our knowledge of obscure febrile conditions. The prolonged irregular fever, the cardiac changes, leucocytosis, petechiæ, infarcts, the positive blood cultures, etc., are familiar to all. Osler has laid stress upon ephemeral nodules which appear irregularly in the skin of the hands and feet. These lesions are small red painful nodules, which, when they are found on the sides of the terminal phalanges, look just like a beginning paronychia. When they occur elsewhere, as upon the dorsum or side of the foot or hand, their appearance closely resembles that of erythema nodosum. In the centre one sometimes finds a petechia; on pressure the redness disappears entirely. These nodules are very painful, and disappear spontaneously after a few days. I have carefully looked for these nodules in all cases of infective endocarditis since my attention had been drawn to them in two patients who were under my care long before Osler emphasized their diagnostic value. My own experience does not agree with Osler's as regards their frequency, since their occurrence has only been exceptional in the large number of cases at Mount Sinai Hospital.[1] Osler is right, however, in laying great stress on their diagnostic value since they are *sui generis* and occur nowhere else.[2]

In a small number of cases the diagnosis of infective endocarditis may be very difficult. I refer to the group in which the murmur is absent. Here the positive findings of the blood culture are of great value. In other cases again all the blood cultures may remain negative throughout the course of the disease; but even if the blood cultures are negative or unobtainable the other characteristic symptoms will help in the diagnosis, especially the petechiæ and the various evidences of infarction. It may not be amiss to again call attention to the favorite site of these petechiæ in the palpebral conjunctival mucous membranes and the chest wall near the anterior folds of the axilla.

It is also to be noted that the fever is very irregular in type and intensity. There may even be long apyrexial periods. The blood count also presents many variations. As a rule it averages between 10,000 to 15,000, and is of the multinuclear type. Ewing[3] directs attention to the fact that the leucocytosis, like the fever, may be intermittent, and thus escape notice if only a single count is made. Moffitt[4] reports an exceptional case, running fifteen months, in which there was a leucopenia of 3,000 to 5,000, with a relative lymphocytosis. In spite of all these variations, I repeat the statement that the diagnosis of this form of endocarditis can usually be made quite readily if one has the chance to observe the case long enough, since, even if all the symptoms are not present, sufficient clinical data can usually be gathered to render the diagnosis reasonably sure.

SYPHILIS.

That syphilis may give rise to irregular prolonged fevers was well known by the older writers, but like many other facts, it has been overlooked. It is by no means improbable that many a case of obscure fever may be due to latent visceral syphilis. The frequent unexpected occurrence of Wassermann reactions demonstrates how ubiquitous and long lived the spirochetes are; hence it will be wise to consider the possibility of syphilis in every obscure fever.

These cases follow no general rule, but the febrile manifestations are most varied. Any organ may be involved, but the liver is the most frequent site. Next in frequency, but far less so, are the lungs.

A most striking example which occurred early in my practice may be cited first:

CASE IV. In 1890 a young man, twenty-four years of age, who had been in Central America for a number of years was taken severely ill shortly after his return to this city. The symptoms were those of an acute nephritis with high intermittent fever and sweats. His residence in the tropics at once suggested malaria or some tropical fever; plasmodia could never be found. The most careful tests which were then available failed to reveal any tropical fever, and the case remained a mystery to all the New York consultants, for, in spite of the clearing up of the nephritis, the high intermittent fever persisted. No organic change could be found except a smooth enlargement of the liver, which every one interpreted as being a fatty liver which had been caused by the high fever. Finally, the late William Pepper was called in consultation. He suggested the possibility of the case being one of syphilis of the liver with a breaking down gumma at its dome, in spite of the fact that no history of infection could be obtained. Active specific treatment was at once begun, but the case was too far advanced to obtain any result. At the autopsy which I made I found a large liver; in the upper portion of the right lobe there was one large broken down gumma surrounded by a number of smaller gummata.

The next case occurred about ten years later:

CASE V. A man, fifty-two years old, was under my care for a large gummatous enlargement of the liver with moderate intermittent fever. Under mercury inunctions and large doses of iodides the liver became much smaller, and his general condition improved greatly with a gain of twenty pounds in weight. Six months after his return to his home in the South he developed a prolonged severe intermittent fever with daily chills. In spite of huge doses of quinine his "malaria" did not improve. Although his physicians were informed of the good results of the specific treatment and were urged to try it to cure the fever, yet it was not done and the fever persisted to the patient's death.

In both these cases the question naturally arises whether the fever was not due to the breaking down of gummata rather than to the luetic process itself.

In answer one must admit the possibility of this, but quite a number of cases have been reported in which there was no breaking down of gummata, and in which no other explanation for the fever could be found, except the specific infection itself. Furthermore, the very prompt and marked action on the fever of mercury and iodide of potassium is too pronounced to be the result of stopping suppuration. It would rather point to a direct action on the spirochetes themselves. It will be interesting to know how promptly salvarsan will act in

[1] Since the reading of this paper I have seen a case of infectious endocarditis with Dr. A. Richardson in which the diagnosis was made by these nodules alone, since there were no other symptoms beside a prolonged irregular septic fever and an endocarditis.

[2] *Clinical Pathology of Blood*, p. 360. Quoted by Moffitt.

[3] *American Journal of the Medical Sciences*, cxxxiv, p. 655, 1907

these cases. Be the explanation what it may, it is important to remember Klemperer's conclusion, "that there are cases of syphilis of the liver, lungs, and other organs with indefinite local manifestations, in which a prolonged hectic fever may be the chief or only symptom; hence in all fevers of obscure origin the possibility of syphilis should always be borne in mind." [5]

As regards the value of the Wassermann reaction in these cases it must be remembered that it is just in these cases of tertiary syphilis that this reaction is most capricious and unreliable; hence active specific treatment should be tried, even in the absence of a specific history or of the Wassermann reaction; no harm is done to the patient, even if the treatment is ineffectual.

NEW GROWTHS.

Neoplasms, especially if their growth is rapid, may be accompanied by fever. Carcinoma and sarcoma are the types in which this occurs most frequently. The fever is variable in character and in the time of its occurrence. It is usually remittent, intermittent, or hectic, but it may be continuous. "It may even precede the appearance of any local symptoms, as in the case of Hampeln. In 475 cases of carcinoma collected by Freudweiler a temperature over 38° C. was present in twenty-four per cent. The carcinoma may cause fever without ulceration; in fourteen out of sixty-four cases reported by Freudweiler there was no ulceration" (Moffitt).[6] An interesting case of this kind was recently on my service at Mount Sinai Hospital.

CASE VI. A man, forty-eight years of age, was admitted with a history of a month's duration, in which weakness, loss of strength, continuous high fever, and pain in the upper right quadrant of the abdomen were the chief symptoms. A very large liver, reaching from the third rib to three fingers below the free border, was found; no nodules could be felt; the liver was tender especially in the sixth and seventh spaces in the axillary line. The most marked perihepatic rubbing I ever felt was present all over the liver; the spleen moderately enlarged. There was a multinuclear leucocytosis of 20,000. He had the typical liver abscess facies. As the case was so apparently one of liver abscess, he was transferred to the surgical service of Doctor Lilienthal for operation without any preliminary aspiration. The operation showed a general carcinoma of the liver without any perihepatitis, the marked rubbing being entirely due to the numerous small carcinomatous nodules. Aspiration failed to reveal suppuration in any part of the liver. His recovery from the operation was rapid and uninterrupted. A general carcinosis soon developed. The hectic fever continued to his death without the development of suppuration anywhere

Of all the organs the liver is most frequently the site of obscure fevers of a septic type. In discussing syphilitic fever Gerhardt[7] refers to this, and would explain the frequent occurrence of fever in any serious or extensive involvement of the liver as being possibly due to a greater or lesser loss of the power of the liver to neutralize toxines which might result from the destruction or disease of the hepatic tissues.

GALLSTONES.

The fever of gallstones, with few ill defined localizing symptoms, is well known. So, too, abscesses in the liver may run a latent course for a long time until the upward enlargement and the local tenderness appear, and thus afford some clue to the real cause of the fever.

SUPPURATIVE PYLEPHLEBITIS.

This condition may readily be overlooked as a cause of obscure fever unless one is on the lookout. Although it is quite rare, yet in every case with marked hectic fever with wide febrile oscillations and chills the possibility of its presence should be suspected, especially if one can elicit a history of an old appendicitis. The disease is not always easily recognized; enlargement of the liver may not occur or only develop late (forty per cent., Rolleston[8]); jaundice may be slight or absent. The spleen is enlarged in less than one third of the cases; diarrhea is common. Complicating pleurisy or effusions may be present. There is usually a high multinuclear leucocytosis, but the blood cultures are always sterile; the patients look very ill and septic, and until the local signs develop the real cause may escape recognition unless the possibility is thought of.

The lateness of the hour compels me to omit the details of two instructive cases of pylephlebitis. Such cases teach a valuable lesson in emphasizing *the importance of thinking of liver infections in all fevers of a septic type*. This is well demonstrated in the fever of sinus thrombosis, puerperal sepsis, etc.

Another example of obscure fever due to the liver, which was under the care of Dr. Henry W. Berg at Mount Sinai Hospital, may be quoted:

CASE VII. A woman was under observation for a long time with an irregular fever, multinuclear leucocytosis, and enlarged liver. No diagnosis was possible till suddenly eosinophilia was noted. The rapid and marked rise in the eosinophilia led to the diagnosis of echinococcus cyst of the liver, a finding which was confirmed by operation.

ACUTE HEPATITIS.

Finally, I would refer to another cause of obscure hepatic fever which may be of long duration. I refer to cases of acute hepatitis without suppuration, which are cured by multiple aspiration. These cases form a class which is seldom recognized as such, but are usually diagnosticated as abscesses of the liver. In many respects the course of the two diseases is identical. It is the same type of illness, with septic fever, high leucocytosis, enlargement of the liver upward and downward, with local tenderness in some of the intercostal spaces. The enlargement of the spleen is variable.

In these cases of acute hepatitis, however, no history of an antecedent amebic dysentery or appendicitis can be obtained. Furthermore, aspiration of the liver never reveals pus, blood only being obtained. On operation the liver is found to be very much enlarged, deeply engorged, and edematous. Repeated aspirations in all directions never reveal pus. The patients always recover promptly after these multiple aspirations, and the fever drops to the normal within a short time after the operation. I reported four cases of this type at a clinical conference at Mount Sinai Hospital on October 24, 1907, and last year Dr. Albert Kohn reported some additional cases in a paper which he read before the Metropolitan Medical Society.

[5] *Therapie der Gegenwart*, p. 41, January, 1903.
[6] *American Journal of the Medical Sciences*, cxxxiv, p. 654.
[7] *Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, ix, p. 644, 1906.
[8] *Diseases of Liver*, p. 76.

HODGKIN'S DISEASE.

That this affection is frequently accompanied by irregular attacks of more or less prolonged intermittent fever is so well known that the mere mention will suffice. In a few cases, however, the diagnosis of the real condition may escape recognition if the glandular lymphatic enlargements are in inaccessible regions. In such cases the external glands or the spleen may offer a clue to the cause of the prolonged attacks of fever. If these are absent the diagnosis may be impossible during life.

LEUCHEMIA.

This disease, especially in its acute form and in the later stages of the chronic type, is accompanied by fever which may be very prolonged in duration. The knowledge of this possibility is especially valuable in the recognition of acute leuchemia, where in some cases the onset is sudden, and with no other symptom except a high fever, either of the remittent or intermittent type. These patients look very ill and anemic, and may present no other symptoms, except perhaps a few large glands in the neck. In some cases a clue is given by the bleeding gums, petechiæ, and lymphoid infiltration in the fauces. Unless the blood is carefully examined the diagnosis may not be made, since physicians so often refuse to make a diagnosis of leuchemia unless there is a huge excess of leucocytes. In these cases of acute leuchemia the number of white cells is usually normal or only slightly increased; but there is a marked change in the differential count, since the number of lymphocytes, large or small, may be as high as ninety-nine per cent.

PERNICIOUS ANEMIA.

This may be associated with such marked fever that erroneous diagnoses of typhoid fever have been made. The frequency of fever in some form or another in pernicious anemia may be inferred from the fact that Cabot maintained that it is present in fully eighty per cent. of the cases, even if no complication exists.

COLON BACILLUS INFECTIONS.

This bacillus is most important in the etiology of fever, and the possibility of its being the cause should be considered in every case of obscure prolonged fever. The more the clinical relations of the colon bacillus are studied, the more complex does the problem grow, and the more evident becomes the close association of these bacilli in the etiology of various fevers, acute and chronic. The details I shall not discuss, since the whole subject has been so admirably presented by Rolleston in his recent review of the pathogenic effect of the colon bacilli.[9] The general systemic and the local effects are both important. As classified by Rolleston the systemic or hemic infections may be divided into three groups of cases:

1. Those which run a course somewhat resembling typhoid fever. 2. Those with secondary abscesses or pyemia. 3. The terminal infections.

Among the local infections those in the kidney (pyelitis) and uterus are most important, especially the former. With the colon pyelitis every one is familiar, but it is surprising how often this possibility is overlooked, especially by those physicians who do not make routine examinations of the urine, since local symptoms pointing to the urinary tract are so frequently absent. But even those who do watch the urine may overlook this possible source, if the statement made by Osler[10] in the discussion of Hale White's paper is often true, that colon bacilluria may exist, even if there is little or no pus in the urine. Hence in obscure fevers where no etiology can be discovered it may be advisable to procure cultures from sterile specimens of the urine; or it may be still easier to try the therapeutic effects of large doses of urotropin and salol. Colon vaccines may also be tried.

As regards the type of fever in colon bacillus infections, it may be said that there is no regular rule; but it is to be noted that the onset is often sudden and the rise very rapid; it oscillates up and down very markedly, such remissions occurring even two or three times a day without any preceding chill. Subnormal temperatures are also common in these oscillations.

The other symptoms are extremely varied. They may be practically absent, and we may find nothing but a fever, suggesting influenza, infective endocarditis, etc.; or there may be local symptoms, pointing to the pelvis of the kidney or other organs, or there may be acute abdominal symptoms, such as vomiting, constipation, and distention. Enlargement of the lymphatic glands with or without nephritis, suggesting glandular fever, is not uncommon (Rolleston).

OTHER CONDITIONS.

Of the other innumerable conditions which may give rise to prolonged and obscure fevers, I will say but little, since the field is too broad. A few of the commoner ones only may be mentioned, such as tuberculous peritonitis of a low grade with few signs; localized pleural empyemata, deep seated small foci in the tonsils and lymphatic glands, oral sepsis, etc. Subphrenic abscesses which are indefinitely defined without any antecedent etiological factors may tax one's skill to the uttermost. Even with definite signs of suppuration such foci may escape detection, in spite of frequent and searching aspiration. The difficulties of these cases were well shown in a patient who was under the care of Dr. Albert Kohn, and who was operated upon by Doctor Elsberg. A prolonged septic fever without any special localizing symptoms existed for a long time; finally, tenderness with a little bogginess developed in the left lower thorax. Repeated aspirations under anesthesia were negative. A wide incision was made over the tender area, and again aspiration was made in all directions. The operation was about to be concluded when a lucky final strike of the aspirator yielded a small amount of pus in the left subphrenic space. The evacuation and drainage of this small abscess was followed by prompt recovery.

Finally, another type which deserves brief mention are the unilateral hematogenous infections of the kidney, about which so much has been written lately, but the importance of which is not generally recognized. In the acute forms these cases are easily diagnosticated, since the localizing symptoms are well marked. Where the symptoms are sub-

[9] *British Medical Journal*, p. 1186, November 4, 1911.

[10] *Ibidem*, p. 799, October 7, 1911.

acute there may be little to guide us in ascertaining the cause of the fever. There is malaise and vague pain or tenderness in the upper abdomen, loins, or costovertebral angle. The rectus may be contracted. The urine may be absolutely negative. If, however, one can elicit a preceding history of boils, carbuncles, or paronychiæ, then one should be on one's guard for this lesion.

A striking example of this kind deserves mention, since the diagnosis was particularly difficult, as the case occurred more than ten years ago when little was known about this lesion.

Case VIII. I was called to West Point to see a cadet, twenty years old, to verify a diagnosis of "possible duodenal ulcer with suppuration." There was a three weeks' history of moderate remittent fever with irregular chills and pains in the upper right quadrant, and occasional vomiting. The examination revealed nothing except a contracted right rectus muscle with localized tenderness. No diagnosis was possible at this time. When seen a week later there was no marked change in the patient's condition, and the irregular intermittent temperature still persisted. It was noted, however, that although the right rectus was still contracted, yet there was less tenderness here. The right costovertebral angle, however, was decidedly tender. I also by chance elicited a history of boils a short time previous to the present illness. This led me to diagnosticate pus in or about the right kidney. He was brought to Mount Sinai Hospital where Doctor Lilienthal operated upon him. The right kidney was found to be studded with small miliary abscesses; the extirpation of this kidney was followed by complete recovery.

I fear that this rather lengthy recital of the many possible causes of prolonged fever may have tried your patience, and yet I have by no means exhausted this subject. I trust, however, that what I have presented and the discussion which is to follow may afford some aid to you in the recognition of this most difficult class of cases.

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THE RELATION OF THE PHYSICIAN TO THE PUBLIC.*

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In discussing the relation of the physician to the public, it is essential to appreciate its dual nature. The relation of the physician to the public, merely as a disciple of Æsculapius, and the relation of the physician to the public, as a member of society, present different angles for the viewpoint.

From the mythological origin of medicine down to recent times, and, in fact, even to this date, there is a close relation between the priestly and the medical functions. The priests were the original medical attendants of their followers, just as they were also the legal advisers. During this period the physician was deeply interested in the life of the whole community. As an empirical medical judge, Moses was a leader. He was teacher, hygienist, sanitarian, practitioner, adviser, philanthropist. Individualism and communistic doctrine were united in his code.

The family physician of the last generation, with the gold headed cane, frock coat, and other emblems of medical wisdom, was a family institution from birth to disappearance. Guide, counsellor, protector, physician, and surgeon, his responsibility for the health of the family was understood, sought, and valued.

The development of civilization has modified the attitude of the community toward the physician. Individualism has given way to a recognition that the matter of the health of the individual is the concern of the multitude. The physician is answerable not alone to the particular patient, but to the public. Instead of the old individual or family responsibility, there has developed a large social responsibility. The evidence of this social obligation is manifested in the increasing number of duties that the public is placing upon the physician. The State board examination reveals the interest the State has in protecting its citizens from undesirables. The medical profession should be more jealous of the character and education of the candidates for medical licensure. The recording of births, of deaths, of contagious diseases, of tuberculosis, of industrial diseases, evidences the faithful reliance the public places on the diagnostic acumen, integrity, and personal honesty of the physician in his relations to the public welfare.

In the days of individualism the whole problem was to get the patient well. To-day there is also the duty to keep the rest of the family free from the disease and to protect the community from an extension of the disease. The doctor is no longer an outsider looking in upon society, but he is a factor in society looking round about him. Cure is the heritage of the past ages. Prevention is the evidence of medical and social progress. Empirical therapeutics did much for the advancement of public health, but its limitations held the medical profession back.

There have always been individuals with large vision like a Jenner, or a Finlay, or a Holmes, but the medical men of to-day are closer to the ideals of the profession than ever before. There is a consciousness that the public health must be protected and that this is the special privilege and function of the medical men. The slow development of the plan of municipal utilization of physicians gives the profession an opportunity to realize its obligations to society. The underlying idea of medical inspectors in public schools is to conserve child life. The use of physicians in milk stations is for the purpose of saving infant lives. The maintenance of medical corps for the treatment of contagious diseases is in the endeavor to limit the spread of those diseases. The formation of a medical insurance act, as that creating so much discussion in England, merely reflects the idea that the services of the medical profession are of tremendous importance to the whole State. The doctor is coming into his own as far as honor, dignity, and civic worth are concerned. The doctor is the wise man, the trained man, the earnest, thoughtful man. The standard of medical education may not be as high as is desirable, but there is no one who would dare to gainsay that the average of schooling is far above the average of the rest of the community and surpassed only by a single group, the ministers. This position of relative en-

*Read before the Manhattan Medical Society, January 26, 1912.

lightenment adds to the responsibilities of the profession to the public.

In possession of the facts relating to the preservation of the health of the race, it becomes an obligation to impart the information, so that practical efforts may be made to eliminate the needless wastage of human life through unnecessary illness and preventable death. The doctor must take his place among the teachers. Some physician recently stated that he did not spend his time in explaining; he was paid for curing his patient. That man was false to his professional ideals. A liberal profession is medicine and not a mere commercial institution. To contemplate society in terms of dollars and cents is not ennobling, unless the picture shows the economic saving that society may secure by following the judgment and advice of the doctors. Do medical men desire to be regarded as social parasites, living gleefully upon the physical diseases of society? Public teaching and preaching from the house tops of the rules for health as evolved in the cities of to-day makes the doctor an active factor in conserving the health of himself, his family, and his fellowmen. Let the public understand that the medical profession is vitally interested in the maintenance of health. Otherwise, how hypocritical are our praises of Koch, Pasteur, Reed, Carroll, Ricketts, Ehrlich, Flexner, and those other teachers whose work is for all people of all time.

The advances in scientific medicine are constructive in their nature. The interpretation of the social value of scientific medical phenomena demands that physicians have the instincts of true sanitarians. Sanitary science, hygiene, and public health service present three phases of the new relationships that are being strengthened for the mutual benefit of the physician and the public. There may be fewer men trying to cure illnesses, but the field of medical endeavor is being widened so that there will eventually be greater usefulness for the medical profession.

In the domain of medicine there are appearing a number of illumining subjects that reflect this alteration from individualism to social participation in all health movements. Sociology, philanthropy, statistics make claims upon the physician in the interests of the public. The physician should be a leader in the general progress of the community. A comprehensive understanding of the life of his community, together with his special training in science, and his knowledge of the methods of preserving health, single out the physician as the man with a special duty to enlighten the public and sympathetically to commend the broadest methods of alleviating human suffering and eliminating disease and, as far as possible, poverty, crime, and degeneration.

The warnings of Cassandra were not heeded, but she continued to speak prophetically. The profession should honestly continue to tell the truth about charlatans and expose quackery in all its protean forms. If the public fails to see the light the profession is not to be blamed. The doctor is held more or less accountable for the general health, and if in the course of duty it becomes necessary to attack various cults, fads, or even religious practices, it is not to be thrown to one side because of the attacks of selfish parties interested in the movement itself, without any thought of the effect such movement may have upon the health of the community.

The duty of the physician to the public demands justice, honesty, personal service, personal interest in the affairs of the world. Many years ago Dr. N. S. Davis wrote: "The medical profession in this and in every other civilized country is so closely connected with the social and sanitary condition of the people on the one hand, and with the status of education and general science on the other, that its progress in the past and its position in the present are deserving of the most careful attention." This interweaving of the development of medicine and society still continues. The public is becoming more intelligent. The standard of general education is advancing. The feeling of social responsibility is increasing. The trend of medicine is toward the preservation of public health rather than the mere attempts at still necessary cures. The doctors, as individuals, as citizens, are sharing the general social progress and are enjoying the benefits thus conferred. The doctors as physicians must reflect this strong light that illumines their minds. The physician is a public servant. His service to the community may be of inestimable value. It is the physician's duty to make himself indispensable to the public, and thus serve the public and himself.

230 West Ninety-seventh Street.

THE TREATMENT OF TUBERCULOSIS IN NEW YORK CITY.

By Nathan Neuville Stark, B. S., M. D.,
New York,
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Until but a very few years ago, it was thought almost impossible to cure a case of tuberculosis in a climate like that of our city. To advise a patient suffering from a beginning infection in the lung or in the throat to remain in the city, would call for sharp criticism from both professional colleague and layman. As soon as a positive diagnosis was made the sufferer was advised to pack up immediately and rush for a high, dry climate. It would be suicidal for him to remain here.

The object of this paper is to show you what really can be done in the variable and almost always wet climate of New York city in the treatment and cure of both pulmonary and laryngeal tuberculosis. The cases I have taken to illustrate my statements were of patients treated in the Tuberculosis Camp of the New York Throat, Nose, and Lung Hospital; men of all nations and in the various branches of trade, patients who usually have the poorest prognosis, and have worked in the sweatshop and factory, and who have lived practically their whole life in the tenement under the worst sanitary conditions. The family histories of almost all my patients were bad and in but a very few, free from tuberculosis.

The reason our results in former years were so bad, was that we paid no attention to our patient's home and home life. We told him to keep his win-

dows open, eat this or that, but we never visited his house to see if our instructions were really carried out. With the advent of the tuberculosis clinic, with its specified district and visiting nurse, we are getting nearer to treating tuberculosis as it should be treated.

The Tuberculosis Camp of the New York Throat, Nose, and Lung Hospital comes as near to being the ideal method of treating tuberculosis in our city as any method or system devised by any institution up to the present time. No patient is admitted to the camp unless he has a fit case, by that meaning a patient who shows physical changes in the lungs or throat but never to an advanced degree. Our patients are all tuberculous, and our institution is not a preventorium. The patients we admit would probably not gain admission to any sanatorium, because of the degree of infection. You must know that a large percentage of the patients admitted to the large out of town sanatoria do not show changes in the lungs. We do not admit patients whose prognoses are bad, nor do we admit a patient whose symptoms are such that he will be a nuisance and a disturbance to other inmates. In no case will we keep a patient who annoys the camp at night by excessive coughing, for we believe that our patients must sleep well at night to get well.

Our patients are kept in the open air twenty-four hours a day, no matter what the weather. The day camp is provided with a shed, so that in case of rain or snow, there is no reason for coming indoors. The night camp consists of one large ward or room, twenty by fifty feet, and twenty feet in height, open on three sides, and provided with shutters which can be set at any angle to avoid storm and wind. The ceiling is almost entirely open and provided with devices to protect against the elements. Those windows are never closed, so that the temperature of the ward is almost the same as that of the outside air. We give plenty of bed clothing and clothes, so that there is never any complaint of the cold. I have yet to see the patient who has not slept better his first night in the camp than for many previous nights. Our patients are instructed how properly to take care of themselves, and how to protect others from infection. The staff quickly learns of any infringement of the sanitary rules, for the patients will not tolerate any one who does not live up to the laws of cleanliness. The patients take a cold shower bath on arising. The bathroom is warm and adjoins the dressing and locker rooms; it is steam heated and most comfortable. Here the patients undress and quickly run to the ward to bed.

To build up our patients, to increase their weight and strength, we have depended entirely upon giving the right kind of food and plenty of it. We have at no time used medical means, by that meaning that we never allow the patients to take preparations of fat or oil during their stay in the camp. The medical men connected with the camp are all particularly interested in diet and have made the food question a point of study. We believe that open air life, plenty of rest with mental diversion, and the right kind of food in sufficient quantity, will arrest and cure tuberculosis, not only in the mountains, but also in New York city.

MEALS.

Our cases are all in male adults, and a male adult of average size consumes about 3,200 calories a day. A tuberculosis patient, owing to the toxines produced by his disease and the consequent tissue destruction, requires, therefore, if you hope to build him up, considerably more than the normal number.

BREAKFAST, 7 A. M

One pint of milk	325	calories
One plate of breakfast food	150	"
Three eggs	203	"
Four ounces of bread	320	"
1.25 ounce of butter	280	"
Total	1,278	calories

LUNCHEON, 10 A. M.

One pint of milk	325	calories

DINNER, NOON, 12 M.

Soup.		
Four ounces of bread	320	calories
1.25 ounce of butter	280	"
Eight ounces of fresh meat	560	"
Four ounces of starchy vegetables	80	"
Green vegetables	50	"
Dessert	100	"
Total	1,390	calories

AFTERNOON LUNCHEON, 3 P. M.

One pint of milk	325	calories

SUPPER, 6 P. M.

One pint of milk	325	calories
Four ounces of bread	320	"
1.25 ounce of butter	280	"
Eight ounces of cold meat	560	"
Four ounces of starchy vegetables	80	"
Dessert	100	"
Total	1,665	calories

A grand total per day of 4,083 calories.

To illustrate, therefore, what results our methods are producing, I will cite the following patients, who have entered at different times since the organization of the camp, and are taken at random from the history books. As stated before, the diagnosis was positive in each case and the patients were in various stages of the disease. All were charity patients, and were of the poorest classes.

CASE I. R. W., eighteen years old, railway porter; came from Rye, N. Y. This was an American boy with a bad family history. The disease was in the incipient stage, affecting the left apex. He was admitted December 10, 1909, weighed 100 pounds, and left of his own accord March 29, 1910, weighing 123 pounds. The lung had entirely cleared up, and the boy had apparently recovered, and has been at his work ever since. He was last examined by me in the month of February, 1912, weighed 128 pounds, and found to be normal. This was a cured case.

CASE II. J. F., seventeen years old, collector. An American, whose father had died of pulmonary tuberculosis a short time before his entrance to the camp. He showed moderate advancement of the disease in both lungs. Weighed on admission April 28, 1910, 116 pounds. He left June 24th., weighing 128 pounds, went back to work, and did well. I examined him on December 19, 1911, when I found him in excellent condition. While working as a collector in the severe weather in the latter part of December he caught cold, and double lobar pneumonia developed from which he died.

CASE III. J. G. H., German, baker, aged twenty-eight years, admitted November 11, 1910. Weighed 132 pounds, with advanced consolidation of both lungs and laryngitis. He left February 15, 1912, weighing 154 pounds, with

throat well and lungs much improved. He left the camp and entered a sanatorium in Sullivan County.

Case IV. S. R., Russian, a painter, married, aged twenty-seven years. This was an incipient case. Apex of one lung involved. He weighed on admission, November 19, 1910, 154 pounds, and left to go back to work to support his family, February 16, 1911, weighing 172 pounds. The lung was clear and the case is evidently an arrested one. Several members of his family had died of tuberculosis.

Case V. M. B., Russian, a tailor, twenty-two years old, admitted December 2, 1911, showing moderate advancement in both lungs and weighing 130 pounds. He left February 17, 1912, weighing 145 pounds and much improved.

Case VI. F. B., forty-eight years old, Austrian, a valet, with a bad family and personal history. A heavy drinker and smoker. On first examination I refused to admit him, for his whole upper left lung was consolidated and right apex infiltrated and he also had laryngitis. He entered November 23, 1911. This patient is still in the camp, very much improved. His larynx is well and he weighs 171 pounds, having weighed 148 pounds on admission.

Case VII. J. J., twenty-six years old, a Swedish house servant, admitted December 11, 1911, with infiltration of right apex. Weighed 149 pounds. At the present time there are no râles to be heard. Patient is feeling well and weighs 159.5 pounds.

Case VIII. B. B., tailor, aged twenty-four years; with infiltration of left apex, admitted December 21, 1911, weighing 108 pounds, left January 27, 1912, to enter a sanatorium at Liberty, N. Y., very much improved, weighing 124 pounds and with no râles over the infected area.

Case IX. J. K., American, salesman, aged thirty-three years; family history tuberculous, admitted January 3, 1912, weighing 138 pounds. Physical examination showed infiltration of right apex above third rib, with profuse râles. February 24, 1912, he weighed 155 pounds. All râles have disappeared, also cough and constitutional symptoms.

Case X. American actor, aged thirty-five years, married, admitted to the camp December 15, 1911, by Dr. H. Holbrook Curtis, with a diagnosis of laryngeal tuberculosis, having ulceration of right vocal cord and general swelling of the parts. He weighed 145 pounds on admission. The patient improved wonderfully. His voice returned to normal. He left the camp January 20, 1912, weighing 162 pounds.

Several facts have been impressed upon me in the treatment of tuberculosis, which are worth mentioning. One great mistake we make is that we allow our patients to return to work too soon, after the disease has been arrested. Many a patient could have been saved from death by being made to remain at rest, and continue the treatment for six months or more after the disease had become inactive. I have seen many patients come back after a short time at work, with the disease active and very much advanced. In an institution like ours we treat male adults who usually have a family dependent upon them, and it is most difficult to convince a patient who is feeling strong and well, and has no symptoms, to remain from work for six months more. Again, never excepting in case of extreme emergency, allow a tuberculous patient to undergo a surgical operation, and above all, an operation in the nose or throat. Too often I have seen patients recovering from pulmonary tuberculosis, subjected to an operation, and as a consequence lose more ground as far as the tuberculosis is concerned, than can be regained in many months. For example: A patient getting well from a tuberculous infection of the left apex was operated upon for catarrhal appendicitis. He recovered without a hitch from the appendicitis, but immediately had an afternoon fever with many râles over the area of the disease. This may have been due to the anesthetic. Another patient, with an arrested case, was working every day and came to the night camp taking the routine treatment. A good strong man, weighing 172 pounds, who was recovering from a moderate infection, was operated upon—merely a resection of the nasal septum under local anesthesia. Two weeks after the operation he weighed 150 pounds, and the tuberculosis was most active. At the present time, two years after this operation, he has not regained the loss of those two weeks.

Before concluding, let me advise all medical men to learn to diagnosticate pulmonary tuberculosis in its earliest stage, and to look with suspicion upon any patient who is losing weight or has an afternoon fever or a rapid pulse, with or without a cough and for which you can find no definite reason; begin treatment at once in the city, in such case; gain your patient's confidence, convince him that he is going to get well, and protect his family from infection, and you will do more to check both the spread and the fear of the disease which the laity is now suffering from than by any other means in vogue at the present time.

221 West 128th Street.

DEEP PETRISSAGE OF THE ABDOMEN AS AN AID TO THE DIAGNOSIS OF TAPEWORM.

By Richard J. Cyriax, M. R. C. S., L. R. C. P., L. M.,
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As a general rule, a patient is not suspected of having a tapeworm until segments are passed in the stools, which is naturally pathognomonic of the condition, any abdominal symptoms presented by an unsuspected case being ascribed (in the lack of further evidence) to dyspepsia; but there are sometimes sufficient grounds for believing that a tapeworm is present, even when no segments have been passed. In such a case the problem of diagnosis is sometimes a difficult one, unless the same measures are resorted to as when a tapeworm is known definitely to be present—namely, dieting and the administration of salines, followed by an anthelmintic and a brisk cathartic; thus diagnosis and treatment are often combined. Many authorities hold, however, that these procedures are unjustifiable except in undoubted cases. The administration of a purgative alone, without an anthelmintic, is advised by some authors, the motions being subsequently examined for segments and ova; but a purge by itself is apparently not always successful in bringing away proglottides, and examining the feces for ova is a very unpleasant process. In any case, diagnosis by means of anthelmintics involves considerable discomfort and annoyance to the patient, temporarily interrupting the daily routine of work in a manner particularly harassing to busy people. When a diagnosis of tapeworm has been confirmed, drastic action of the nature referred to of course becomes necessary, but sometimes cases of unconfirmed suspicion occur, in which smart purgatives even by themselves are contraindicated and not to be made

use of unless necessary, e. g., such conditions as severe hemorrhoids.

The object of this paper is to direct attention (it is believed for the first time) to deep pétrissage of the abdomen as an aid to the diagnosis of tapeworm. Cases in which the presence of a tapeworm is actually suspected without any supposed segments having been passed, are indeed comparatively rare, but they do occur, and require elucidation and cure; and beyond this, the author himself has seen and further heard of several cases in which the parasites' presence was unsuspected until the pétrissage caused proglottides to appear in the stools, cases in which this occurrence does not seem to have been of the nature of a coincidence. In one of these cases, the patient had taken all kinds of purgatives for the relief of constipation without passing any segments; I herewith quote such portions of the notes as bear essentially upon the point under discussion.

Case. Mr. A. B., business man, aged fifty years, came under observation September 12, 1910. He complained of chronic constipation of about twenty years' standing, flatulence, and an "uneasy feeling" in the abdomen, referred to the umbilical region. He could not recall how long the latter condition had lasted, but it had been present for a long time. He had continually to resort to laxatives and enemas in order to produce a motion, and had tried all sorts of medicines for the relief of constipation. His appetite was good. Examination of the abdomen was negative except for some tenderness over the descending and iliac colon. His tongue was slightly furred.

It was thought at first that the subjective sensation in the abdomen was due to the constipation. The patient was advised to stop all purgatives and to undergo a course of mechanotherapeutical treatment, consisting of deep pétrissage of the abdomen and active exercises directed toward strengthening the muscles of the abdominal wall.

After three treatments the patient passed one segment of a tapeworm independently of a motion. After another treatment he passed about twenty segments, which, on examination, appeared to be derived from a *Tænia solium*.

The patient was advised a light diet for twenty-four hours, and received two Seidlitz powders during the day. The following morning he took a drachm and a half of liquid extract of male fern fasting, followed two hours later by an ounce and a half of castor oil mixture. About three yards of worm were passed. The head was not found, but as the segments could not be examined immédiately and had to be brought by the patient for the purpose, it is quite likely that he had overlooked the head and thrown it away with the remainder of the motions.

The umbilical sensation of uneasiness now became very much less, and had disappeared entirely ten days later. Mechanotherapeutical treatment, as outlined above, had meanwhile been continued, ceasing October 28, 1910.

I have seen this same patient at intervals since the latter date, the last time being November 22, 1911. He said that although he had very carefully watched his motions for proglottides, and had occasionally repeated the anthelmintic treatment, he had never passed any segments.

PÉTRISSAGE.

By deep abdominal pétrissage is meant a series of circular movements executed in the direction of the large intestine with sufficient energy to cause a thorough kneading of the abdominal contents. In carrying it out, it is essential that the abdominal parietes and the fingers of the operator move as one over the underlying viscera, otherwise the process is resolved into a mere superficial effleurage, which hardly influences the viscera. It is not necessary for the pétrissage to be executed very hard in order to achieve the desired end; and unless the technique is defective, it should cause no pain. When properly performed it presumably effects the dislodging of the proglottides in two ways—by promoting peristalsis and by mechanically separating segments of the distal end of the parasite by tearing through their attachments. Of these two actions, the latter is probably by far the most important. The increased peristalsis seems to act only as an adjuvant in expelling the separated segments, and probably no intensity of it can actually dislodge the head of the worm; nor does it seem possible to reach the point of achieving this by the merely mechanical effect of the pétrissage. The latter is, therefore, only a means of diagnosis as regards tapeworm infection, and cannot replace the usual curative treatment.

Conclusions.

The advantages maintained for this method of establishing a diagnosis of tapeworm are briefly as follows:

1. It is entirely harmless, and reveals worms in some cases in which purgatives alone have apparently not been successful.

2. It does not interfere with the patient's regular work, and causes no discomfort worth mentioning. As a general rule, only about three or four applications of deep abdominal pétrissage, each of fifteen minutes' duration, are required to establish a definite diagnosis.

3. It abolishes the unnecessary administration of purgatives, alone or in combination with anthelmintics, in cases when they are contraindicated.

4. It is apparently uniformly successful. The author's brother, Dr. Edgar F. Cyriax, has kindly allowed it to be stated here that he has carried out at least 30,000 deep pétrissage treatments of the abdomen for many varieties of complaints, and that no case in his experience has yet occurred in which a patient was discovered to have a tapeworm within such a period of time after the conclusion of the treatment as would leave no doubt that the parasite had been present during it, and many of the patients were under observation for a long time. Moreover, several cases have occurred in this series in which, during the course of treatment for other complaints, the presence of a tapeworm was first revealed through such deep pétrissage of the abdomen causing proglottides to be passed in the stools, no other symptoms having previously manifested themselves that could justify a suspicion of the actual fact.

4 Craven Hill, West.

INTESTINAL OBSTRUCTION. TREATED WITH PHENOLPHTHALEIN AND CALOMEL.*

By Paul H. Markley, M. D.,
Camden, N. J.,
Visiting Physician to Cooper Hospital.

The textbook division of obstruction of the intestines is into two classes, the acute and the chronic. The acute is said to occur in young persons and to be due generally to transient causes, the chronic occurring in the aged and due generally to malignancy.

This may serve as a broad rule, yet it is one to

*Read before the Cooper Hospital Clinical Society of Camden, January 9, 1912.

which there are many exceptions. Because, barring on the one hand, the direct results of laparotomies, and on the other, the occurrence of malignancy, common causes are not precluded by any age limit.

Of the common causes may be mentioned, first, strangulation, the most frequent of all the forms of obstruction. Ninety per cent. of the cases occur in the small intestines. Next in frequency is intussusception or invagination, which is believed to be due to irregular peristaltic action. Volvulus, or twists and knots in the intestines, is the third most common cause, and statistics show that about fifty per cent. of the cases occur at the sigmoid flexure.

Among other causes may be mentioned, foreign bodies, such as fruit stones, enteroliths, gallstones, etc. Various forms of hernia, both internal and external, are not infrequently the seat of the constriction, or the gut may enter Meckel's diverticulum, and become either knotted or strangulated; slits and apertures in the omentum, many of them congenital; the foramen of Winslow, obturator, umbilical, inguinal, or femoral hernia, any of which may at times be the seat of the trouble.

The term chronic obstruction is misleading, as an obstruction of the bowel terminates either in recovery or in death before sufficient time has elapsed for it to be termed chronic. A much better term would be incomplete or partial obstruction, as the cases enumerated as chronic are caused chiefly by strictures and growths, which may, or may not result in complete occlusion, or, as is frequently the case, a complete occlusion may become suddenly engrafted at the seat of the stenosis.

One of the forms of intestinal obstruction to which but little attention has been given is that form due to intestinal paresis, and known as "dynamic ileus." This condition may be either partial or complete. Instances of the partial are frequently seen in severe attacks of the acute infections, notably typhoid fever and pneumonia, and should always be regarded as being of serious import. The complete is in most instances due either to a preceding attack of peritonitis, or to overdistention of the bowel by gas or flatus, the latter being by far the most frequent cause. An instance of this is demonstrated by the following case, recently treated in the wards:

Case. Mrs. L., aged fifty years, born in Pennsylvania, of American parentage; had been a resident of New Jersey for the past ten years; housewife. Father died of "dropsy" at age of thirty-two years, mother of pneumonia at sixty-six years. Had three brothers, all deceased, two of them in infancy, the remaining one at twelve years of age of pneumonia. One sister died in childhood.

Menstruation began at twelve years, and continued to be regular until about the age of twenty-nine years, when she began to suffer from some ovarian trouble which was not relieved until an ovariotomy was done, at thirty years, by the late Dr. William Goodell, of Philadelphia. Patient was pregnant but once, and then aborted at six months. Patient stated that she had always suffered more or less from dysmenorrhea, and that she "was never strong." Subsequently to the operation patient was in good health, and without any abdominal pains, for a period of about ten years, when she began to have attacks of pain, which she attributed to some imprudence in diet. These attacks originally recurred at intervals of about three or four weeks, gradually becoming more frequent and more severe. They had been variously diagnosticated as due to "gallstones," indigestion, "bilious attack," and appendicitis, and it was with the latter diagnosis that she was admitted to the hospital, with a view of having the appendix removed. At that time she stated that she had had constant soreness and pains diffused over the entire abdomen for a period of six weeks, accompanied with acute exacerbations which were referred to the pubic and right iliac regions. These acute attacks of pain were almost invariably accompanied with emesis. During the entire time her bowels were obstinately constipated, never having a movement without the use of laxatives. Patient weighed about 130 pounds, from which weight she had not varied for several years. She stated that her appetite was good, but that the stomach would retain but little food.

Examination of thoracic organs negative. Patient stated that she slept fairly well, and there was no manifestation of organic nervous disease. The abdomen was somewhat tympanitic, slightly rigid, and extremely tender, just above the pubic region, and at the right iliac fossa.

It was subsequently learned, through some friends of the patient that she had for a long time taken "laudanum" regularly, for the relief of the pains. Patient acknowledged its occasional use, but denied taking it regularly.

Presenting such a history there were several possibilities to be considered. Appendicitis, in acute attack at least, was readily excluded chiefly because of the absence of fever, absence of localized rigidity, and because of the long duration. Chronic appendicitis was excluded because it was thought that the symptoms were too continuous in character. The possibility of a malignant growth, either in the stomach, or in some portion of the intestinal tract, was to be considered, but absence of loss of flesh, hematemesis, glandular involvement, and of cachexia was thought to preclude malignancy or gastroduodenal ulcer. Tuberculous peritonitis, tabes mesenterica, lead poisoning were other possibilities, which were each excluded by the absence of concomitant symptoms. The diagnosis arrived at was chronic gastric catarrh, accounting for the stomach conditions, emesis, etc., accompanied by obstinate chronic constipation. The constipation was thought to be of sufficient importance to account for her abdominal symptoms, recent statistics by Cabot showing that of 5,000 cases of general abdominal pain, 2,761 were found to be due to constipation alone.

It should be borne in mind that at the time of the patient's admission, we did not have the information regarding her addiction to the use of opium, which would undoubtedly intensify the constipation and might account for the continuance of the emesis, though that did not seem probable, from the fact that since her admission to the hospital she had but a single small dose of morphine and yet obstinate emesis set in about ten days after her admission and was relieved only when free catharsis was induced.

On the day of her admission, which was November 29th, her temperature was 99° F., pulse 120, respiration 34. She then complained of severe abdominal pain, which was not localized, but perhaps was most marked in the extreme lower part of the abdomen, just above the pubes. She received ⅙ grain morphine sulphate to relieve the pain, and calomel in broken doses, combined with sodium bicarbonate and followed by salines, which were several times repeated before any bowel movement, which was not until four days later. Sodium sulphate was then ordered given, one drachm twice a day, after which the bowels moved freely for two days (when the soda was taken there were from six to eight loose movements in each twenty-four hours). This was then ordered stopped when three days elapsed before another movement, which was induced by enemas and consisted in small, brownish, watery fluid containing small portions of solid feces. Twenty-four hours before this the patient began to have obstinate vomiting, which was very much relieved by lavage, and at the end of two days had entirely subsided.

Dating also from the time of the giving of this enema, which was December 12th, the struggle began. On the

thirteenth vomiting returned and seemed more persistent than ever. Enemas were practically ineffectual, and had no influence on the vomiting. The abdomen already distended now became ballooned, and distinctly tender at all points. The stomach contents were of a fecal odor, and at the end of another twenty-four hours were decidedly stercoraceous. All sorts of laxatives and cathartic enemas were without avail, nor was the rectal tube effectual in relieving the tympanitic condition. Continuous irrigation of the bowel with normal salt solution was employed.

The obstruction was now undoubtedly complete, the only question being the nature and location, which was at first thought to be at the seat of the old laparatomy, and, had the woman's condition warranted it, she would have been "opened up" at least to explore that region, but even an exploratory incision was deemed unadvisable because of her extremely critical condition. Nor did the most careful examination of the abdomen develop anything suggestive as to the location of the stoppage. It did, however, convey valuable information from the fact that a total absence of peristalsis was observed, which was considered almost to preclude a definite localized seat of construction, and to suggest a decided atonic, if not entirely paretic condition of the entire intestinal tract.

Another important symptom of complete obstruction, which was absent in this case, is cramplike spasmodic pains—while the patient felt distressed and suffered somewhat, yet the significant pains were absent. We now felt certain that we had to deal with the condition of dynamic ileus. Eserine and strychnine were given in full doses hypodermically, for their stimulating effects on the muscular coats of the intestines and, no longer fearing constriction, the list of cathartics administered by the stomach was almost exhausted, going from magnesium sulphate to croton oil. The vomiting still continuing, the remedies were given following lavage and fairly well retained, but without results, the intestinal tract being apparently lifeless, not a gurgle to be heard, as a result of the heroic doses. In connection with these measures, the Paqueline cautery, after the method suggested by Da Costa, was faithfully applied by Doctor McConaghy, and after persistent effort, did succeed in inducing a slight borborygmus, though not of sufficient vigor to expel the bowel contents, which did not occur until the end of another twenty-four hours, being induced by a remedy in which I shall have more confidence than formerly, as I had used it but little, namely phenolpthalein, not administered, however, in the usual dose of two or five grains, but in the enormous dose of one drachm.

The thought of giving phenolpthalein was suggested by its physiological action, that of increasing the glandular activity of the intestinal tract, and thereby stimulating the intestinal secretions, and therefore does not depend for its action upon increased peristalsis, as do all other cathartics. So that if we were correct in our ideas concerning the nature of the condition phenolpthalein seemed to be the ideal remedy. With the phenolpthalein was combined ten grains of calomel, nor was this altogether empirical, but, bearing in mind the well known stimulant action of calomel on the duodenum, hoping therefore to divert the flow of bile from its abnormal course in order to obtain its beneficial action upon the intestinal tract.

After a more thorough washing of the stomach than usual, three quarts of normal salt solution being used, the ten grains of calomel and one drachm of phenolphthalein were introduced through the tube, suspended in about six ounces of equal parts of mucilage of acacia and water. Following this there was no vomiting for about four hours, and at the end of about twenty hours the bowels moved.

At first a small watery stool, containing a few small lumps of solid feces, was followed in about two hours by a much larger movement of the same character. The bowels gradually assumed their normal character, convalescence was uneventful, and the woman is now quite well.

515 Cooper Street.

A SUGGESTION IN THE TREATMENT OF ACUTE INTESTINAL OBSTRUCTION WITH IMPAIRMENT OF INTESTINAL VITALITY.*

By Van Buren Knott, M. D.,
Sioux City, Iowa.

As several papers dealing more or less broadly with the subject of intestinal obstruction are to be presented at this meeting, I shall confine my remarks to a brief discussion of a procedure which has been found of benefit in cases of acute intestinal obstruction, when at operation the vitality of the bowel has been found so impaired as to demand resection.

No attempt will be made to take up the general consideration of obstruction, from either the etiological, diagnostic, symptomatic, or therapeutic standpoint.

It is a well known fact that the mortality of acute intestinal obstruction accompanied by gangrene of the gut, is extremely high. The condition of such patients at the time of operation is never good, and frequently desperate. Prolonged operative interference under such circumstances is to be condemned.

There are, however, two urgent indications which should be met. One is immediate and free drainage of the intestine, the other the immediate removal of the diseased intestinal and mesenteric area.

To meet these indications promptly, and with as little loss of time as possible, the following procedure has been employed by me in the last eleven cases of this description:

A large Moynihan or Doyen forceps, with rubber coated blades, has been applied to bowel and mesentery, well beyond the diseased area. The ends of the segment of intestine to be removed are now occluded by any crushing forceps, at least one inch from the rubber coated clamps. The intestine and mesentery, between the rubber coated clamps, are now rapidly cut away, the line of incision being about half an inch from the jaws of the clamps. The cut edges of the mesentery are now quickly caught with a continuous lock stitch of catgut, and both ends of intestine drawn up and stitched into the abdominal incision, care being taken so to close the peritoneum as to permit of no leakage into the abdomen. The rubber coated clamps are then removed.

The two open ends of the intestine in the wound present much the appearance of the muzzle of a double barreled shot gun. No tubes of any kind are inserted into the bowel and a large dressing is applied. The dressing must be frequently changed, depending upon the amount of drainage from the gut.

Should all go well, some ten days or even longer afterward, depending on circumstances, the open ends of the intestine are liberated from the wound, a lateral anastomosis is made, and the abdomen closed.

The time for making the secondary operation

*Read before the Western Surgical Association, December 19, 1911.

must be decided in each case by the surgeon himself, but as a general rule it should be done as soon as the condition of the patient will permit, particularly when the line of section has been through the small intestine. Should the small intestine have been opened high up, the patient may be fed by means of a tube introduced into the distal segment of bowel.

This two stage operation is recommended for the following reasons: Free drainage is immediately furnished and maintained. The rapid removal of the septic gangrenous bowel and mesentery is possible. An operation sufficiently prolonged to permit of any sort of anastomosis is, in cases of this type, prolonged beyond the limits of safety, and should the patient survive the immediate effects of the operation, drainage past the point of anastomosis may be incomplete from various causes, among which may be mentioned disturbance of innervation.

This procedure has been employed by me as stated above in the last eleven cases of this class in which I have operated, with four deaths and seven recoveries.

The causes leading to the loss of intestinal vitality in these eleven cases were: Meckel's diverticula in two; strangulation by bands in three; strangulated hernia in two; severe abdominal contusions in two; thrombosis of mesentery in one; and impaction of a subserous fibroid with a long pedicle in the pelvis in one. These patients were all in desperate condition at the time of operation, and no more exacting test of the procedure could be imposed in a similar number of cases.

BACTERIAL THERAPY.

By W. O. Wetmore, M. D.,
New York

Bacterial therapy has appeared as the result of investigations in immunity, especially that conducted by Sir A. E. Wright, of St. Mary's Hospital, London, England, and depends upon the power of dead bacteria in proper doses and menstruum, when injected into an individual, of stimulating the production of antibodies in the tissues, thereby acting as a protecting or curative agent. These resisting elements occur as the result of the presence of bacteria or their toxines in disease, and upon their elaboration recovery depends.

Immunity may be natural or artificial, and is a fortification against disease. The body is fairly well protected from the entrance of pathogenic organisms. The skin is well adapted to the purpose as is the mucous membrane of the alimentary canal, and as are the protecting coats guarding the various avenues of entrance.

Certain substances, probably glandular products, are normally present in the tissues and inhibit or destroy invading bacteria, and their toxines. It is reasonably certain, too, that infection is dependent upon the quantity of organisms entering. When infection incurs a reaction is set up which is known as inflammation. The fixed cells proliferate. Certain white cells which have been rolling along the lumen of the bloodvessels suddenly migrate by diapedesis or endeavor to capture and destroy by ingestion the free bacteria. They become extremely numerous, too, and should the invading organisms destroy these phagocytes the contained enzymes are liberated and the blood becomes surcharged with these resisting elements. An endeavor is made to wall off the intruders with their poisonous products by the cell elements. An area occurs where the circulation is interfered with and all the elements disintegrate to form pus. Through a process of necrosis this is forced to a surface and discharged. This process is present where pyogenic bacteria are concerned. The walling appears in diseases where local reactions are manifested in most social self limited diseases.

The next effort made by Nature to prevent invasion by disease is through rise of temperature (fever), which is thought to exert a detrimental influence on microbic life.

All this time antibodies are being formed to counteract the particular toxine eliminated by the bacteria. These antibodies may be agglutins[1], bacterins, or opsonins, but whichever appears, the production will continue after the organism has disappeared and will be abundant to overcome the invading elements, providing always that sufficient time is allowed for their elaboration. But just here is the trouble; sometimes the toxines are produced in such abundance and are so deadly that sufficient reaction does not occur and death ensues.

Nature, in the process of cure, undertakes to confine the invading organisms at the point of entry or colonization, and the greatest number of fixed cell receptors and detached receptors are here produced. The general system is shut away from the stimulating influences of the bacteria and their products and probably produces no great amount of antitoxine in consequence.

When solutions of dead bacteria in proper quantity are injected into an individual, it would seem that not only locally do the cell elements receive extra stimulation to manufacture antibodies, but the whole system begins the production of receptors against bacterial invasion, while the invading organisms are being checked at the point of invasion. This is shown by a rising opsonic index, which is sometimes remarkable.

This however, does not occur at once, and can be augmented by several increasing doses, given at intervals, depending upon the disease process involved. There is a temporary interval after the administration before the beneficial influence is manifest. The period is apt to be some twelve to twenty-four hours, depending upon the organism, and during this time some discomfort may be felt, but, fortunately, no serious effects have been known to have been produced by their use.

A good illustration of the difference in the therapeutical application of bacterins may be had in comparing their use in pneumonia and typhoid fever. In pneumonia a physician is usually summoned at the onset of the disease, because of its sudden manifestation. Several doses are advised at intervals of eighteen hours during the first six days of the disease. This will prepare the system to show a high opsonic index at crisis, and this ordinarily is all that is required to result in recovery. Encouraging hy-

[1]There is some doubt as to whether agglutins are destroying agents of bacteria.

peremia through injected areas is useful in bringing the curative products to the parts, but should be begun only after one or two doses have been given.

Should one be called late in the disease, say the seventh or eighth day, serum treatment is indicated, because of its immediate effect and because the bacterin, if used, would give a maximum effect only after crisis. Then, too, it might prevent the natural rise which occurs on or about the ninth day. The use of bacterins early and serums late would be still better treatment.

In treating typhoid fever, it is advised to give doses some five days apart, and a general amelioration of symptoms may be expected, beside an early cessation of high temperature. This result is brought about by a fortification of this system with antibodies, and there is not apt to be the condition of autoinfection so frequently seen in this disease.

Serum and bacterial therapy have been confounded at times, especially the terms employed, due largely to the use by Sir A. E. Wright of the term vaccine when using dead typhoid bacteria suspended in salt solution as an immunizing agent against typhoid fever. The term has been continued when using the same product in the treatment of the disease. A better term, it seems to me, for the therapeutic agent would be *bacterins*, as suggested by Doctor Cohen and Doctor Stewart, of Philadelphia, leaving the term vaccine to the products used for immunizing purposes, whether by the method of Jenner or Wright.

When an animal is treated in order to produce antitoxine it receives toxine produced by bacterial growth or bacteria themselves in increasing doses, with the result that the blood finally becomes charged with antibodies, and these may be separated from the blood of the animal and transferred to the blood of an individual suffering with the disease. This acts as a curative agent. The only question involved is the use of a sufficient amount to counteract the toxines found in the body of the patient treated.

In using a bacterin an individual so treated is made to manufacture his own antibodies, and while the process is slower, due to the necessity of several injections and the lapse of time between doses, the results are in many instances more gratifying, and the immunity is much more lasting and satisfactory than with serum treatment. It is natural that the serum should disappear within a very few hours, but the antibodies produced by bacterins are withheld over a long period of time.

A certain amount of knowledge of doses is required in using bacterins, but the scale furnished by Sir A. E. Wright is sufficient for ordinary knowledge as a working basis. These figures represent the number of bacteria in one c.c. of normal salt solution:

Bacillus coli	5	to	50,000,000
Gonococcus	5	to	50,000,000
Neoformans	50	to	100,000,000
Pneumococcus	5	to	50,000,000
Staphylococcus	50	to	1,000,000,000
Streptococcus	10	to	25,000,000
Typhus baccilus	5	to	50,000,000
Pyocyaneus	5	to	50,000,000

The beginner should first use minimum doses. In typhoid it is well to remember that a reaction may occur and is not harmful, but might be annoying to the physician if not anticipated.

The products known as new tuberculin T. R. and B. E. are being used with good effect by those who are able to appreciate that a very minute dose is all that is required to effect a favorable result. The better product would seem to be B. E., which contains the whole cryptoplasmic material prepared by the destruction of the tubercle organism in a ball mill for some six weeks, standardized as to the quantity contained in equal parts of water and glycerin.

It is well to continue at this figure for several doses before increasing, and depend for results upon small doses over a long period of time, rather than by a system of progression for a shorter time. This method is unattended by the danger of reaction so often seen in a rapidly increasing plan. The only troublesome cases encountered would be those rare instances where the initial dose was troublesome.

I suggest that an index of susceptibility might be had by using Moro's test and using a serial dilution of this ointment in order to discover any supersensibility to tuberculin products, depending upon the parallelism in reactions for this information.

Altogether it seems that the use of bacterins is founded on a far more rational basis than most other therapy, and only requires the confidence of the user to make it valuable in his hands. Certainly it is but the stimulating of natural processes, which after all should be the main guide in medication.

501 Sixth Street, Brooklyn.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXXI.—What does hematuria signify to you and how do you treat it? (Closed April 15th.)

CXXII.—What medicines, dressings, etc., if any, would you recommend to equip a family medicine cabinet? Give details as to quantities, labeling, and arrangement. (Answers due not later than May 15th.)

CXXIII.—Under what circumstances do you find it advisable to prescribe the continuous use of alcohol? (Answers due not later than June 15th.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED) *that the answers be short, if practicable no one answer to contain more than six hundred words; and our friends are urged to write on one side of the paper only.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to Question CXX was awarded to Dr. R. Langley Porter, of San Francisco, Cal., whose article appeared on page 876.

PRIZE QUESTION CXX.

SUBSTITUTES FOR MOTHER'S MILK.

(*Concluded from page 879.*)

Dr. L. S. London, of Central Islip, N. Y., states.

The first impressions received in attempting to feed infants artificially is that the whole subject is

in chaotic condition. Methods that give good results in some cases, fail in others; one infant will thrive on a quantity of food that is insufficient for another of the same age, another may gain weight rapidly, but still be undeveloped. Ignorance, poverty, improper administration are predominating factors in unsatisfactory substitute feeding; learning food formulas will not make a successful feeder. The requirements are a clear understanding of the essential principles involved in artificial infant feeding, and proper knowledge how to prepare food under different conditions.

It is an acknowledged fact by all pediatrists that fresh milk of some kind is the best substitute for human milk, and that there is no animal that secretes milk having the same proportions as human milk. The most available milks are cow's and goat's, and efforts have been made to make them simulate mother's milk. Cow's milk is richer in proteid and forms curds in the stomach, hence the process of simple dilution arose and cereals have often been added to aid the digestibility by softening the curds; peptonized milk is found not to form curds, or if partially peptonized, curds are small in formation, and at one time peptonized milk was looked upon as the solution of the problem.

When the action of bacteria on milk was recognized, sterilization was introduced, and it was soon noticed that sterilization affected the milk unfavorably, and Pasteurization was introduced. These processes did a great deal of good under certain conditions, but the real problem has not been completely solved.

It was noted that human milk was slightly alkaline, and cow's milk both alkaline and acid, and the addition of lime water and sodium bicarbonate was looked upon as a fundamental process. In this instance two important errors were made:

1. The milk does not meet enough acid in a young stomach to precipitate it, but the rennin which is present solidifies it. It was found that the addition of five per cent. of lime water to whole milk gave it the same reaction, or the addition of one or two grains of sodium bicarbonate to each ounce of infant's food produced the same result. When this came to actual practice lime water, anywhere from 40 to 100 per cent. had to be added.

2. It is known from authority that there is one part of albumin to five parts of casein in cow's milk, and two parts of albumin to one part of casein in human milk. Investigators, who have made an exhaustive study of this subject in the milk of hundreds of cows supplying milk for cheese making, find that there is no fixed relation between casein and albumin.

These different methods of making supposedly human milk from cow's milk have all fallen under the heading of "modifying milk." As a matter of fact, none of the methods have resulted in making human milk, and some of them are wide of the mark.

Dr. W. T. Morris, of Wheeling, W. Va., observes:

The most important question in infant feeding is to give the baby the proper amount of food, and the best way to accomplish this is to determine the caloric requirement of the baby. An infant should have about 100 calories to each kilogramme of body weight in twenty-four hours.

The percentage method of infant feeding has the disadvantage that the fats are in excess and the proteids are insufficient, which results in an undernourished, but not necessarily an underfed baby. It is a great fallacy to believe that cow's milk can be modified to resemble the human product by simply changing the proportions, because the main difference is in the chemical composition of its constituents. Cow's milk also contains numerous bacteria.

A simple method of computing the caloric value of infant food is to take as a basis that one ounce of four per cent. milk equals twenty-one calories, the same quantity of sixteen per cent. cream fifty-four calories, of skimmed milk ten calories, sugar 120 calories, and cereal water about three calories. Our estimate is now made by multiplying the number of ounces of each ingredient, in the twenty-four hours' quantity, by the caloric value and add the product. The "energy quotient" can now be determined by dividing this product by the number of pounds the baby weighs, and then multiplying the result by 2.20 to reduce to kilogrammes.

An alkaline reaction will prevent the formation of curds, as the casein is converted into a basic salt, usually of calcium. In buttermilk the casein is present in the form of casein lactate, consequently there is no curd, and as it contains little fat, it is an ideal food in digestive disturbances.

The excess of proteid does not cause nearly the amount of trouble that has been attributed to it. Too much nitrogenous matter causes an overproduction of animal heat without building up body weight, consequently the skin, kidneys, and respiratory organs are overworked to get rid of the extra heat and nitrogenous waste.

Fat usually causes the curd in the infant stool, as well as many digestive disturbances, and the proportion used should rarely exceed four per cent. The ratio between proteids and fats can be roughly stated as three to one in the very young, two to one from the fourth to the eighth month, and about equal after that time.

After six months the baby needs more proteid, iron, mineral salts, etc., and unless it gets them will present symptoms of malnutrition, even scurvy. The deficiency can be supplied by beef juice, which in itself is not very nutritious, but combined with some cereal acts nicely. Albumin, as the white of egg, may be given, cereal water may be used as part of the diluent, or a little fruit juice between feedings, but perhaps the best way to supply the deficiency is by the use of some of the commercial products.

The prepared foods and milk modifiers are numerous, and each differs in some particular, but has the same end in view. One class of prepared foods is composed of dried condensed milk to which has been added some cereal flour partially dextrinized; the objection to it is that it contains free starch. Malted milk is similar, but the cereal is malted and contains maltose and dextrose, but no starch, and is less objectionable. These foods require only the addition of water. Another class, called milk modifiers, contain the malted cereals and are consequently rich in carbohydrates with a fair amount

of proteid. These are mixed with milk and are the best type for general use. There are many others which may be put into a miscellaneous class, and some of them will be valuable adjuncts at times. All the commercial foods are poor in fat. Last, we have the preparations of pepsin, which may be of great value in time of digestive disturbances, but should never be used for a long time.

Dr. Edmund Newell Huff, of Englewood, N. J., predicates that—

Substitution in the sense of necessity only is understood, as there is no substitute, commercial or otherwise, chemically or biologically, of the same value to the human child as mother's milk. Substitution is very many times made necessary by the careless, ignorant, or irresponsible, either in the person of the physician or of the ever advising neighbor or so called friend. The physician is to be condemned who advises the mother to substitute for her breast some modified or commercial product, simply because of insufficient supply, undigested stools, or slight digestive disturbances in the infant. By dietetic and hygienic means all but a very small percentage may be made good nursing mothers. Of the mother who will not nurse, and the physician who advises her so to neglect her child nothing need be said.

The ideal substitute is the one nearest approaching mother's milk, chemically and biologically, the nearer the approach, the greater the value to the infant. This is the milk of some other animal, the commoner ones being, the cow, the goat, and the ass. These all contain protein, fat, carbohydrates, and mineral matters, all of which are absolutely necessary for the development of the normal child, the proportions varying and chemically being somewhat different from human milk. In all, the protein is greater and of a different proportion as to the casein and lactalbumin, the fats are of a somewhat different nature, the sugar is less in amount, and the mineral constituents are somewhat different chemically. Cow's milk is the one most used because of ease of procuring the same. As to purity or pasteurization nothing will be said, considering cow's milk as the ideal milk for modification, for the time. By the proper modification of cow's milk and adjusting it to the individual child, as to its age, condition and weight, and as a guide to the modification, obtaining the caloric value of the several constituents of the food thus modified, a large percentage of the infants may become adapted to this means of feeding, but we must at all times remember the greater liability to disorders of digestion and guard ourselves accordingly. Protein may also be obtained in the form of egg albumin, meat juices, and cereals, and may be useful for older infants, or as a temporary substitute when properly modified as to the infant's condition.

Carbohydrates may also be obtained as milk sugar, cane sugar, maltose, cooked cereals, etc. The use of commercial or proprietary foods is to be condemned, except as a temporary substitute, or for use in places where the milk of some suitable animal cannot be obtained.

Some infants do well temporarily, but development is not normal, an excess or overdevelopment of fat occurs due to an excess of carbohydrates, and a lack of development of the tissues requiring proteins, fats, and mineral matters is found, as may be seen by observing any picture representing a proprietary food baby.

All commercial foods contain an excess of carbohydrates, much as cane sugar and indigestible starches, and a deficiency of fat and proteins, when modified so as to reduce the carbohydrates to a safe proportion for the infant. Some of the commercial foods may be of use added to milk, but as all the constituents necessary are present in milk, even if of a different nature, and by the addition of some form of sugar or the cereal gruels any further carbohydrate may be obtained in a simpler, surer, and cheaper form, the routine use of commercial food is unnecessary, expensive, and not accurate.

We must respect greatly the individual infant, as many, or rather some, thrive in spite of theory or the food used, and are pointed to with pride as being brought up on such and such a food, but the ones laid low are many also, even if not to be seen and pointed to.

As we all must acknowledge Nature's way of feeding to be the best, and finding from observation and statistics that an infant's chances are many times greater on modified milk than on commercial substitutes, it seems unwise to put a healthy infant on commercial substitutes, and unreasonable to expect an unhealthy one to do better thereon than on modified milk, much less the breast.

Dr. Louis L. Hoff, of Springfield, Mass., writes:

In those cases where we are unable to give the infant mother's milk for causes as in the following; when a mother suffers from syphilis having a luetic nipple, or skin eruptions, of same, or any exhausting condition prior to delivery; tuberculosis, puerperal eclampsia; any of the acute infectious diseases as typhoid, pneumonia, etc.; active symptoms of an acute Bright's disease, such as general anasarca and other signs of a serious involvement of the kidneys; advanced heart disease; excessive hemorrhage following labor; epilepsy, hysteria, and organic nervous diseases, etc.; we must consider some other method of feeding the infant. The ideal substitute is the milk from the breast of a wetnurse. We are not always able to obtain one, and at times, no matter how healthy a wetnurse may be found at the time of examination, and we are not sure whether some hereditary tendencies may not be transmitted to the infant, for instance, lymphatic or scrofulous tendencies, etc., and I believe, from a moral standpoint, it is not conducive to the future good of the race to ask a mother that is the wetnurse, to put aside her own infant and to deprive it of the breast, for the purpose of feeding a strange child. We have to overlook the preceding in exceptional infants that cannot be fed artificially, and must place the infant on a substitute in the form of bottle feeding.

Next to the best substitute of maternal nursing as stated above, is the milk of the cow that will conform with the requirements of mother's milk, and after its modification the resultant milk will approximately show the same chemical analysis. In getting cow's milk for the infant we must get a

clean, fresh milk, containing no preservatives. It should be cool before being bottled, should be taken from healthy animals, and accordingly should not contain more than a certain number of bacteria to a cubic centimetre. The milk in Springfield obtained from a number of dairies in Massachusetts upon analysis by the board of health showed that out of four hundred and thirty-nine samples that were taken from bottled milk, only ten were found to be below the required standard. This work shows that milk taken in bottles is much more uniform in quality than that which is taken from wagons which was found much more below the standard and contained, according to the Eastern Milk Commission, 10,000 bacteria to the c.c. The average temperature of this milk was 49.1° F., so that with milk so bottled, there is no necessity to sterilize or pasteurize it as when submitted to such a high temperature coagulation of the milk is caused, rendering the milk more difficult of digestion, and interfering with the coagulability of the milk by rennet. The free fat is not, therefore, assimilated.

In order that the milk may be made to contain the proximate principles the same as mother's milk, it has to be modified, as stated previously, for the purpose of rendering it more assimilable. In this city we have four set formulas from the milk laboratory established some time ago, for the period of infancy to the first year. We can modify the milk at home, as the feedings are under the guidance of the mother and physician, and in those cases, where indicated, we can change the formulas at will, and if the infant does not thrive, we can state definitely what is at fault.

In these modifications the mixtures are composed of top milk, or the whole milk, with the addition of sugar of milk, lime water, and barley water. The principal function of these last named diluents (milk sugar and barley water) is to dilute or cut up the casein of the milk, and at the same time dilute the fat of the milk to such a degree as to make both these ingredients more digestible in the infant's stomach. It is a well known fact that the cereal decoctions (barley, oatmeal, etc.) are nutritive also. The lime water has also the specific action on the milk of altering or preventing its curdling in the stomach by rennet or pepsin.

As to the use of the proprietary food preparations for infant feeding, we must consider, first, the cereal foods, such as barley, oatmeal gruel, arrowroot gruel, rice, etc.; their composition of which carbohydrates are the chief ingredients and as they contain very little of proteids and fats which are really the building up elements required, we can see why as a food alone, we would deem them unfit for use, but they are useful as adjuvants in modifying milk. The proprietary foods, condensed milk, etc., should not be used during the whole period of infancy, as what we want is a fresh, clean food without any preservatives and at the same time a food that will contain the essential elements as protein, carbohydrate, and fats in the desired proportions.

The malted foods are next to be considered. In these as the preceding there is a great deficiency in their composition of protein and fats. But some authorities state that in certain cases, some of these may be useful to tide over a critical period. I have found that in those cases such as a summer diarrhea, gastroenteritis, and intoxications that the simple method of removing all milk from the feedings and applying just water sweetened (but not with sugar) and giving the infant same amount of feeding as in the mild food, with the other treatment, as stimulation, etc., will do the work.

In conclusion, we must remember that the feeding of the infant chiefly depends upon the physician who must use his common sense in the artificial methods of feeding, as in other divisions of medicine.

Dr. Alfred Costales, of Brooklyn, New York, avers that—

Mother's milk is the only rational food for an infant, as Nature intended it to be; any substitute, no matter of what nature, is only a secondary consideration and is to be used only as an alternative.

Good substitutes for mother's milk depend largely on how nearly they can conform to human milk. Ass's milk being almost similar in composition to mother's milk is the next best substitute, but the cost and the difficulty in obtaining it put a certain drawback on its general use as a baby food. I believe that a few lives have been saved by myself during my practice by giving goat's milk, an excellent substitute, which requires very little dilution, and is very acceptable to an infant's stomach. Unfortunately, we are here also confronted with its scarcity and difficult procurement, but knowing that an infant requires milk in some form or other, we come to an old standby, the babies' friend, the cow. But cow's milk is somewhat different in composition to human milk, to wit:

Human milk: Fat 3.2; proteids 1.50; sugar 6.1.
Cow's milk: Fat 2 to 4; proteids 3.55; sugar 4.88.

In other words, the fat is less, the proteids exceed, and sugar is somewhat deficient, so that in order to make it almost similar to human milk, and agreeable and acceptable to an infant's stomach, the amount of sugar is to be increased and the proteids diminished according to the following formula, which will be found most advisable for nearly all cases:

3 months.....¼ milk—¾ boiled water or barley water;
6 months.....½ milk—½ boiled water or barley water;
9 months.....¾ milk—¼ boiled water or barley water;
12 months.....Pure milk.

Sugar of milk is to be added in the proportion of five teaspoonfuls to half pint of boiled plain or barley water, and the milk, if possible, should be "certified."

Do what we may, there will be individual cases where even cow's milk will disagree, and then we must revert to some substitute for infant feeding, commercial or otherwise, which might suit the case, and this leads us to condensed milk, which is composed of seven per cent. fat, 8.5 per cent. proteids, fifty-one per cent. sugar, fifteen per cent. salts, and thirty-one per cent. water (according to latest analysis), which makes a good and safe substitute for months, if it is diluted with twelve to six parts of barley water according to the age.

Of the numerous proprietary infant foods with which the market is flooded, all have for their object the modification of cow's milk by aiding in the disintegration and digestion of the casein. Most of them are to be added to the milk to act as modifiers, and not a few are supposed to have milk in some form incorporated.

To summarize my experience of some years, the fact is very evident that human milk is *sui generis* the *only* and *natural* food for an infant, and that if this is denied the child from whatever cause, just or unjust, we have to resort to milk in some other form, as stated above—outside of a wet nurse—or to some good infant food, in the selection of which we must find the one that is allied closely to mother's milk, the one unexcelled infant food.

Correspondence.

LETTER FROM EDINBURGH.

Hospitals and the Coal Strike.—Tuberculosis Exhibition in Aberdeen.—Lord Lister's Bequest to Edinburgh University.—Edinburgh Hospital for Sick Children.—National Insurance Advisory Committee.—New Deputy Commissioner in Lunacy.—Presentation of Portrait to Dr. John Fraser.

EDINBURGH, *April 18, 1912.*

The effect on the hospitals of the recent coal strike has not been exactly what was anticipated. The distress and want prevalent over the entire country might, one would imagine, have tended to fill the hospitals, but the general experience has been the reverse. Disorganization of railway traffic consequent on the shortness of coal, has prevented people moving from place to place, and as the distress was mostly in the country, town hospitals have not been more busy than usual. The scarcity of coal has been felt by the hospitals everywhere, though most of them had been foreseeing enough to lay in a good supply. Several Edinburgh institutions have had to practise economy in coal, to the discomfort of patients and staff. Fortunately, the food supplies of most of our hospitals are on a yearly contract system, and have not been affected.

A successful tuberculosis exhibition has recently been held in Aberdeen. During the week it was visited by nearly 40,000 persons. Five popular lectures were delivered to large audiences, and a quantity of literature was disposed of. One of the lecturers was Dr. Matthew Hay, medical officer of health for the city, and he made a strong plea for the establishment of a sanatorium in Aberdeen. The annual expenditure of such an institution could, he said, be met by the levy of another two pence on the taxes, and he suggested a self denial week from alcohol (*à la* Salvation Army) as a practical means of raising the necessary sum for its establishment.

Lord Lister's bequest to Edinburgh University has taken the form of personal decorations. His insignia of the Order of Merit, and of the Prussian *Ordre pour le mérite*, the medals received from the Royal Society and other learned bodies, the diplomas conferred by scientific bodies, and numerous honorary gifts and distinctions, have all come to Edinburgh, and will be treasured by our university. The last class includes caskets containing the freedom of the cities of London, Edinburgh, and Glasgow, and of the Merchant Taylors' Company.

At the annual meeting of the Royal Edinburgh Hospital for Sick Children, the report of the directors was presented. In the medical report it was stated that nearly half the number of out patients were under two years of age, a fact which accounted for the necessity of having to relegate more than one third of the beds in the hospital to the treatment of children under two years of age. The report continued: "As a large proportion of these babies and very young children suffer from gastro-intestinal disorders, the staff feel it their duty to suggest to the directors the desirability of considering the question of adding a milk depôt to the therapeutic resources of the out patient department. If means were provided whereby the instructions for feeding could be properly carried out, some, at all events, of the babies now treated in the hospital might be treated as out patients."

The names of the members of the National Insurance Advisory Committee have been published. These number 159, and include representatives of employers, insured persons, and the medical and allied professions. The latter comprise thirty-three medical members, sixteen of whom are nominated by medical associations and nineteen by the commissioners, two pharmacists, two midwives, two nurses, and two hospital authorities. Among the Scottish medical men elected are the names of Dr. R. McKenzie Johnston, aural surgeon, Edinburgh Royal Infirmary, Professor R. Stockman, professor of materia medica and therapeutics, University of Glasgow, and Dr. Norman Walker, physician for diseases of the skin, Edinburgh Royal Infirmary. Mr. J. P. Gilmour, of Glasgow, represents pharmacists.

The recent death of Dr. J. F. Sutherland has led to the appointment of Dr. Robert Conyngham Brown, medical officer of his majesty's prison, Birmingham, to fill the vacancy as deputy commissioner in lunacy for Scotland.

On February 27th, Dr. John Fraser, who retired some time ago from the position of his majesty's commissioner in lunacy for Scotland, was presented with his portrait by his friends, a three quarter length, painted by Mr. Fiddes Watt, A. R. S. A. The ceremony took place in the hall of the Royal College of Physicians, Edinburgh, and was attended by a large gathering of ladies and gentlemen. Sir Thomas Clouston, in making the presentation, referred to Doctor Fraser's long, useful public service, first as medical superintendent of the Fife and Kinross district asylum, and later as deputy commissioner and commissioner in lunacy, his official work extending over a period of nearly forty years. During his term of office on the general board of lunacy, Doctor Fraser was actively associated with the many reforms which have taken place to improve the care of the insane, and advance the treatment of mental diseases. He had particularly identified himself with the system of boarding out the pauper insane in private dwellings throughout Scotland—a scheme which, since its inception, had saved the country

between £20,000 and £30,000 a year. Doctor Fraser, in accepting the portrait, expressed his feelings of pride and gratitude at the honor done him.

Therapeutical Notes.

Treatment of Muscular Cramps in Pregnancy.—*Paris médical* for January 20, 1912, advises that the contracted muscles be rubbed with a preparation containing 5 grammes of tincture of opium and 10 grammes of chloroform to 105 grammes of spirits of camphor. In order to prevent a return of the trouble, constipation should be antagonized by means of enemas and laxatives, and nervous excitability soothed through the use of hot baths and administration of the following:

℞ Potassium bromide, ... 10 grammes;
Syrup of orange flower, ...150 grammes.
M. Sig.: One tablespoonful with the noon and evening meals.

Pills containing 0.05 gramme of extract of valerian and 0.10 of powdered crude valerian may also be used, four such pills being administered daily.

Treatment of Certain Dental Affections.—C. C. Voelker, in a paper recently read before the Second District Dental Society, Brooklyn, New York, stated that he had obtained a fairly successful result in a severe case of erosion of the enamel of the teeth with acid saliva, such as frequently occurs in arthritic subjects, by the administration of repeated doses of phosphorus in olive oil, combined with the glycerophosphates of calcium and sodium and reduction of the carbohydrates in the diet to a minimum. In four weeks the saliva became much less acid and, in fact, at times showed distinct alkalinity.

In cases of threatening septichemia, as from a severe alveolar abscess, and in the autointoxication resulting from pronounced pyorrhea alveolaris, he has had some very encouraging results from a solution of one drachm of potassium iodide to the ounce of compound syrup of sarsaparilla, given in teaspoonful doses, three times daily, after meals.

Treatment of Impetigo of the Scalp.—Charmeil, in *Nouveaux remèdes* for March 8, 1912, is credited with the following formula of a solution to be used as a wash for the scalp:

℞ Glacial acetic acid, ... 4 grammes;
Alcohol, ...
Distilled water, ... of each 100 grammes;
Zinc sulphate, ... 3 grammes;
Copper sulphate, ...1 gramme;
Mercury bichloride, ...0.3 gramme.
M. fiat lotio.

Treatment of Paroxysmal Tachycardia.—Oppenheim, in *Progrès médical* for March 2, 1912, lays stress on the fact that paroxysmal tachycardia is, in a certain proportion of cases, associated with organic changes in the cardiac tissues. He considers the treatment of the condition under two headings:

A. *In the interval between paroxysms.*—1. Prohibit physical and mental overexertions, violent emotions, etc. 2. Interdict the use of tea, coffee, or tobacco in any but moderate quantities. 3. To forestall digestive disturbances which might bring on paroxysms, recommend slow eating, with careful mastication, light meals, and the avoidance of thick soups, purées, and carbonated beverages. 4. Favor evacuation of the stomach after meals by means of the following powder:

℞ Sodium bicarbonate, ...0.75 gramme;
Prepared chalk, ...0.25 gramme;
Powdered belladonna leaves, ...0.01 gramme.
M. ft. pulvis.

5. Have the patient take twice daily one teaspoonful of the following:

℞ Ammonium valerate, ... 2.0 grammes;
Syrup of mint, ...30.0 grammes;
Infusion of linden flowers, ...120.0 grammes.
M. ft. mistura.

This may be alternated fortnightly with Pearson's solution of arsenic, given in ten or twenty drop doses, or with the following pill, originally recommended by Huchard:

℞ Extract of ergot,
Quinine sulphate, ... of each, 0.1 gramme.
Extract of nux vomica, ...0.002 gramme.
M. ft. pilula una.

B. *At the time of paroxysms.*—1. Dorsal decubitus, with very slow respiratory movements. 2. Light pressure on the right pneumogastric nerve in the neck by the physician, if he be present. 3. Repeated swallowing movements, to be favored by causing the patient to take fluid, or better, large cachets or pills filled with some harmless drug. 4. At the earliest opportunity administer, at ten minute intervals, three cachets, each containing 0.15 gramme of pituitary extract. 5. If the paroxysm is not relieved, prescribe 150 grammes of syrup of ipecac, to be taken in teaspoonful doses at ten minute intervals until vomiting is induced. 6. Where these measures fail, one or two injections of 0.01 of morphine may succeed. 7. In obstinate cases, where the disturbance continues for two or three days and the heart tends to weaken, the usual cardiac remedies, digitaline, sparteine, convallamarin, etc., may be given internally. These, however, in most instances prove ineffective; the physician should then resort to an intramuscular injection of 0.0005 gramme of amorphous strophanthin, to be followed in twenty-four hours, if it fails to benefit, by an intravenous injection of the same drug.

The Surgeon's Hands.—Francis Reder, in the *Interstate Medical Journal* for April, 1912, refers to the fact emphasized by Leuning, viz., that septic infection is a constant danger to which the surgeon is exposed, and that even an apparently trivial affection of this kind is undoubtedly capable of setting up blood poisoning. During an operation microscopic injuries to the skin may take place, the surgeon being entirely unconscious of them or else ignoring and forgetting them, infection being sometimes the result. In order to be on the safe side, the author has for years practised the immersion of both hands, immediately after an operation, in a basin of alcohol for a few seconds to determine any minute trauma that might have been inflicted. The alcohol coming in contact with any part of the skin that has suffered a solution of continuity, however minute, will cause a distinct burning sensation at the site of injury, thus affording a valuable warning of the danger of infection.

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NEW YORK, SATURDAY, MAY 4, 1912.

THE PREVENTORIUM.

The opening of the new buildings of the Tuberculosis Preventorium for Children at Farmingdale, N. J., deserves more than passing mention. Established about two years ago and conducting its work up to now in a remodeled farm house, the institution has demonstrated beyond doubt that it fills a distinct need in a particularly able manner.

It has long been recognized that tuberculosis as a disease of the masses can be conquered only by the combined assault of many different agencies. A specific remedy will probably never be found. A great deal of the antituberculosis work of the past is open to criticism in that it has dealt with the problem too much from the standpoint of the consumptive and too little from that of the general public. It is obvious that these are not always identical. The overwhelming importance of proper provision for advanced cases is beginning more and more to be recognized, greater emphasis thus being laid on the prevention of further infections. This phase of the antituberculosis crusade is admirably complemented by the work now being done by the preventorium.

The preventorium takes children from four to fourteen years of age, coming from homes where tuberculosis exists, or who belong to what von Behring aptly calls "consumption candidates." At the preventorium the children are in the fresh air every minute of the day and night. They sleep on porches entirely open in front, take their meals in a dining room whose large windows are always open, go to school either under the trees, or in a class room open on all sides to the air, and spend their play time in the open fields and woods. The average stay of the children is four months, and treatment is entirely free. While the child is at the preventorium, a trained social worker visits the home of the parents and recommends changes that may be necessary in order to make the home safe for the child on its return. In this part of the work the preventorium has the active cooperation of the Department of Health, the Department of Charities, the Association of Tuberculosis Clinics, the ladies' auxiliaries, organized relief agencies, and many others. Already some 350 children have been treated at the preventorium, and the results have been most encouraging.

There is no doubt about the fundamental correctness of the preventorium idea, and we are convinced that it is applicable also to other diseases than tuberculosis. In every large city there are many puny children who are greatly in need of a three months' fresh air cure, and who failing to get it soon succumb to one or the other of the many diseases that humanity is heir to. The success of the work of the Farmingdale preventorium should lead other large cities to consider the advisability of establishing similar institutions for their tenement children.

It occurs to us that this method of housing and caring for the children should be adopted in all the various so called "Fresh Air Homes." As a matter of fact the dormitory facilities of most of these homes leave much to be desired in the use of fresh air. What good results they obtain are due mainly to the fact that the children play out of doors during the day. We hope that those interested will study the methods followed at the preventorium.

We congratulate the officers of this new institution on the success which has attended their work, and trust that the ideas so ably set forth in concrete form will be copied far and wide.

THE INACTIVE MEDICAL RESERVE CORPS.[1]

II.

If, however, we cannot effect this desired result as regards practical training in the field, is there not some way in which the medicomilitary spirit can be stimulated in civil life?

The writer would suggest briefly the following aids to this end:

[1] See part one of this editorial article in the JOURNAL for April 27th.

There should be an organization among the members of the unattached corps, at least in all large cities, as we understand is now the case in St. Louis and Chicago. The study of books and pamphlets furnished by the War Department, the working out of practical field problems, etc., are most profitable. Medical officers at adjacent posts would gladly lend their aid and counsel. It seems absurd that the surgeons of the militia should be affiliated with the regular corps, while *we* remain as outsiders, although commissioned officers in the army.

We are not yet emancipated from the old patronizing attitude of the civilian toward his military confrère. He does not need our patronage any longer, as he has preceded us along many lines. We ought to keep in touch with the army posts in our vicinity, exchange social and professional courtesies with our medical brothers, give them every opportunity for special work, and ourselves learn from them. How rarely do we offer to assist young medical officers in their difficulties; how ready we are to assume that they are not abreast of the times! As a matter of fact, the old type of army surgeon is quite obsolete, and we have every reason to feel proud of the corps of which we are (as yet) useless members. Yet few in our profession have a practical knowledge of the work of the army and navy schools, and of the high class of men who graduate from them.

Every member of the inactive corps is in a position to assist in maintaining the high standard of excellence by inducing promising young men—his own students and house surgeons—to enter the service. We see them settling by scores in large cities, where the competition is fierce, where there is strictly a "survival of the fittest," while in the struggle for a bare competence many bright young fellows lose their ambition and love of pure science, and their moral sense is too often blunted, so that they become selfish and self centred. What is patriotism to the money grubber? On the other hand, the army medical service now offers the highest inducements to the ambitious young doctor, while the discipline is a wonderful tonic in this age, when hemoglobin seems to be below par. There should be a waiting list in the medical service. It should skim the cream of the young men, not take the leavings. The army surgeon has now a career before him, and nowhere are talent and conscientious work more appreciated by his superiors. The man who "drifts" in the army is the one who "lies down" in civil life—and for both the morgue is waiting. The writer has encountered few of this class in the service. In his interchange of opinions with his colleagues he has gained the impression that they regard their appointment to the reserve corps as more or less of a joke. Perhaps it is, but that depends upon one's viewpoint. Certainly, in foreign countries the army reserve is far from being a paper list. Why should it be the case in a country which is constantly vaunting its patriotism? Medical men who have reached such prominence as to gain a place in the corps are accustomed to take their work seriously, hence the inference that their position in the army is entirely honorary. If this was true, it would be far better to abolish the unattached corps lest it become a laughing stock here and abroad. We are persuaded that it has a higher destiny.

To quote again from a former article:

"The writer is unwilling to accept the pessimistic view that patriotism has been so overgrown by commercialism that it has ceased to be the deep, underlying principle of our National life, and is merely a beautiful sentiment. Still less will he admit that the high traditions of the medical profession have been forgotten in the race for wealth. In peace, or in war, we shall still be found close to the firing line, not heroes, but imbued no less than the fighting men with the essential spirit of the true soldier, that 'he that loseth his life shall find it.'"

HENRY C. COE.

MINERAL SPRINGS AND THE NEW ELEMENT, NITON.

In an article on the new element, niton, the so called "radium emanation" of Rutherford, Dr. L. K. Hirshberg, of Johns Hopkins, states (*Scientific American*, April 20, 1912) that "until Sir William Osler came along with scathing nihilistic words, and rid the scientific world of the delusion that the waters of lithia springs, sulphur springs, Vichy springs, Carlsbad, and other watering places had the marvelous power of curing joint troubles, blood and constitutional diseases, there was hardly a physician in the civilized world who was not convinced of the therapeutic powers of the particular waters of some particular springs to which he sent his patients." But, unfortunately for Osler's nihilistic views, and fortunately for science, Monsieur and Madame Curie discovered radium, while subsequently other great workers in physical chemistry, including Thomson, Ramsay, Crookes, and Rutherford, found traces of radium in the waters of many mineral springs. Then followed the discovery by Sir William Ramsay, not only of the fact that the wonderful properties of radium were due to the gas niton, of which it contains seventy-five per cent., but also that the curative value of the spring at Bath, England, was due to the niton its waters contained.

We are thus furnished with an explanation for a phenomenon which has given rise to considerable speculation, viz., the fact that mineral waters that are prepared artificially, even though the formula of the *bona fide* spring is reproduced qualitatively and quantitatively with the utmost care, fail to produce the same effects as the waters of the original spring, especially when used at the spring itself. Even the greater activity of freshly drawn waters may find its explanation in the fact that while niton, like helium and argon, is practically inert and forms no chemical salts or other compounds, its existence is but temporary, lasting a little less than four days —3.86 days, to be exact—when it becomes transformed into something new. Whether this change actually occurs in mineral waters, however, we are not told.

Sir William Ramsay has further shown that, as is the case with other gases, niton is compressible, a simple compression at room temperature sufficing to convert it into a liquid. Moreover, when this liquid is pressed into a silica glass tube having a very fine bore, it becomes solidified into a microscopical rod of transparent icelike material. Though its transparency renders it invisible, it emits a light as brilliant as that of an arc lamp, and in the dark is most beautiful. But it steadily breaks down in geometrical ratio, possibly, in Professor Rutherford's opinion, into new elements. Be this as it may, the fact remains that it is now known that a "powerful spray of tonic electrones" underlies the therapeutic action of at least certain mineral waters, and also that another of Osler's nihilistic doctrines is being rudely shaken.

PURE WATER SUPPLY AND INFANT MORTALITY.

Passed Assistant Surgeon Allan J. McLaughlin, of the Public Health and Marine Hospital Service, publishes a very interesting article on Sewerage Polluted Water Supplies in Relation to Infant Mortality in the current *Public Health Reports*. The object of this essay, from which we quote, is to invite attention to the excessive prevalence of diarrhea and enteritis of children in certain cities and towns coincident with a polluted water supply, and thus to encourage cooperation between physicians and local health officers, for the investigation of deaths in the group classified as diarrhea and enteritis, and for a wider use of municipal laboratories in the diagnosis of typhoid fever and dysentery.

The author speaks of the Mills-Reincke phenomenon, which is defined as a marked decrease in the general death rate of cities independent of the reduction in typhoid fever deaths following the substitution of a safe for a polluted public water supply, and also to the so called Hazen's theorem which is as follows: Where one death from typhoid fever has been avoided by the use of better water, a certain number of deaths, probably two or three, from other sources have been avoided. These two items were emphasized by Sedgwick and Macnutt in the *Journal of Infectious Diseases* for August 24, 1910.

Doctor McLaughlin gives an extensive statistical review of these two laws and draws very important conclusions from his observations. He cites quite a number of cities and remarks that the Mills-Reincke phenomenon, when present, is due in greatest measure to the reduction in those diseases which are grouped under the heading of diarrhea and enteritis of children. But the Mills-Reincke phenomenon and Hazen's theorem are not always apparent after betterment of the public water supply on account of wide fluctuations in the death rate from contagious diseases which are not water borne. Because of the reducing influence on death rates of the campaign against tuberculosis, the improvement in control of milk supply, the use of diphtheria antitoxine, education of the public on personal hygiene, and the prevention of disease, it is difficult to say, in some instances, to what extent an improved water supply is a factor in the reduction of the general death rate. It is certain, however, that in practically every instance, in addition to a lessened number of deaths from typhoid fever, the substitution of a safe for a polluted public water supply results in the saving of many lives from diseases which are not reported as typhoid fever.

FEE SPLITTING: A VARIANT.

In the course of an editorial article published in The New York Medical Journal for April 20th, the statement was made that New York was at least relatively protected from fee splitting. That this protection is only relative, however, is proved by the receipt from a local pharmacist of a printed form letter sent him by a New York physician. The letter was evidently intended for the pharmacist and not for the physician. The body of the letter reads as follows, the errors of spelling being reproduced:

> I take this means of introducing myself. I have been studying Genito-urinary and venerial diseases for over 12 years. I have settled in New York and want to get a practice without waiting years for it.
>
> I will therefore pay 33⅓ percent. of fees collected as commission for cases sent to me.
>
> You will find that you confer a favor on the patient by sending him to me, besides it paying us both. My charges are very moderate for the class of work done, and the commission comes from my own pocket, because the charges are exactly the same for the patient if you send him to me or if he comes otherwise.
>
> All the latest methods for diagnoses and treatment will be used as indicated.

I would suggest that you telephone to me when you are sending a patient, while the patient is with you.

I will telephone the prescription to you that you may be sure to get it.

Hoping to hear from you shortly, I beg to remain, . . .

While errors in spelling are not criminal nor evidence of criminal design their occurrence in this communication gives an interesting insight into the qualifications of the physician who has been studying "venerial diseases for over 12 years." Whatever may be said of the condemnation of division of fees among physicians may be urged with added emphasis in condemnation of the proposal to enlist the pharmacist as a physician's tout. Fortunately for both medicine and pharmacy such practices are condemned by the leaders in both callings. In order to prevent the growth of such reprehensible practices they must be exposed whenever discovered.

EXTRAPROFESSIONAL DISTINCTION.

Either the impulse that drives men to study medicine, or the mental training afforded by the study itself, has some beneficent influence on character. Several striking instances of physicians achieving great distinction outside of professional work have in recent years forced themselves upon public attention. Two recent examples are interesting. The late D. K. Pearsons, of Chicago, who gave away over $7,000,000, mainly to endow small colleges, and ended his days a self made pauper in a sanatorium, was not only a graduate in medicine, but practised for a time in Chicopee Falls, Mass. We like to think that the insight thus gained into human nature and its deficiencies bore fruit in the magnificent sacrifices of a truly great man. On the other hand, when President Taft began to cast about him for a successor to the onerous and tact demanding duties of the late hero of the *Titanic,* Major Archibald W. Butt, he was not long in fixing upon Major Thomas L. Rhoades of the medical corps of the army, with whose superior qualifications for an extremely difficult position he became familiar when the major was physician to the White House.

POSTGRADUATE COURSES IN EUROPE.

In Berlin, as well as in Vienna, there exist medical associations of English speaking physicians who go to those cities for postgraduate work. The Anglo-American Medical Association of Berlin was organized in 1903 and will therefore soon enter upon its tenth year of existence. The association has only lately issued a very instructive little pamphlet of eighty pages, which in its makeup is very similar to the manuals issued by American clubs. It gives the constitution and by-laws of the association, a list of members, useful information pertaining to Berlin, and a list of courses with the names of the lecturers. The Anglo-American Medical Association of Vienna was founded in 1904, and publishes a yearly guide book similar to that issued by the Berlin society. The Free Organization for the Medical Courses in the Imperial Royal University of Vienna issues a pamphlet which appears about once a year and is printed in German, English, and French. As the organization is formed by professors and assistants of the medical faculty of the university, the pamphlet contains very exact information concerning lectures and courses. To these three sources of information should be added Doctor Honan's *Handbook to Medical Europe,* of which we spoke editorially in our issue for March 9th. All four books are to be recommended to those who wish to take a postgraduate course in medicine in Europe.

A MAN'S SUMMER GARMENTS.

Criticism of the clothing of men in our really tropical summer has usually been exclusively destructive, confining itself to derision of his carotid squeezing collars, his heavy and unwashable serges and cheviots, his unsuitable hat, and the like. As a matter of fact, the pajamas in which enlightened civilized man now lies down to pleasant dreams, contain the hint for a sensible daytime dress. A two piece suit of linen or cotton, in somewhat less gay colors than the nocturnal garb, but otherwise similar—the coat perhaps a trifle longer—worn over a suit of light underwear would be very moderate in cost, comfortable, modest, and hygienic. The coat would button up to the neck, thus doing away with an unnecessary shirt and collar and their uncalled for starch, and the suit would be frequently washed, thereby beyond a doubt abolishing a frequent source of infection, and conferring a delightful sense of coolness and cleanliness.

We believe that only a few brave pioneers are wanted to make this same costume universally popular, to the great saving, perchance of life, in the avoidance of heatstroke, and at least of ill temper, worry, discomfort, and inability to work, all of which age us rapidly. The more rigidly bred and conservative could console themselves by donning evening dress at dinner time. Indeed such discipline once a day is not without value in its influence on character, for we need to be trussed up occasionally to prevent us from letting go of all the safeguards of civilization. In this propaganda we look for no support from tailors, but we appeal to the more intelligent among the young bucks who set our fashions, to give their best consideration to our proposal.

Special Article.

THE TUBERCULOSIS PREVENTORIUM FOR CHILDREN.

Farmingdale, N. J.

On Thursday, April 25th, 350 New Yorkers, specially invited, boarded a limited train to Farmingdale to take part in the opening ceremonies of an institution that marks an epoch, not only in enlightened charity, but in the scientific attitude toward disease. On a plateau, elevated some 100 feet above the surrounding flat country, on the edge of the pine tree belt that has made Lakewood so desirable a resort, the visitors found a group of absolutely fireproof buildings of hollow tile and cement, designed to house 172 children at one time, or about 600 per annum, as the average stay is from three to four months. What marked the buildings, apart from their safety, were the dormitories, which



FIG. 1.—Tuberculosis Preventorium; administration building, south side; from a photograph taken especially for the NEW YORK MEDICAL JOURNAL by direction of Messrs. Scopes, Feustmann, and Judell, architects.

are made without window sash or glass, so that the children at night are sleeping practically in the open air, even when the thermometer marks, as it did frequently during the winter just past, eight degrees below zero, F.

Open air is thus the keynote of the preventorium, for there are but two and a half hours' school work in the day; twelve hours are spent in bed at night, and one hour at midday immediately after dinner. Apart from some trifling household duties and the school work, the children are free at all times to play outdoors.

The novelty from the viewpoint of treatment lies in the fact that the children are not tuberculous; they are merely the offspring of tuberculous parents, and therefore supposedly liable to the disease, either through direct infection or identity of environment. While the children are at the preventorium the sick parent is properly treated. At the reunion, therefore, the whole family is ready to laugh, not only at the Koch bacillus, but at most others.

When the visitors arrived the children were in bed to spend the rest hour; excitement naturally kept them awake. What immediately struck the observer, nothing being visible of the children but their faces, was their exquisite coloring, Nature having spread her red upon their cheeks with a lavish hand as if to prepare them for their really dramatic appearance.

After the buildings had been inspected, the opening exercises were held in the open air before the audience of invited guests, reinforced by the residents of Farmingdale, to whom the new institution is a source of great pride, its building "having put Farmingdale on the map," as one inhabitant joyously expressed it. The gathering was addressed by Mr. Marcus M. Marks, the president; by Mr. Scopes, one of the architects; by Mr. McAneny, president of the borough of Manhattan; by the mayor of Farmingdale; by the governor of New Jersey, Woodrow Wilson; and by Dr. Abraham Jacobi. As Doctor Jacobi concluded his remarks, the children gathered around him and recited their "catechism," which was a condensed history of their good luck, winding up with a sort of college yell, P-r-e-v-e-n-t-o-r-i-u-m !

As to these lucky children, no discrimination is made as to race or creed, and there is no charge whatever for transportation or board. They are selected mainly by the Association of Tuberculosis Clinics and are passed upon by the Department of Health of the city of New York. There are thirty-two of these clinics, to the nearest of which the parents apply.

The older building at Farmingdale, which accommodated only forty children, will be used henceforward as a reception pavilion, where the children will remain under observation for three weeks before admission to the new buildings.

The preventorium was first opened at Lakewood,

but opposition soon developed there, and on an offer from Mr. Arthur Brisbane, representing the estate of his father, of 170 acres at Farmingdale, the new institution was glad to move. Over $150,000 have been expended on the new buildings, and, although donations have been numerous and liberal, much larger sums can be used to advantage. One can become a member of the preventorium by a payment of one dollar to a thousand dollars per annum; $250 will name and maintain a bed for one year; $2,500 will endow one bed during the life of the donor; and $5,000 will endow a bed in perpetuity. Only $25,000 are required to build and equip two additional camps with accommodations for sixty-four children. The municipality of New York contributes liberally, but there is practically no end to the possible development of this preventorium work, and no one need fear overendowing it.

The name preventorium contains the keynote of the idea—the prevention of tuberculosis, a movement which the promoters hope will act as an inspiration



FIG. 2.—Tuberculosis Preventorium; north and entrance side of one of the dormitories. From a photograph taken especialy for the NEW YORK MEDICAL JOURNAL.

for a greater one to provide for all children, all over the land, who may be exposed to infection. The management are prepared to place their experience at the disposal of those interested in this work in any large city, and they hope that ere long every municipality will have its own preventorium. This pioneer institution has the advantage of the cooperation of a Farmingdale auxiliary board, headed by the mayor and including the two clergymen of the village, the two physicians, Dr. Walter Havens and Dr. G. S. Williams, and the leading storekeepers and farmers, who do all in their power to add to the comfort and happiness of the children.

The officers of the preventorium are: President, Marcus M. Marks, 17 West Forty-third Street, New York; first vice-president, Mrs. J. Borden Harriman; second vice-president, Mrs. Henry Phipps; third vice-president, Isaac N. Seligman; secretary, Mrs. Willard D. Straight; treasurer, Alexander S. Webb, Lincoln Trust Company, Madison Square, New York; auditor, F. W. Greenfield, C. P. A. The consulting physicians are Dr. Abraham Jacobi and Dr. Hermann M. Biggs; visiting physician in chief, Dr. Alfred F. Hess; admitting physician in chief, Dr. James Alexander Miller; admitting physicians, Dr. L. Ogden Woodruff and Dr. G. Kremer; visiting physicians, Dr. Charles F. Bolduan and the Farmingdale physicians already mentioned.

In addition to this distinguished staff, thanks are due to the ladies' auxiliaries of the Department of Health, to many ladies of Lakewood for numerous useful gifts and needed sewing, to Miss J. Palmer Quinby, the matron, and to Miss H. Bibo, the local secretary.

The difficulties in the way of educating the children properly are great, owing to the constant coming and going, and owing also to the usually anemic condition of the children on their reception; it has been managed, however, to keep each child up to its proper grade in school, so that it loses no time on its return to the city and is submitted to no undue strain. Later it is hoped to give each child some knowledge of garden farming in addition to other instruction.

While the children are enjoying themselves and getting rapidly stronger in the preventorium, a visiting nurse studies the problems at the homes, enlisting, when necessary, the cooperation of the various auxiliaries and clinics. Conditions are improved so that the children return to uninfected and sanitary surroundings. The tuberculous father or mother is removed to Riverside, Otisville, or other institution if required, and sanitary instruction is given concerning the disposal of sputum, disinfection, cleaning floors and walls, opening windows, etc. In addition, each child is followed up by a visiting nurse till permanent safety is assured.

Visitors are welcome and will spend a thoroughly enjoyable day. The solution of the problem of disease has been found in the preventorium. We have



Fig. 3.—Girls' dormitory, showing exposure to the air.

no doubt that the principle will be extended to other diseases and that eventually our ridiculous and wasteful dispensary system will be done away with. Every case, no matter of what nature, will be followed up as soon as reported at the dispensary of the future; home conditions will be inquired into, and the sources of infection will be destroyed or removed.



Fig. 4.—Older buildings, now used as reception pavilions.

A day is dawning when the presence of disease anywhere will be considered an intolerable reproach. The same precautions will ere long be taken on the outbreak of disease inland as are now observed when suspected ships approach quarantine. No one, however influential, will be permitted to sell infected milk or water. Such murderous indifference to the public weal will, through appropriate education, become simply unthinkable. Apparently, at last, there is something new under the sun.

Medical Law.

I. THE RIGHT TO PRACTISE MEDICINE AND SURGERY.

The Court of Appeals of Alabama, in the case of Carter v. State, 57 Southern Rep. 1022, has recently reversed a judgment of conviction of the defendant of practising medicine without a license, contrary to the act of that State. It appears from the reported case, that in rebuttal of the affirmative case, as made out by the State, the defendant, being examined in his own behalf, testified that he had not treated or offered to treat any disease of any human being in any way whatever, but that he merely made his medicine or tea from roots and herbs, gathered from woods near by, and sold it to people who came to his tent for it. At the close of the case, the trial court gave a general affirmative charge, in favor of the State. The Court of Appeals held that it was error to give such a charge, for the reason that the testimony of the defendant tended to rebut the incriminating evidence that had been offered by the State, and raised a question of fact, as to the guilt which should have been passed upon by the jury.

In other words, if the jury should find that the defendant correctly stated his practice, then he was not guilty of practising medicine and surgery without a license, and contrary to law.

VI. RIGHT TO COMPENSATION.

The case of Habhegger et al. v. King, 135 Northwestern Rep. 166, is one more of those cases, where the physician, after rendering services, finds that he is unable to recover because of his omission to say the right thing to the right person at the right time. The plaintiffs, it appears, were practising physicians; the defendant owned an automobile which he permitted his son to use and operate; the third unfortunate party to the transaction was a boy named Karge, who unhappily so timed his movements as to be on the street at the same time defendant's son was using the automobile. The result was a hurried ride to the hospital, or rather two such rides; in the first, the Karge boy was the passenger. The defendant's son then went to plaintiff's office, told one of plaintiffs what had happened, took him in his automobile to the hospital, and requested him to give the injured boy every attention to save his life. The doctor attended the injured boy with the result that he recovered, but omitted the important act of communicating with the owner of the automobile before the completion of the services and procuring from him, either an employment or a ratification of the son's employment. Upon the trial of the case,



FIG. 5.—Preventorium children lined up to salute the flag.

notwithstanding, the jury found that there was no evidence tending to show that the son was authorized by his father, the defendant, to employ the doctors to attend Karge, yet they gave plaintiffs a verdict for the amount of their fees. From the judgment entered upon this verdict, the defendant appealed to the Supreme Court, who reversed the judgment and gave directions that judgment be entered for the defendant.

The Supreme Court, in reviewing the evidence and the law upon which they based this reversal, referred to the evidence, that defendant's son did not attempt to contract on behalf of the defendant; that the doctors failed to communicate with the defendant at any time before completing the services for which suit was brought; that when the injured boy was about to be discharged from the hospital, the superintendent in an interview with the defendant told him that the boy's mother was poor and would probably never be able to pay for the hospital charges and requested defendant to do something toward paying the bill, whereupon defendant paid the hospital bill, informing the superintendent that he was not responsible; that the second day after this, the defendant received a bill from plaintiffs for their services; that he had heard that doctors were attending the injured boy at the hospital, but did not know that they were making a claim against him until he received this bill, which he refused to pay.

Upon the trial of the case, it appeared that the trial Judge instructed the jury, that while defendant's son had no actual or direct authority from his father to employ the plaintiffs for the purposes stated, yet he had implied authority as a matter of law. Mr. Justice Timlin of the Supreme Court, in discussing this question of implied authority, said:

> The employment must have been of such a nature that this act of the servant is reasonably within its scope as in the case of a general superintendent of a railway company, general manager, or agent, and by some authorities, a railroad conductor. . . . These cases go, largely upon the corporate character of the employer, the usual practice pursued, and the great exigency which arises in the railroad disasters and the dangerous character of the business. A mere chauffeur or automobile driver, in a town where the employer is known and can be readily reached by telephone, or by other speedy and certain means of communication, would not ordinarily possess such authority. Neither would an infant son, using his father's automobile under like circumstances. . . . The conclusion of the trial court, that the boy had in law implied authority to employ physicians at the expense of his father, was incorrect, and the judgment must be reversed.

X. THE PHYSICIAN AS WITNESS.

In the case of Chadwick v. Life Ins. Co., of Virginia, 74 Southeastern Rep. 115, the Supreme Court of North Carolina, held under the circumstances of the case that the fees of the medical expert witnesses should be taxed against the successful party which summoned them.

At the close of plaintiff's case, the defendant, without offering any evidence and without tendering its witnesses to plaintiff, moved to dismiss plaintiff's case and the motion was granted.

The Court then made an allowance to five medical expert witnesses of $10 each. This allowance was proper in North Carolina because of a statute specially authorizing such an allowance. But the Supreme Court held, in pursuance of established precedents, that the allowance could not be taxed against the losing party, for the reason that there had been no opportunity to ascertain whether or not the evidence they were subpœnaed to give was material, and directed that it be taxed against the party summoning them.

In the case of Norris v. St. Louis I. M. & S. Ry. Co., 144 Southwestern Rep. 783, the plaintiff, who had sustained injuries in a railway accident, upon the trial of her case was permitted to introduce nonexpert witnesses to give evidence of the condition of her health before and after the accident. Upon the question of the admissibility of this evidence, Mr. Justice Brown of the Supreme Court said:

> It is true that mere opinions of nonexpert witnesses as to the health of a party would not be admissible; but in this case the court did not permit their opinions, but required them to state the whole facts upon which their opinions were based. Consequently, their testimony was entirely competent as tending to prove that plaintiff was in a healthy condition, before the accident, and also that her health was poor after the accident. It is true that a nonexpert might easily be mistaken about the conditions of the health of an individual with whom he was intimately acquainted, and, for that matter, the same can be said of the testimony of medical experts. The fact that some of plaintiff's witnesses were not experts only goes to weaken the probative force of their testimony, and does not render them ineligible to testify to the appearance of the plaintiff as indicating the condition of her health.

News Items.

Change of Address.—Dr. D. Bryson Delavan, from 1 East Thirty-third Street to 40 East Forty-first Street, New York.

Vaccines and Vaccination will be discussed at a joint meeting of the Scientific Section of the College of Physicians of Philadelphia and the Philadelphia Branch of the American Pharmaceutical Association, on Tuesday evening, May 7th. Papers will be read by Dr. W. F. Elgin, Dr. William L. Cliffe, and Dr. Jay F. Schamberg. Dr. Joseph McFarland will open the discussion, which will be continued by Dr. William S. Wadsworth, Dr. B. F. Royer, and Dr. William Welch. A general discussion will follow.

New Officers of the Harvey Society.—At the annual meeting of the Harvey Society, held on April 10th, the following officers were elected: President, Dr. Frederic S. Lee, professor of physiology at Columbia University; vice-president, Dr. William H. Park, professor of bacteriology and hygiene at the University and Bellevue Hospital Medical College; treasurer, Dr. Edward K. Dunham, reelected; secretary, Dr. Haven Emerson, reelected. Additional members of the Executive Committee, Dr. S. J. Meltzer, and Dr. W. G. McCallum.

New Bronx Hospital Opened.—The formal opening of the Bronx Hospital and Dispensary took place on Saturday, April 20th. Dr. A. Jacobi, who is one of the consultants of the new institution, made the opening address. Dr. S. S. Goldwater, superintendent of Mount Sinai Hospital, and the Hon. Anthony J. Griffin, senator from the district, also delivered addresses. The dispensary is now open for the treatment of patients. Dr. William J. Robinson is president of the medical board, and Dr. Martin H. Rueling is secretary.

American Medical Editors' Association.—The annual meeting of the society will be held at Atlantic City, New Jersey, on June 1st and 3d, with headquarters at the Marlborough-Blenheim Hotel. Dr. Thomas L. Stedman, editor of the *Medical Record*, will preside, and an attractive programme is being prepared. The annual banquet will be held on the evening of June 3d. Every editor, and those associated in medical journalistic work, will find this meeting worth attending. Dr. J. MacDonald, of 92 William Street, New York, is secretary and treasurer.

Litchfield County, Conn., Medical Society.—This organization, which is one hundred and forty-eight years old, and is said to be the oldest medical society in the United States, held its annual meeting in Winsted on April 23d. Dr. R. S. Goodwin, of Thomaston, was elected president. Among those who delivered addresses were Dr. Edward D. Fisher and Dr. George P. Shears, of New York.

Low Death Rate in New York City.—For the twelfth successive week, the death rate of the city of New York is lower than in the corresponding week in 1911, which was the "record" year. For the week ending April 27th the rate was 15.42, as against 16.55 for the week ending April 29, 1911. In only three of the seventeen weeks of 1912 has the death rate been higher than in the corresponding week of 1911, and comparing the entire periods, the average rate this year has been 15.80, as against 17.13 in 1911.

Infectious Diseases in New York.—During the week ending April 13, 1912, the following cases of communicable diseases, with the deaths therefrom, were reported to the Department of Health of the City of New York: Pulmonary tuberculosis, 488 cases, 181 deaths; diphtheria and croup, 311 cases, 27 deaths; measles, 1,785 cases, 40 deaths; scarlet fever, 460 cases, 24 deaths; chickenpox, 236 cases, 0 death; typhoid fever, 35 cases, 6 deaths; whooping cough, 26 cases, 5 deaths; cerebrospinal meningitis, 13 cases, 3 deaths, making a total of 3,354 cases and 286 deaths.

Life Saving at Sea.—Dr. W. H. Tolman, director of the American Museum of Safety, has announced his intention of going abroad early next month to attend the International Congress of Accident Prevention, at Milan, He will also devote some time to studying the best European methods for life saving at sea, and the prevention of injurious effects of occupational diseases. A gift of $5,000 was recently made to the museum to be used in obtaining a collection of the best devices for saving life at sea, as a permanent exhibit for demonstration and study, free to the public, and another gift of $5,000 is announced for research work in connection with industrial poisons. The public is not only invited to visit the museum, at 29 West Thirty-ninth Street, between 9 a. m. and 5 p. m. every day, to study its collections, but in addition, its jury on exhibits requests inventors and others with practical ideas for life saving at sea, to submit them to the museum.

New Hampshire Medical Society.—The one hundred and twenty-first annual meeting of the State medical society of New Hampshire will be held in Concord on Wednesday and Thursday, May 8th and 9th. The House of Delegates will meet at eleven o'clock Wednesday morning, and in the afternoon there will be two general sessions, devoted to the reading and discussion of scientific papers. On Thursday morning and afternoon general sessions will be held, and at 6:30 p. m. there will be an informal reception for the president of the society, the Governor of the State, and a few other invited guests, followed by the annual banquet. An interesting programme has been arranged, and the meeting gives promise of being most enjoyable. The officers of the society are: President, Dr. George W. McGregor, of Littleton; vice-president, Dr. John W. Staples, of Franklin Falls; secretary, Dr. D. E. Sullivan, of Concord; treasurer, Dr. D. M. Currier, of Newport.

An Investigation into Miners' Diseases.—The director of the United States Bureau of Mines announces that an arrangement has been made with the Public Health and Marine Hospital Service by which one or more surgeons connected with that service will carry on investigations looking to the improvement of mine conditions. Inquiries and investigations have already shown the prevalence of tuberculosis and hookworm disease among miners in different places in the United States, and it is important that this work should be extended, since health conditions, as well as the risk of accidents, may be influenced by conditions susceptible of improvement. Among the questions that concern the health of workers in mines, quarries, and metallurgical plants are the most efficient methods of preventing the diseases peculiar to certain industries, the most effective sanitary precautions to be observed in and about mines, and the relative healthfulness of occupations pertaining to mining industries. The bureau of mines will undertake such investigations as are necessary in connection with the collection of accident statistics.

Gifts and Bequests to Hospitals.—The will of Lord Lister contains bequests of £10,000 each to the Royal Society, King Edward's Hospital Fund, King's College Hospital, and the North London and University College Hospital. He also left £20,000 to the Lister Institute of Preventive Medicine. His manuscripts and sketches were left to the Royal College of Surgeons, Edinburgh.

An anonymous gift of £20,000 has been made to the University of Cambridge, for the establishment of a chair of genetics, to be called the Balfour Professorship of Genetics.

The will of Augustus W. Openhym gives $275,000 to his wife, and after her death this fund is to be divided into three equal parts, as follows: One part to go to Mount Sinai Hospital, for the maintenance of a free ward; one part to the German Hospital to provide rooms for worthy persons at less than the regular rates, and one part to Columbia University to establish the Openhym Fund for research work in cancer, and if this work becomes unnecessary, for medical and surgical research work in other diseases.

Brooklyn Hospital will receive $10,000 by the will of Henry E. Pierrepont, who died last November.

Hospital Saturday and Sunday Association Fund.—On April 30th, the Hospital Saturday and Sunday Association distributed among forty-four nonmunicipal hospitals in New York the sum of $95,000, the largest amount ever collected by this organization. About three fourths of this amount was obtained from business firms and individuals, the remaining one fourth having been collected in churches and synagogues on Hospital Saturday and Sunday. The distribution, according to the rules of the association, was based on the number of days of treatment given for which the hospital received no pay either from the patient or the city. Some of the larger apportionments were:

Mount Sinai Hospital	$7,789.88
St. Luke's	6,821.09
German	4,677.96
Roosevelt	3,863.17
Postgraduate	3,376.26
Lincoln	3,181.13
Lebanon	3,045.94
Beth Israel	2,597.03
Flower	2,005.71
New York Orthopedic	5,487.65
Ruptured and Crippled	3,589.06
St. Mary's Free Hospital	3,757.87
Misericordia Hospital	2,927.39
Lying-in Hospital	2,585.38
Nursery and Child's Hospital	2,031.68
Montefiore Home	9,500.00
Home for Incurables	2,518.91
House of the Holy Comforter	2,152.89

Personal.—Major Thomas L. Rhoades, Medical Corps of the United States Army, has been appointed military aide to President Taft at the White House, to succeed Major Butt, who lost his life in the sinking of the *Titanic*. This is the first time in the history of the government that an army surgeon has held this position. Major Rhoades is at present connected with the Walter Reed Hospital, in Washington.

Dr. James W. Holland, of Philadelphia, for twenty-five years dean of Jefferson Medical College, and professor of medical chemistry and toxicology in the institution for twenty-seven years, has tendered his resignation. Doctor Holland's retirement from active connection with Jefferson Medical College is due to his advanced age. The board has taken no official action on Doctor Holland's resignation, and it is said that an effort will be made to induce him to modify his decision to the extent of remaining a member of the faculty.

Dr. Abraham J. Rongy has been appointed attending gynecologist to the Lebanon Hospital, New York.

Dr. George W. Crile, of Cleveland, Dr. George E. de Schweinitz, of Philadelphia, and Professor G. Carl Huber, of the University of Michigan, were elected to membership in the American Philosophical Society, at its annual meeting held recently in Philadelphia.

Dr. William Breakley, of Ann Arbor, has resigned as professor of dermatology and syphilology at the University of Michigan, after forty-four years' continuous service on the faculty of the institution. He will be retired on the Carnegie Foundation.

Meetings of Local Medical Societies.—The announcement of meetings of local medical societies to be held during the coming week will be found on page 967 of this issue. It was transferred from this department on account of lack of space.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

April 18, 1912.

1. Frank C. Richardson: Aims and Purposes of the Robert Dawson Evans Memorial.
2. James J. Putnam: Significance to Neurology of the Robert Dawson Evans Memorial.
3. E. E. Southard: Significance of a Homeopathic Foundation for Clinical Research and Preventive Medicine.
4. Henry S. Rowen: Symptomatology of Chronic Duodenal Ulcer.
5. Edgar Garceau: Diagnosis of Solitary Kidney, Blocked Ureter, and Kidney Inactive by Reason of Previous Disease.
6. Bertha C. Downing: Mental Hygiene and the Special Child: Social Pathology.
7. A. Myerson: Two Cases of Precocious Cerebrospinal Syphilis, One Occurring after Salvarsan, the Other with Post Mortem Findings.

4. Chronic Duodenal Ulcer.—Rowen reports eight cases of chronic duodenal ulcer, which may be thus summarized: Chronic duodenal ulcer without other lesions three times; one ulcer accompanied by chronic appendicitis; the symptoms of one confused by an osteoarthritis of the spine; one found at autopsy. In two cases unsuspected carcinoma of the stomach was found, and once a chronic adhesive appendicitis. A study of the subject causes the writer to be struck with the uncertainty of finding this disease, and the reasonable certainty of discovering some other pathological change. Hence in a laparotomy every possible source of trouble should be searched out and corrected.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

April 20, 1912.

1. Hideyo Noguchi: Syphilis with Especial Reference to *Treponema Pallidum*.
2. Douglas Vanderhoof: Pseudomalarial Types of Pyelitis.
3. Eugene S. May: Germicidal Action of Basic Fuchsin.
4. Howard B. Lewis: Value of Inulin as a Foodstuff.
5. John B. Murphy: Surgery of Bones, Joints, and Tendons (*Continued*).
6. Leonard K. Hirshberg: Malignant Pneumococcus Tonsillitis.
7. F. E. Walker: Multiple Diverticula of Ileum.
8. Howard Fox: Extensive Pigmented and Hairy Nevus of the "Bathing-Trunk" Type, Presenting Genital Tumors.
9. Percy W. Roberts: New Traction Frame.
10. Ira H. Prouty: Orchitis Secondary to Tonsillitis, Treated with Hexamethylenamin.
11. E. J. Gardiner: Practical Ophthalmodynamometer for Office Use.
12. Francis Reder: Practical Bone Clamp.
13. J. Rhodes Longley: Syphilis, Diabetes, and Salvarsan.
14. E. O. Hondy: Acetonemia.

2. Pseudomalarial Types of Pyelitis.—Vanderhoof reports six cases of pyelitis, four of the acute, and two of the subacute type which, in their symptomatology, resembled malaria, the diagnosis being made by correctly interpreting the microscopic cellular elements found in the urine, correlated with the constitutional symptoms. In the absence of local disturbances, urethritis and cystitis can be excluded only by the use of the endoscope or cystoscope. The writer has seen forty-seven cases of pyelitis during the past five years, twenty-one of which had received treatment for malaria. As quinine is a specific in malaria, but an irritant, even in small doses, to an infected kidney, the persistence of the febrile action should indicate its withdrawal and a more careful examination of the case. Pulmonary tuberculosis is simulated by a subacute, chronic, genitourinary infection and in the absence of cough the case may be regarded as chronic malaria. Uranalysis will reveal a few pus cells and an occasional red blood corpuscle, thus clearing up the diagnosis. Pyelitis is the cause of many unexplained fevers, especially in young children.

3. Germicidal Action of Basic Fuchsin.—May believes that basic fuchsin is a germicidal agent exceeding phenol in efficiency, possessing a higher diffusibility and less toxicity. It has a marked stimulating effect upon epithelial and granulation tissue growth. As to its use in the treatment of lupus and blastomycosis he hopes, in the near future, to report results. He has noted a great difference in the germicidal action of basic fuchsin, when the inoculations were made into warm or cold solutions, the latter being generally nongermicidal, while warm solutions are always active. Solutions from which all pigment has been precipitated by careless sterilization completely lose their bactericidal power. Heat applied in the sterilization of the fuchsin solution induces a chemical change, new compounds being formed which are apparently more active than the original substance.

4. Inulin as a Foodstuff.—Lewis questions the value of inulin as a significant source of energy in human dietaries. When fed to a healthy man, inulin is not eliminated in the feces, but marked intestinal fermentation is present. In the dog the gastric acids hydrolyze inulin partially to levulose in one to two hours, which seems to indicate that utilization of inulin by the human subject can occur only after hydrolysis by the gastric juice, which must vary in extent with conditions in the stomach. Any inulin leaving the stomach unchanged may be useless to the human economy, and may undergo bacterial fermentation in the intestine without the formation of carbohydrates. Inulin escaping bacterial action is probably eliminated in the feces unchanged.

6. Malignant Pneumococcus Tonsillitis.—Hirshberg calls attention again to the recent epidemic of septic tonsillitis, previously noted by Hamburger, the clinical picture of which was a sharp onset, an invasion uniformly of the throat, general adenitis, great virulence, a fulminant type of death in forty-eight hours in the fatal cases, and the constant presence of an encapsulated diplobacillus, also obtained in pure cultures during an epidemic, fatal to white rats, and believed to be the pneumococcus.

MEDICAL RECORD.

April 20, 1912.

1. Lewis F. Frissell: Acute Endocarditis with Rupture of All the Chordæ Tendineæ of the Anterior Curtain of the Mitral Valve.
2. August Seibert: Camphor and Pneumococci.
3. I. L. Nascher: Geriatrics.
4. George Mannheimer: Free Postgraduate Medical Instruction.
5. Maude Glasgow: Gonorrhea in Women.
6. Karl M. Vogel: Movement for Internationalism in Medicine and Hygiene.

1. Acute Endocarditis with Rupture of All the Chordæ Tendineæ of the Anterior Curtain of the Mitral Valve.—Frissell reports a case which is unusually interesting on account of the rarity of the lesion, its mode of production, and the presence of a presystolic murmur without mitral stenosis. Rupture of the chordæ tendineæ followed an attack of acute endocarditis during which the chordæ became enlarged, and softened, pathological changes which favored their rupture. The explanation of the presystolic murmur is not clear. Fifty cases of ruptured chordæ are found in literature, divided into five classes. In seven cases the rupture was

due to severe traumata, such as fractured ribs from violent compression, falls from a considerable height, stab wounds, gunshot wounds, and the kick of a horse. Five cases were due to efforts, such as straining, lifting, excessive fatigue, and severe cough in which no endocardial lesions were disclosed by the autopsy. In nine cases the rupture was due to or preceded by strain, without endocardial or myocardial lesions. In nineteen cases, in which no endocardial lesion was found, there was no history of strain or trauma. Ten cases are reported with insufficient data and without autopsy. A synopsis of each case reported is given.

2. **Camphor and Pneumococci.**—Seibert, since the publication of his first report on the action of large doses of twenty per cent. camphorated oil in pneumococcic pneumonia (*Münchener medizinische Wochenschrift*, No. 36, 1909), has made further important observations. We know that in pneumonia the pneumococci enter the blood at the time of the initial chill and cause it, remain there until after the crisis, and that they give rise to the toxemia which causes death. To treat pneumonia successfully we must either bind the toxine by a serum or destroy the organisms by chemotherapy. The latter course is employed by the writer, who uses a thirty per cent. camphorated oil sterilized. With a Luer syringe he injects twenty c.c. along the outer thigh, depositing the oil below the subcutaneous fat and not in it, the point of injection being rendered aseptic by a few drops of tincture of iodine. In fat patients it may be necessary to select two points in order to inject the full quantity without discomfort. This will be found unnecessary in lean persons. In unilateral pneumonia with average toxemia these injections are repeated every twelve hours, but in double pneumonia with severe toxemia, he injects every eight hours, using ten c.c. of thirty per cent. camphorated oil to every 100 pounds of body weight.

3. **Geriatrics.**—Nascher opens with a synopsis of the history of the treatment of diseases from the time of Cicero down to the present, emphasizing the fact that the subject has received more attention abroad than here, attributing the cause of the general neglect of this subject in this country to the alleged fact that the senile are economically worthless, that their idiosyncrasies lessen sympathy, and their unesthetic appearance robs them of interest. In addition to a lack of knowledge of the states of senescence and senility, the general profession has a wrong conception of senile diseases. The senile degenerations are natural, normal, and physiological at that period of life, occurring earlier they would be the reverse. Ignorance of the anatomical and physiological peculiarities of the organism of the aged give rise to errors in diagnosis and faulty diagnosis leads to faulty treatment. Granting a correct diagnosis, our senile patients are improperly treated through our ignorance of the action of drugs and other therapeutic agents upon the organism of the aged. The writer then goes into the home and institutional care of the aged, noting how apparently insignificant things affect materially the health and comfort of old people.

4. **Free Postgraduate Medical Instruction.**—Mannheimer calls our attention to the appreciation of the importance of this question exhibited at the last International Medical Congress, held at Budapest in 1909, as shown by resolutions formulated by Professor R. Kutner, of Berlin, and adopted by the congress. The demand for such instruction is proved by the existence and success of the postgraduate schools in this country. These schools are not antagonistic toward this movement for free instruction. The need of such instruction is felt by all. The materials for study are abundant, not only in our dispensaries and hospitals, but also in such special institutions as the smallpox hospitals, the tuberculosis hospitals and sanatoria, the Rockefeller Institute of New York, the health department laboratories, etc. This plan of public instruction has been in operation in many European cities, in Germany since 1900. The government should provide for this free instruction for the good of the general public.

5. **Gonorrhea in Women.**—Glasgow refers to the protean character of this disease, its latency, chronicity, and resistance to treatment in the later stages, and the value of the microscope in establishing a positive diagnosis in suspected or doubtful cases, through the detection of the gonococcus of Neisser. The location of the germ is difficult in chronic cases, as it usually occurs only in circumscribed areas at various parts of the infected surface, the intervening portions being entirely free from this germ. The favorite hiding places of the gonococcus are the glands of Skene, the vulvovaginal glands, and the cervix uteri, and having obtained access to the uterus, the infection may travel outward through the tubes into the peritoneal cavity. When the uterus and appendages become infected, there are frequent exacerbations, in which the patient suffers intensely, and rest in bed and prolonged hot douches give but temporary, if any, relief. After suffering for years, she becomes a "feeble, worn out, nervous wreck" and her life is a burden. The operating table is her only hope and she leaves it deformed, mutilated, sexless. If women voluntarily exposed themselves to disease which would sap the husband's vitality, making him a dependent invalid or exposing him to the shock of a mutilating operation or death, would men continue to suffer or would they allow the medical secret to protect women in this alleged freedom? The writer quotes the customs of procedure in Hamburg and Scandinavia, where venereal disease is dealt with as other contagious diseases are. The writer gives her method of fighting this disease in its various stages and localities. "Gonorrhea is one of the most prevalent of diseases, beside being one which menaces the life and health of many innocent women."

6. **Movement for Internationalism in Medicine and Hygiene.**—Vogel notices the *Fondation pour l'Internationalisme* which has existed for several years at The Hague, its development, and achievements. As to the last two international supervising bureaus have been in existence for some years, while a third has just been added. This movement making for greater efficiency of organization is of especially vital interest to the medical profession, as demonstrated by the universal recognition of the utility of the *Bureau permanent des congrès inter-*

nationaux de médecine, established at The Hague for the supervision of future congresses by the international congress held in 1909 at Budapest. The interest of all American men of science is invoked for the furtherance of this movement.

BRITISH MEDICAL JOURNAL.

April 13, 1912.

1. W. E. Fothergill: Precise Relationship of Cystocele, Prolapse, and Rectocele.
2. J. C. Renton: Gastroenterostomy.
3. Frances Ivens: Round Ligament Ventrisuspension in Retroversion.
4. A. E. Turnbull: Twin Monsters with Acute Hydramnios.
5. H. R. Andrews: Rupture of Uterus with Expulsion of Fetus into Abdomen.
6. O. Beddard: Treatment of Certain Forms of Coccygodynia.
7. G. W. Watson: Causation of Parenchymatous Nephritis.
8. E. O. Bowen: Pyonephrosis: Operation: Recovery.
9. F. D. Crew: Acute Pyelonephritis Complicating Pregnancy.
10. Sidney Boyd: Foreign Bodies in the Appendix.
11. Claude Wilson: Threadworms in the Appendix.
12. A. C. Hosford: Foreign Bodies in the Intestine.
13. R. C. Verley: Infant Fed with Barley Water and Cow's Milk.
14. Vaughan Harley: Boric Acid Poisoning.
15. Arnold Edwards: Acute Epididymitis from Muscular Strain.

3. Round Ligament Ventrisuspension.—Ivens employs the method of Gilliam with slight modifications and from the analysis of 100 consecutive cases concludes: 1. The operation is universally successful in suitable cases—those of patients in whom the round ligaments are not too attenuated. 2. There is little risk from the operation beyond that of the anesthetic. 3. As it causes no dystocia it is strongly indicated in young women. 4. There is no tendency to relapse after labor or abortion. 5. Owing to the subsequent hypertrophy of the round ligaments the operation is a valuable adjunct to a perineorrhaphy in cases of uterine and vaginal prolapse.

7. Parenchymatous Nephritis. — Watson analyzes 100 cases of nephritis of the parenchymatous form, some being acute and many chronic with or without acute exacerbation, with a view of finding some causative factor. There is no evidence that the acute infectious diseases have any important bearing upon the etiology of the condition, for they are no more frequently found as preceding affections than the laws of general incidence of these ailments would lead one to expect in any series of persons. Alcohol, exposure to cold and damp, excessive muscular strain, fevers, and sepsis are certainly frequent factors in the development of acute exacerbations of a preexisting nephritis, but there is little or no reason for thinking that they are in any way capable of causing a true parenchymatous nephritis. In the case of lead, however, there is some evidence in favor of its being at times a causative agent, but even this seldom causes the parenchymatous form of the disease. With the exception of lead, none of the factors mentioned above is more than a contributing cause of nephritis, or does more than determine the development of symptoms when the kidney is already diseased. The symptoms of nephritis developing in an adult, regardless of whether the clinical manifestations suggest an acute or a chronic process, indicate in the vast majority of instances a chronic change in the kidney. Of the actual cause of this chronic change practically nothing is known. Cases of true acute nephritis, if they are not fatal, are followed almost always by complete recovery. Chronic nephritis is a progressive disease and, after the exciting cause of the exacerbation has passed off, there is still a definite clinical picture of the disease which ultimately will progress to death.

12. Foreign Bodies in the Intestine.—Hosford reports the case of an insane patient in whom developed symptoms of intestinal obstruction, and who passed by rectum the following list of articles: Fourteen pieces of wood, ranging up to 3.25 inches in length; 12 pieces of stone up to two inches by one inch; 20 pieces of cloth up to twelve inches by one inch; 10 pieces of cotton neckties, to thirteen inches by 1.5 inch; 40 pieces of blanket, to thirteen inches by 1.5 inch; 19 pieces of fustian and corduroy, to twelve inches by one inch. In addition there were 13 buttons of various sizes, 5 match sticks, linen tape, shoe strings, a sharp piece of a broken clay pipe, rolled up paper, several large pieces of coal, and a number of other smaller articles. All of these were passed within twenty-four hours. He had another attack after being under strict guard for a month so that he could not obtain a supply of material to swallow. From this he died and at the necropsy similar foreign material in nearly as great quantity was removed from his intestines.

15. Epididymitis from Muscular Strain.—Edwards gives the details of two cases of acute epididymitis resulting from severe muscular effort. Most careful examination of the urine, prostatic secretion, and a thorough urethroscopic inspection of the entire urethra in each case completely excluded the possibility of a gonorrheal infection, either acute or chronic. The condition has been reported before and has been attributed to the sudden violent contraction of the cremaster. This muscle too weak to do this and the explanation does not suffice. The explanation is to be found in the anatomy of the veins supplying the cord and testicle. They are long and have few valves. Marked increase in the pressure in them, due to forced expiratory effort in the course of violent strain, together with the actual pinching off of their outlets at the ring, would be sufficient to cause a rupture of some of their smaller branches. This accords with the history of slow development of the condition when it results from strain.

LANCET.

April 13, 1912.

1. H. G. Adamson: Significance of Skin Eruptions (*Lecture II*).
2. A. C. Inman: Secondary Infections in Pulmonary Tuberculosis.
3. B. T. Lang: Corneoscleral Trephining.
4. David Watson: Treatment of Condylomata Acuminata.
5. E. T. Tallow: Three Consecutive Cases of Carcinoma of the Jejunum.
6. H. T. Thompson and J. Sinclair: Telegraphists' Cramp.

1. Significance of Skin Eruptions—Adamson continues his paper with a consideration of toxic eruptions. Histological findings show that the toxic erythemas and urticarias are inflammatory in nature and not merely vasomotor reactions. The reaction is in response to injury by a toxic substance and it is natural to suppose that it is of the nature of a defensive response, just as has been shown previously to be the case in other forms of skin disease. A close comparison of these forms of skin eruptions with certain of the phenomena of anaphylaxis has led to the view that these eruptions are in fact but anaphylactic responses to foreign proteids. The urticarias arising in certain individuals after the ingestion of one or another food

can be best explained upon the theory, that by ingestion at some previous time of similar proteids they have become hypersensitive to them. The initial absorption of the proteids in a toxic form may have occurred during an attack of digestive disturbance. This explanation is borne out by the observations that the condition increases and the susceptibility becomes greater as a result of succeeding attacks, and the adoption of a vegetable diet frequently is rapidly curative. Further, along this same line, it seems highly probable that the inflammatory reaction to various chemical and physical irritants is a reaction to toxic bodies produced by destruction of the cells, or damage to them. If this is the case, it is easy to understand why the body should react immediately to the common hurtful agents, like burning; less quickly to the less common agents, as cold; and still less quickly to the very uncommon injuries, as the x ray. The same explanation applies equally forcibly to certain of the drug eruptions; they cause destruction of cells and there is an anaphylactic response to the liberated toxic proteid. Such other eruptions, as the tuberculides, probably arise from toxines carried from distant foci by the blood. There is a strong temptation to explain other eruptions, as eczema, psoriasis, lichen, etc., as being due to toxines resulting from faulty metabolism, but there is at present little if any direct evidence that this is the case. The toxic origin of these eruptions is thought to be probable, either because the microbic or nervous origin seems unlikely, or because the clinical features are best explained by a toxic origin. Although a toxic origin seems probable for a vast number of skin eruptions, no pretense can be made that this idea supplies a complete solution of the question of the causation of these affections.

2. **Secondary Infections in Pulmonary Tuberculosis.**—Inman has made bacteriological studies upon the sputum and blood of a number of patients having pulmonary tuberculosis. For convenience he divides the cases into: 1. "Resting febrile," cases with fever when at rest in bed. 2. "Ambulant febrile, resting afebrile," a transition stage. 3. "Ambulant afebrile," without fever when taking walking exercise. 4. "Working afebrile," patients performing hard work. He concludes: 1. In nearly every case of open tuberculosis of the lungs the tubercle bacillus is the predominant infecting agent. 2. Blood examinations have shown that secondary infections do occur. In all cases "resting febrile" there was evidence of such infection. Even in the "ambulant afebrile" such infection could not be excluded. 3. The temperature chart alone cannot determine the presence or absence of secondary infection. 4. Consideration of the morbid anatomy of advanced tuberculosis, and of the uncontrolled autoinoculations spontaneously occurring in such cases, precludes the hope of a successful issue from specific treatment directed against the secondary infections. In afebrile cases the conditions are more encouraging.

4. **Treatment of Condylomata Acuminata.**—Watson finds the use of lactic acid to be the only treatment which is effective and free from objection. In the case of pedunculated growths, he cuts them off with scissors and applies pure lactic acid to the base after the bleeding has stopped. Other growths are best treated by the continuous use of a wet dressing of one per cent. lactic acid, or the occasional application of stronger solutions. Where there are several large masses each should be isolated by surrounding it with lint soaked in 0.5 to one per cent. acid. In addition, the base of the growths may be touched every few days with the pure acid. When there is a large field of small growths the use of wet dressings is the best means of applying the acid. The dressings are changed as frequently as the discharge necessitates and the parts bathed with a mild antiseptic solution. By this treatment the largest growths wither and fall off, small ones cease to grow, and cure results without the formation of cicatrices and without pain. The sole possible disadvantage is the occasional occurrence of an erythematous eruption over the area of application and thereabout. This may be prevented by occasional intermission of treatment for a day or two, and by the free use of petrolatum on the healthy parts.

BULLETIN DE L'ACADÉMIE DE MÉDECINE.

March 26, 1912.

1. MATIGNON and DÉJERINE: Catalepsy Post Mortem. Witnessed on the Battlefield.
2. L. PICQUET and DELORME: Lung Decortication.
3. A. PONCET and M. PIERY: Virulence and Contagiousness of the Sweat of Tuberculous Patients.

2. **Lung Decortication.**—Picquet, through Delorme, reports the case of a woman, fifty-seven years of age, in whom empyema followed a stab wound. Low thoracotomy with rib resection posterior to the mid axillary line, and daily irrigations with hydrogen peroxide solution proving ineffective in arresting the flow of pus, lung decortication was performed three and a half months after the beginning of the pleural inflammation. An injection of bismuth had revealed the presence of a cavity only of moderate size, but at operation the pleura covering the lung was found several centimetres thick. As soon as this shell had been removed, the lung expanded and even prolapsed from the wound, thus showing that its elasticity had remained unaffected. Delorme reviews the experiences of Dowd, Ferguson, and Lund with this operation, and states his belief that its dangers and difficulties have been greatly exaggerated.

3. **Sweat of Tuberculous Patients.**—Poncet and Piery prepared the skin of tuberculous patients as though for a surgical procedure, or else gave a sulphur bath, lasting half an hour, and a thorough washing with soap, then produced sweating, either by placing the patients in a special hot air chamber, or by means of electric light applications to the area diseased. The resulting sweat was collected, centrifuged, and at once injected subcutaneously into guineapigs; these were killed six weeks later, their viscera examined, and reinoculations into other pigs made. The cases tested included nine cases of "open" pulmonary tuberculosis, five of which yielded positive results on inoculation; two of "closed" pulmonary tuberculosis, one of which was positive, and thirteen of "closed" surgical tuberculosis (joint cases, osteitis, adenitis, peritonitis, etc.), four of which were positive. The sweat of tuberculous patients, protected from all outside contami-

nation, is virulent and contains tubercle bacilli. Sweating in the tuberculous represents an attempt to eliminate the bacilli, and the sweat is dangerous as a medium of transmission of the disease, which may thus spread either by direct contact with the skin or indirectly through contact with the clothes or bed coverings of the patient. Special prophylactic measures, such as disinfection of the patient's clothing, and particularly the provision of a separate bed for him, are advisable. Conjugal tuberculosis best finds its explanation in the presence of tubercle bacilli in the sweat.

PARIS MÉDICAL.

April 13, 1912.

1. Cluzet: Use of Condenser Discharges in Electrodiagnosis.
2. A. Bacdoin and H. Français: Researches in Clinical Dynamometry.
3. Dopter: Bacteriological Analysis of Pharyngitides.
4. Jean Heitz: Tabes in Brother and Sister.

4. Tabes in Brother and Sister.—Heitz has observed that all cases of this kind are due to inherited syphilis. Four children of the same parents have been noted as tabetic. The facts seem to support the theory of Marie, that there is a kind of treponema specially virulent for the nervous system, but it may be that certain families present a specially receptive soil, for brother and sister may be infected from different sources. A case of the latter kind is cited. The sister was the wife of a man who infected her with syphilis; she became tabetic, although the husband did not. Heitz's moral is that we might well examine carefully the relatives of tabetic subjects for the stigmata of tabes incipiens and the Wassermann reaction.

PRESSE MÉDICALE.

April 10, 1912.

1. Kirmisson: Essential and Symptomatic Genu Valgum.
2. Pierre Bovert: Cerebrospinal Fluid in Pellagra.

April 13, 1912.

3. Aug. Brocka: Sprain and Tuberculosis of the Foot.
4. Alfred Martinet: Value of Divers Modern Systems of Examination of the Circulatory System.
5. G. Caussade and G. Leven: Small Thorax and Large Abdomen in So Called Emphysematous Subjects.
6. A. Darier: Antistreptococcic Serotherapy per Os and Locally.

2. Cerebrospinal Fluid in Pellagra.—Boveri points out that pellagra is one of the causes of severe nervous disturbance, as well as of digestive and dermal troubles. Hallucinations, delirium, and mania are among the manifestations. There is no doubt of the connection between pellagra and poor Indian corn meal. In all the subjects examined, the cerebrospinal fluid was clear, limpid, and transparent as spring water; the endorrhachidian tension was sometimes altered, sometimes not. When raised thirty centimetres, it was accompanied by albumin and lymphocytosis, and the percentage of globulin was increased. Leucocytosis is noticed whenever pellagra poison really attacks the meninges. The density and viscosity of the fluid are increased. No microorganisms are found. Injection into rabbits gave negative results, without phenomena of excitement or convulsions, but, on the contrary, depression. In the so called typhoid pellagra, the nervous symptoms dominate the picture, with delirium and loss of consciousness, carphology, and facial contortions. In these cases Bovari invariably found hypertension of the fluid, recalling the fact that meningitis presents a clinical resemblance to typhoid pellagra. There may be either a pellagrous tabes or a paraplegia, the latter being more common. Boveri theorizes in conclusion that, as the subjects of pellagra are usually hard working men who put great strain on the lower extremities, there must result a special susceptibility of the central nervous system to pellagrous poison, an abiotrophy, to use Gowers's term. Furthermore, a tendency to many other kinds of nervous disturbance probably follows overwork of the limbs.

3. Sprain and Tuberculosis.—Broca recalls that we know now that surgical tuberculosis, osteoarticular and other, is not strictly speaking "local," but hematogenous, due to embolic localization of colonies of bacilli from more or less distant foci. He details a case of a boy in whom tuberculosis of the ankle developed after a strain, but in whom it was impossible to elicit a tuberculous history, either personal or in the parents. The ankle is improving, but Broca is most guarded in his prognosis.

5. So Called Emphysema.—Caussade and Leven aver that emphysema is frequently only apparent in certain dyspneic dyspeptics, examination of whom will disclose a small thorax and a large abdomen. This fact they have elicited by clinical study and radioscopy. The thorax is made smaller by the rising of the diaphragm, due to the excessive abdominal mass, which results from gas and aerophagia and the exaggerated tension of the abdominal parietes the muscular coat of which is doubled by a thick coat of fat—all such subjects being obese. The writers wish particularly to direct the attention of army physicians to the false emphysema, which is readily curable, whereas the genuine is not.

SEMAINE MÉDICALE

April 17, 1912.

F. Lejars: Fibrous Stenosis of the Small Intestine.

Fibrous Stenosis of the Small Intestine.—Lejars points out that the diagnosis of stenosis is not difficult from the symptoms of dullness, false ascites, colic, relieved by discharge of gas or liquid, characteristic sounds, appearance under x ray, etc.; it is the kind of stenosis that offers difficulty of determination. Apart from those due to tuberculosis and cancer, there are three kinds of stenosis, traumatic, ulcerative, and those following some mechanical lesion, such as invagination or hernia. Enterectomy, taking everything into consideration, is the best operation.

MEDIZINISCHE KLINIK.

March 17, 1912.

1. A. Schüle: Relative Insufficiency of the Stomach.
2. Edmund Wertheim: Importance, Diagnosis, and Treatment of Pus Formations in the Cavities of the Nose.
3. Quensel: Psychosis from Carbon Dioxide Intoxication.
4. E. Braendle: New Method of Treatment of Gonorrheal Epididymitis and Arthritis.
5. Rissom: Salvarsan in Syphilis.
6. Tojbin: The "Cytax," the First Counting and Adding Machine in the Service of Medicine.
7. L. Boros: Cylindroids in the Urine.
8. Stolpe: Deodorizing and Disinfecting Effect of Albin Powder.
9. E. F. Lesser: Life without Oxygen.
10. B. Zoepfritz: Acute and Chronic Symptoms of Catarrh of Cervix of Uterus.

March 24, 1912.

11. Goldscheider: Syphilitic Diseases of Aorta.
12. Edmund Wertheim: Importance, Diagnosis, and Treatment of Pus Formations in the Cavities of the Nose.
13. A. Stieda and P. Zander: Chlorethyl Intoxication and Its Importance in Practice.
14. Louis E. Merian: Reproduction of Carbonic Acid Snow and Use in Dermatology.
15. Gustav Einstein: Differential Diagnosis of Carcinoma of the Stomach and Simple Apepsia.
16. J. Ruhemann: Salvarsan and Latent Microbism.

17. Pickenbach: Disinfection of Skin with Tincture of Iodine.
18. Adolf Galisch: Sanatorium for Children with Whooping Cough.
19. H. Boruttau: General Laws of Electrical Excitation.
20. Hoffendahl: Pyorrhœa Alveolaris.

March 31, 1912.

21. Dominik Pufovac: Surgical Treatment of Purulent Peritonitis Complicating Appendicular Inflammation.
22. Hans Rietschel: Summer Mortality of Nurslings.
23. H. Stursberg: Differential Diagnosis of Acute Leuchemia and Sepsis.
24. Von Eicken: Submucous Septum Resection.
25. Fritz von Gutfeld: Wassermann Reaction of Salvarsan in the Blood Circulation.
26. Stephan: New Treatment of Varicose Ulcers.
27. Max Sweythurm: "Hynerol."
28. W. Wangerin: Hibernation of Our Plants.
29. H. Boruttau: General Laws of Electrical Excitation.
30. R. Bing: Treatment of Neuralgias.

4. New Method of Treatment of Gonorrheal Epididymitis and Arthritis.—Braendle speaks of the treatment of gonorrheal epididymitis and arthritis with electric "colloid metals," electrargol and fulmargin. He states that these colloid metals, which are produced electrically, represent a solution which contains a great number of ultramicroscopical particles of metal in suspension. In contradistinction to the chemically produced collargolen these preparations never contain any impurities. They are produced by the action of electrical sparks between two silver plates suspended in distilled water. This electric arc produces a very minute powdering of the metal. The solutions must be prepared isotonically. Braendle recommends the injection of ten c.c. of one of these preparations intramuscularly. In severe cases of epididymitis one c.c. of electrargol may be injected into the epididymis. Chronic cases of gonorrheal arthritis will be beneficially influenced by Röntgen ray treatment.

11. Syphilitic Diseases of the Aorta.—Goldscheider concludes his article by saying that syphilitic disease of the wall of the aorta, which finally causes aneurysm, is beneficially influenced through specific treatment; small aneurysms will show a retrogression, while in medium aneurysms a diminution will occur. A temporary suspension of the growth of the aneurysm can also be observed, but large aneurysms are hardly influenced. Treatment with iodine alone will not influence the syphilitic aneurysm. His experience with salvarsan is not large enough to come to a conclusion and he does not wish to decide whether mercury alone or a treatment of mercury with iodine shows more results. Hand in hand with the specific treatment, the general health of the patient must be favorably influenced by sensible measures. Permanent results can be produced only if the treatment is carefully carried through and repeated. The author found that the majority of aneurysms of the aorta are caused by syphilis.

13. Chlorethyl Intoxication and Its Importance in Practice.—Stieda and Zander have used, during the past ten years, chlorethyl for anesthetic purposes in minor operations and are greatly in favor of it. The narcosis is brought up only to the first stage, and as the drug is put up in conveniently small tubes, and as it does not make necessary a large armamentarium, it is the anesthetic *par excellence* for the general practitioner. The price is also an advantage.

18. Sanatorium for Children with Whooping Cough.—Galisch is not in favor of collecting children suffering from whooping cough, but thinks that isolation would be more advisable, especially with outdoor living.

20. Pyorrhœa Alveolaris.—Hoffendahl seems to think that pyorrhea is not a symptom, but a disease in itself. As a specific bacillus has not been found the author believes that it is the result of a mixed infection. The treatment is very prolonged and consists in removal of tartar, keeping the socket and the root perfectly aseptic, and finally, if necessary, extraction of the tooth. The article stands thus in peculiar contrast to late works on the disease.

26. New Treatment of Ulcers from Varicose Veins.—Stephan describes his method of treatment of ulcers of varicose veins as follows: The diseased leg is suspended at an angle of forty-five degrees to the horizontal position of the body. The ulcer is then cleaned and covered with gauze or linen. A bandage is then put over the calf of the leg, beginning with the toes, similar to the Esmarch bandage, but is to be removed immediately after its application. The ulcer is then again treated aseptically and the necessary bandage applied. Over this is then put an elastic stocking. The only contraindications are fresh, newly developed thromboses or new inflammations.

WIENER KLINISCHE WOCHENSCHRIFT.

March 14, 1912.

1. Wagner von Jauregg: Diseased Sense Impulses (*Triebhandlungen*).
2. Hans Finsterer: Bradycardia in Ruptures of the Liver.
3. St. Bernheimer: Indicanuria and Diseases of the Eye.
4. Siegmund Kreuzfuchs: Röntgen Observations in Ulcer of the Duodenum.
5. Otto Podzahradsky: Monamniotic Twins.
6. R. Goldmann: Double Sided Paralysis of the Acoustic Nerves after Use of Salvarsan.

March 21, 1912.

7. W. Falta, Kriser, and L. Zehner: Treatment of Leuchemia with Thorium X.
8. E. von Knaffl-Lenz: Effects of Radium Emanation.
9. Eduard Miloslavich: Pathogeneses of Appendicitis.
10. Viktor Blum: Topical Diagnosis of the Kidneys through Examinations of the Functions.
11. Hermann von Schrötter: Bronchoscopy with Foreign Bodies.
12. Josef Gobiet: Incarcerated Hernia Cured by Operation.

5. A Case of Monamniotic Twins.—Podzahradsky says that the literature of monamniotic twins is not large. Up to 1904, Holzapfel collected forty-four cases, to which since then are to be added observations of twelve more authors. The case described by the author ended successfully, the mother being a woman forty-four years of age, who was a xvi para. She had given birth to twins twice before the present case. The pains of the present case were regular, the head of the child presenting itself with a cord bound around the neck. As the midwife was not able to disengage the head she cut the cord after careful, double tying. After birth the cord was found to be intact. It was therefore rightly judged that she had without knowing it cut the cord of the second child, which was not suspected. The author, who in the meantime had appeared, quickly extracted the second child, which was born about ten minutes after the cord had been cut; it was born asphyxiated, but was soon brought back to life again. The mother and both children are well. The author then reviews the theories of monamniotic births.

ZENTRALBLATT FÜR CHIRURGIE.

April 6, 1912.

1. Payr: Crushing Forceps for the Stomach and Intestine, and Instrumental Aids for the Transverse Resection of the Stomach.
2. D. G. Zesas: Rendering Secure Large Hernial Orifices by Means of the Transplantation of Free Periosteal Flaps.

ZENTRALBLATT FÜR GYNÄKOLOGIE.

March 16, 1912.

1. I. E. Geiser: Complications after Ventral Fixation of the Uterus.
2. Oskar Klauber: Tentamen Abortus Provocandi Deficiente Gravidilate Uterina.
3. K. Czerwenka: A Proposal for Prevention of Vaccine Metastases in Paravaginal Cuts.
4. L. Aubert: Technique of Hysterotomies Made for Drainage in Laparotomies.

March 23, 1912.

5. O. Büttner: Epithelium in the Isthmus of the Uterus.
6. P. Hüssy: Six Cases of Puerperal Fever with Interesting Bacteriological Findings.
7. K. Czerwenka: Vaginal Fixation of the Uterus after Abdominal Celiotomy.
8. K. Czerwenka: Needle Forceps for Gynecological Purposes.

March 30, 1912.

9. H. Rotter: Method of Curing Narrow Pelvis.
10. A. Bauereisen: Bacteriological Examination before and during Gynecological Operations.
11. L. Heusner: New Operation for Retroflexion of the Uterus.
12. R. Bacmer: Gynecological Bandage for Röntgen Rays.

2. Artificially Produced Abortion.—Klauber reports a case in which a woman injected a corrosive sublimate solution into the uterus to produce an abortion. In doing so she used a syringe holding only a few cubic centimetres, with a long point, and by inserting the instrument perforated the wall of the uterus. The point entered the parametrium and injured the left ureter, corroding the posterior wall of the vagina and rectum, so that blood, urine, and feces entered the peritoneum. The patient died from peritonitis, and the post mortem examination showed extrauterine gestation.

5. Epithelium in the Isthmus of the Uterus.—Büttner refers to a previous article in the *Zentralblatt* which we reviewed. He again makes the statement that it is wrong to assert that the epithelium of the uterus can be divided into three distinct zones, as the epithelial zone between the corpus and the cervix is variable.

9. Method of Curing Narrow Pelvis.—Rotter describes a method by which he is able to change a narrow pelvis into a normal one, the indication being the contraction in the line of the conjugata vera, where he gives the lowest limit as seven centimetres. The operation is a prophylactic one and is to be undertaken only in those cases in which the calibre and the form of the pelvis have been demonstrated, not only by measurements, but also by observations during previous labors. He describes the operation as a very simple one without technical difficulties. The bone wound is unimportant and the prognosis for primary healing very good.

ROUSSKY VRATCH.

February 18, 1912.

1. N. P. Krawkoff: Smart Weed (Polygonum Hydropiper) in Internal Hemorrhages.
2. S. V. Levasheff: Specific Treament of Pulmonary Tuberculosis.
3. V. P. Obrazsoff: Cardiac Neuroses.
4. P. A. Katz: Injury of Macula Lutea by Stone Hitting the Eye.
5. A. N. Natanson: Causation of Injuries of the Optic Nerve; Case of Evulsion.
6. M. O. Schajkevitch: Dementia Præcox and Clinical Picture of Manic Depressive Attacks.
7. O. O. F. Den: Diagnosis of Adhesive Peritonitis by Röntgen Rays.
8. G. A. Kolosoff: Ergotism.

February 25, 1912.

9. V. M. Burlakoff: Professor V. A. Manassein in His Student Days.
10. A. A. Anufrieff: Significance of Hegar's Sign in Early Months of Pregnancy.
11. S. A. Pisemsky: Investigation of Vasoconstrictors and Vasodilators.
12. F. M. Pikin: Internal Hernias.
13. A. C. Weinstein: Two Peculiar Forms of Ptosis of the Upper Eyelid, Atonic and Fatty.

1. Smart Weed.—Kravkoff investigated the medicinal properties of smart weed in cases of hemorrhage from the lungs, bladder, stomach, hemorrhoids, and uterus. The administration of thirty to forty drops of the fluid extract, three times daily, gave very favorable results, particularly in menorrhagia, metrorrhagia due to fibroids, and dysmenorrhea. In the latter the drug acted also as an anodyne. A number of pharmacological experiments failed to disclose the active principle. The author supposes that the drug affects the coagulability and the viscosity of the blood; he urges further clinical study of this common weed.

2. Specific Treatment of Phthisis.—Levasheff employed methylene blue and fuchsin in the treatment of malaria with very favorable results. In a few cases of mixed infection of malaria and tuberculosis, he observed an improvement in the tuberculous process, and this led him to experiment with these agents in cases of tuberculosis. The results obtained were extremely favorable, but were temporary, owing to the fact that most patients could not take the methylene blue or fuchsin in large doses. When Bend announced the preparation of tryparosan, the author selected this drug for his experiments, employing it in all stages of the disease. Owing to the irritating properties of the crystals of tryparosan on the gastric mucosa, the drug was mixed with some bland powder, as acacia or sugar of milk. In some cases a small amount of cocaine was added. The dose was from 0.5 to one gramme, from four to eight times daily, beginning with the smaller dose which was gradually increased. The action of the drug seemed to be almost specific; fever subsided, the sputum was diminished in amount, the râles disappeared, and the patients gained in weight. Two cases of advanced tuberculosis are described in detail.

7. X Rays in Adhesive Peritonitis.—Den calls attention to the frequency of visceral adhesions resulting from attacks of peritonitis, which cannot be diagnosticated clinically but which are detected by means of x rays. He describes two cases of hourglass stomach detected by means of the x rays and relieved by operation.

10. Hegar's Sign.—Anufrieff presents the following conclusions, based on a study of his own cases and those gathered from the literature: 1. During the first three months of pregnancy there are undoubtedly softening and compressibility of the lower segment of the uterus, but a compressibility of only a few millimetres is present in about half the cases. 2. Prolonged and persistent determination of the degree of softening, particularly by medical students and in the clinics, may lead to an abortion. 3. When other signs of pregnancy are clearly defined, in the first four to eight weeks, there is no need to look for Hegar's sign. This should be borne in mind particularly in case of tendency to miscarriage, irritability of the uterus, and the general nervous system. 4. Hegar's sign may be regarded as presumptive, and not positive or pathognomonic, for the reason that it is observed also in intramural and telangiectic myomata which occur above the cervix, and in hemometra and hydrometra. 5. In doubtful cases, when there is

an enlargement of the uterus accompanied by hemorrhages, as in pregnancy with metritis, myoma without pregnancy, myoma with developing or arrested pregnancy, retention of a dead fetus, the presence of Hegar's sign should not be considered conclusive, and a further study of the case should be made. 6. The diagnostic rôle of Hegar's sign in the early months of pregnancy is limited to a few cases; the sign while helpful, is secondary; and to elicit this sign in cases of threatened abortion is even harmful.

11. **Vasomotor Drugs.**—Pisemsky describes a method of studying the effects of drugs on the circulation of a rabbit's ear which is removed from the head. He found that the bloodvessels of such ears preserve their vitality from two to seven days.

12. **Internal Hernias.**—Pikin discusses retroperitoneal hernias and reports an unusual occurrence of hernia of the small intestines between two layers of mesentery. The patient, a woman twenty-seven years old, suffered for about a year from periodic attacks of abdominal pain accompanied by vomiting. During the last attack, an operation was performed disclosing the hernia. The patient made an uneventful recovery.

13. **Ptosis.**—Weinstein reviews the literature and reports a case of ptosis adiposa, drawing the following conclusions: 1. The study of both forms of ptosis (atrophic and fatty) is the product of the Vienna school (Beer, Sichel, Arlt, Fuchs). The first comprehensive and accurate description of both forms was given by Sichel, to whom belongs the credit of establishing the relation between the two. 2. Atrophic ptosis is the result of a local atrophic process, the causes of which remain obscure. 3. Fatty ptosis is merely another form of atrophic ptosis, being brought about by the extrusion of the fatty tissue under the skin of the eyelid. This extrusion of the fat occurs as a result of the extension of the pathological process to the ocular diaphragm. 4. The question of the existence of a true ptosis adiposa, i. e. a form which develops as a result of hypertrophy of the subfascial fat, is still open. 5. If the atrophic process, or the process of relaxation, extends to the attachments of the lacrymal gland, ptosis of the latter may take place.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

March, 1912.

1. Joseph H. Pratt: Functional Diagnosis of Pancreatic Disease.
2. Beverly R. Tucker: Pellagra in Its Relation to Neurology and Psychiatry.
3. Nathan Jacobson and Charles D. Post: Gastric or Intestinal Hemorrhage as an Early Manifestation of a General Toxemia.
4. Charles G. Kerley: Management of Typhoid Fever in Children.
5. A. W. Williams: Vaccination against Typhoid in the United States Army.
6. John A. Hartwell and J. P. Hoguet: Experimental Study of High Intestinal Obstruction.
7. William G. Spiller: Loss of Emotional Movement of the Face with Preservation or Slight Impairment of Voluntary Movement in Partial Paralysis of the Facial Nerve.
8. F. S. Meara and Malcolm Goodridge: Relationship between Erythema Nodosum and Tuberculosis.
9. Horst Oertel: Changes in the Elastic Tissue of the Pelvis of the Kidney, and Their Relation to Hydronephrosis.
10. T. Homer Coffen and Charles G. Heyd: Thromboangitis Obliterans.
11. Clifford B. Farr and William H. Welker: Effect of Caffeine on Nitrogenous Excretion and Partition.
12. William Lerche: Cardiospasm; Treatment and the Use of the Esophagoscope for Examination.

1. Functional Diagnosis of Pancreatic Disease.—Pratt remarks that, although disease of the pancreas is not infrequent, disease of the gland with total exclusion of its secretion from the intestine is rare—scarcely two dozen cases reported in the literature—which compels us in our clinical study of pancreatic disease to consider a diminution of pancreatic secretion as well as its total suppression. The writer describes the technique used by him in the clinical study of cases of suspected pancreatic disease, which includes the test diet of Adolf Schmidt, macroscopical and microscopical examination of the feces, the estimated absorption of fat and nitrogen, and the composition of the fecal fat, the effect of administering pancreas, the glutoid capsule and Schmidt's cell nuclei tests, the demonstration of trypsin in the stools and in the stomach contents, and by duodenal intubation, the determination of diastase in the feces and in the urine, and of lipase and ethereal sulphates in the urine, alimentary glycosuria, and Loewi's test. The writer concludes with the statement that pancreatic insufficiency, even of mild degree, can be recognized by the functional methods of diagnosis now available, but also observes that diminished or altered secretion may occur without appreciable anatomical changes.

2. Pellagra in Relation to Neurology and Psychiatry.—Tucker, after considering the neurological, nervous, mental, and psychiatrical symptoms, and the nervous and mental syndromes, is led to believe that although neither the nervous nor mental syndromes of pellagra correspond to any known nervous or mental disease, yet they are not sufficiently uniform to form a "true clinical entity, but appear to be due to the action of some general toxine or organism." In the matter of treatment the writer expresses his choice for hexamethylenamine, in doses of ten grains, four times daily. Salvarsan has been found almost a specific by King and Crowell, but has not been tried by him. With drug treatment he recommends forced feeding and residence in a far northern climate. In conclusion he states that an appropriation of $50,000 will be asked for from the next Congress, for the purpose of sending workers into the field to study the disease and to care for the pellagrins in suitable hospitals, as the disease is spreading in the southern States, and extending north and west, and threatens to be a national calamity.

3. Gastric or Intestinal Hemorrhage as an Early Manifestation of a General Toxemia.—Jacobson and Post think that certain microorganisms, particularly those having the characteristics of the pneumococcus are causative agents in severe hemorrhages in various parts of the body, and that gastric and intestinal hemorrhage may be the first evidence of such toxemia.

4. Management of Typhoid Fever in Children.—Kerley says the ill child requires food of a definite nutritional value in assimilable form. Feeding in sickness, as well as in health, is both a science and an art, and in the former the art is of equal importance with the science. At the onset of every illness the writer discontinues milk and so called solid foods, because in sickness the child's capacity for food is lessened, and, further, it is our business to find out to what degree it is lessened. Sufficient laxative is given to produce a few watery evacuations. As a temporary diet, flavored gruels, and perhaps one of the dried milk foods, are given until the diagnosis is made (in typhoid rarely under

a week of observation). The permissible food articles for a child of five years includes gruels (usually two ounces of cereal to the pint of water), made palatable and their caloric value increased by the addition of broths, milk sugar, or sherry. Cereals, such as rice, farina, and cream of wheat, very thoroughly cooked, are served with butter and sugar (cane or malt), or with maple syrup and butter. Milk foods are seldom given oftener than once daily —matzoon, kumyss, Eiweiss Milch of Finkelstein, and skimmed milk, the latter always mixed with gruel and rarely oftener than once daily. The whites of two, three, or four eggs, frozen with orange juice and cane sugar and served as sherbet, are given daily. Lemonade and weak tea, sweetened with cane sugar, are given between the regular feedings. Early in the convalescence the patient is allowed scraped rare steak, custard, soft boiled egg, and junket, the feeding being light during the first few days after which freer feeding is allowed. Feedings are given once in three or four hours, in quantities that the child will be able to digest. Tympanites is an indication of danger which is avoided by this diet, while on the milk diet it is the rule. Drugs are only used to keep the number of evacuations between two and four in twenty-four hours. Hypertherma is controlled by the cool wet pack (95° F.) over thorax and abdomen.

7. **Loss of Emotional Movement of the Face in Partial Paralysis of the Facial Nerve.**—Spiller calls attention to the fact that the voluntary and emotional movements of the face are independent of each other, and one form may be lost without the other. This paralysis of one form of facial movement without impairment, grave or slight, may be caused by a lesion of the facial nerve, or may be a pseudoparalysis from deficient innervation. This latter may not infrequently be seen in persons who in smiling or speaking innervated one side of the face so much less than the other that there was apparently a unilateral paresis, and yet when they were asked to show their teeth the corners of the mouth were equally drawn up on the two sides. Spiller reminds us of the importance of recognizing this form of dissociation of facial movement which may be the first sign of impairment of the facial nerve from pressure of a cerebellopontile angle tumor, and in connection with slight nerve deafness may be of value in localizing the lesion. The impairment of emotional movement may be caused, in part at least, from the pressure effects of the tumor upon the medulla oblongata and pons. He is unable to discover whether or not the impairment of emotional movements of the face occurs in most cases of tumor of the cerebropontile angle.

11. **Effect of Caffeine on Nitrogenous Excretion and Partition.**—Farr and Welker conclude that in small medicinal dose, or in the form of three cups of coffee, caffeine affected diuresis but slightly, although the purin nitrogen was increased (due to the elimination of the caffeine), while the amount and distribution of the nitrogen were not disturbed, thus showing that caffeine exerts no influence, in the doses given, on nitrogen metabolism in man. The caffeine did not apparently lessen tissue waste, and large doses would cause no marked effect upon nitrogen metabolism.

ARCHIVES OF INTERNAL MEDICINE.

March, 1912.

1. F. H. McCrudden and H. Fales: Studies in Bone Metabolism: Etiology of Nonpuerperal Osteomalacia.
2. L. G. Rowntree and J. T. Geraghty: Phthalein Test: Study of Phenolsulphonephthalein in Relation to Renal Function.
3. Herman O. Mosenthal: Pancreatic Diabetes Mellitus.
4. I. Adler and O. F. Krehbiel: Orthodiascopic Observations Concerning a Certain Type of Small Heart and Its Relations to Some General Systemic Affections.
5. Richard M. Pearce: Influence of Kidney Extracts on the Blood Pressure.
6. G. H. Whipple: Hemorrhagic Disease—Septichemia, Melæna Neonatorum, and Hepatic Cirrhosis.

1. **Etiology of Nonpuerperal Osteomalacia.**—McCrudden and Fales had previously been led, by a study of the etiology of osteomalacia, to the conclusion that the starting point of the disease is an increased catabolism of bony tissue due to a need of calcium salts elsewhere, and that the tendency of physiological activity to overproduction which is responsible for the production of antitoxines and acquired immunity is also an important factor in osteomalacia in leading to the long continued increased catabolism of calcium after the original need has ceased. The present communication concerns a rare case of nonpuerperal osteomalacia which offered an opportunity to test the soundness of the theory. The condition was one of osteomalacia following the appearance of multiple bony tumors. A complete metabolism experiment of ten days' duration, in which the intake and outgo of nitrogen, calcium, magnesium, sulphur, and phosphorus was determined, showed a definite loss of calcium and retention of all other elements. The retention of sulphur and magnesium was greater in proportion than that of nitrogen and corresponded to a growth of tissue richer in these elements than any of the soft tissues—a tissue such as bone. The retention, moreover, taken together with the loss of calcium, is in accord with the conception of osteomalacia as a process in which the bone is undergoing metabolism, but in which the new bone laid down is an osteoid tissue, poor in lime salts, but richer than normal in magnesium. The bony tumors preceding the osteomalacia supported the conception that the starting point of the disease can usually, if not always, be traced to a demand for calcium salts, while the continued excretion of an excess of calcium when the bones really need this element suggests the importance of the physiological tendency to overproduction in bringing about the softening of bone.

2. **The Phthalein Test.**—Rowntree and Geraghty report an extensive experimental study covering various phases of the behavior of phenolsulphonephthalein in the system, with especial regard to the factors modifying its excretion. Its absorption following injection into the lumbar muscles is better than absorption from a gluteal injection, while the latter is superior to subcutaneous injection. Administration into the lumbar muscles is the method of choice. Experimentally those diuretics that stimulate the renal cells to increased activity cause some increased secretion of phenolsulphonephthalein, while those that act mechanically produce no increased secretion. Clinically, diuretics do not influence the phthalein output. Experimental evidence seems to indicate that the drug is excreted mostly by the tubules, but probably to a slight extent also by the glomeruli. The renal cells display a striking specificity in the excretion of

phenolsulphonephthalein. The drug is better adapted for use in a functional test than any drug previously employed, both on account of its early appearance in the urine, the rapidity and completeness of its elimination by the kidney, and the reliance to be placed on its findings. In cardiorenal cases it has proved of value in determining to what degree renal insufficiency was responsible for the clinical picture present. It has also been useful, not only in diagnosticating uremia from conditions simulating it, but in indicating that uremia was impending when no clinical evidence of its existence was present. It has proved of great value in revealing the true renal condition in cases of urinary obstruction, enabling the surgeon to select a time for operation when the kidneys are in the most favorable functional condition. In unilateral and bilateral kidney diseases the absolute amount of work done by each kidney, as well as the relative proportion, can be determined when the urines are obtained separately. Quantitative estimation of the amount of drug excreted is recommended. A Duboscq or Autenrieth-Königsberger colorimeter is used, but fairly correct estimations can be made by means of graduated cylinders. Sufficient sodium hydroxide (25 per cent.) is first added to make the urine decidedly alkaline, in order to elicit the maximum color; the urine is then diluted with distilled water to a known volume, and the color of a sample of the diluted urine compared with that of a standard solution of phenolsulphonephthalein of known strength. Quantitative estimations thus made are of great diagnosic and prognostic value in nephritis, revealing the degree of functional derangement whether the condition is acute or chronic.

3. **Pancreatic Diabetes Mellitus.**—Mosenthal reports an instance of the rare combination in a single patient of glycosuria, acidosis, and deficient fat and protein absorption. The beginning of diabetes in this case occurred ten months after a cerebral trauma, but the author does not believe the latter to have been the cause. The large volume of the stools, their fatty character, and great content of undigested muscle fibre, coupled with the absence of trypsin, pointed to a lesion of the pancreas resulting in deficient secretion into the intestine, while the glycosuria and acidosis indicated a lack of the pancreatic internal secretion. In the treatment of the case, pancreon—a pancreatic extract hardened with tannin—given in 0.5 gramme doses, three times a day, was without result, but sheep's pancreas taken raw and prepared as salad in fifty gramme portions, three times a day, caused a very marked improvement in the stools, which apparently returned to normal. The daily output of ammonia increased, however, from 1.7 grammes to 5.4 grammes, while that of the total acid derivatives as betaoxybutyric acid rose from 2.2 grammes to 32.1 grammes, an occurrence ascribed to the increased assimilation of fats resulting from pancreatic medication. The phenomena of acid intoxication were for a time so marked that the pancreas feeding had to be stopped. Later it was resumed, and at the same time measured amounts of carbohydrates were allowed. The patient regained strength and has been able to enjoy an outdoor life of moderate activity. The carbohydrate balance, however, appears little improved by the pancreatic medication, though the nutrition has not retrogressed. In employing pancreatic treatment in these cases acidosis may be guarded against by including sufficient carbohydrate and a minimum of fat in the diet, as well as by the use of sodium bicarbonate.

5. **Influence of Kidney Extracts on the Blood Pressure.**—Pearce found that extracts of the kidneys of dogs with experimental uranium and chromium nephritis, prepared at a time when the urine is free of the normally present depressor substance, have no pressor effect. It is thereby conclusively shown that the dog's kidney does not contain a pressor substance which is masked by the more powerful depressor substance. The assumption that the kidney furnishes a pressor substance of importance in the pathology of cardiovascular disease was not supported.

6. **Hemorrhagic Disease.**—Whipple presents a lengthy discussion of the factors concerned in the coagulation of the blood, normal and in certain abnormal conditions. He reports a case of septichemia in which there was a great delay in coagulation owing to the presence of a powerful antithrombin, and assimilates the condition present in this patient to that of a dog receiving a large intravenous injection of Witte's peptone. A fatal case of melæna neonatorum is also mentioned in which the blood was found to be entirely lacking in thrombin or prothrombin, as shown by the fact that, left in contact with the tissues for twenty-four hours, it remained fluid, though tissue juices are known to neutralize rapidly any antithrombin and can clot "peptone blood," which is very rich in this substance. Finally, Whipple refers to a case of hepatic cirrhosis in which the coagulation time was only three minutes, but any bleeding induced did not cease for twenty-five minutes, owing to the fragility of the clot formed, which was unable to check even capillary hemorrhage. This was accounted for by a great reduction in the fibrinogen, which was found to amount only to six per cent. of the normal. The blood changes and clinical picture in hepatic cirrhosis are similar to those present in dogs severely poisoned by chloroform anesthesia, and observations prove conclusively that the liver is an essential factor in maintaining the normal fibrinogen balance of the blood.

BRITISH JOURNAL OF DERMATOLOGY.

February, 1912.

1. E. Graves Fearnsides: Telangiectases in Children, in Association with Wasting and Protracted Diarrhea.
2. Douglas Freshwater: Etiology of Lupus Erythematosus (*To be concluded*).

March, 1912.

3. J. E. R. McDonagh: Our Knowledge of the Nature of Rheumatism: Its Theliomata.
4. Douglas Freshwater: Etiology of Lupus Erythematosus (*Concluded*).

2. **Lupus Erythematosus.** — Freshwater, after an exhaustive historical and descriptive account of the disease, discusses at length its relationship to tuberculosis, to the toxic erythemata, its association with feeble circulation and chilblains, etc., and comes to the following conclusions: 1. Characteristic examples of varieties of the disease differ in so many respects that it is difficult to believe that they have a common cause. 2. In a general way our knowledge of the etiology of dermatoses is still so

imperfect that we cannot affirm that all apparently alike eruptions are due to the same causes. 3. There is not sufficient evidence, clinical, histological, or bacteriological, to show that lupus erythematosus is always a tuberculous lesion. The hypothesis of its being due to the tuberculous toxine circulating in the blood and acting on the vessel walls locally is by no means satisfactory, as there are plenty of cases that do not show any signs of tuberculosis, and the disease is extremely rare compared with the frequency of tuberculosis. 4. The supervention of the disease on local injury to the tissues, as after frostbite, sunburn, etc., strongly suggests that a purely local cause is at times responsible for its occurrence. 5. A large number of cases suffer from some anomaly of the circulation; the skin on certain locations may be unable to bear the increased strain occasioned by a toxine circulating in the blood. 6. The exact nature of this toxine or toxines is uncertain. 7. The primary involvement of the bloodvessels, together with the symmetrical distribution of the eruption in most cases, favors the supposition that the causative agent acts through the blood stream. 8. The involvement of the flush area of the face that so frequently occurs in this affection, can be readily explained by the slowing of the blood stream and the diminished resisting power which the paretic vessels offer to the hypothetical toxine. 9. There is a close relationship between the disease and certain forms of erythema multiforme. 10. Lupus erythematosus is therefore probably a condition brought about by some injury to the skin in a subject with a feeble circulation, to which may be added some poison circulating in the blood, as the tuberculous or the rheumatic toxine or products arising from faulty metabolism of the liver or kidneys or from uterine disease or derangements of the digestive tract.

PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE.

February, 1912.

1. Philip Turner: Radical Cure of Inguinal Hernia in Children.
2. Hector Charles Cameron: Relative Value of Immediate and Delayed Laparotomy in Pneumococcal Peritonitis.
3. Herbert Bruce Low: Acute Poliomyelitis. Sixty-two Cases in and around Edinburgh in the Epidemic of 1910.
4. Howard H. Tooth and C. M. Hinds Howell: Progressive Myatrophy in Tabes Dorsalis.
5. Henry Briggs: Relative Size of the Uterus in Cases of Hydatid Mole.
6. Sir Victor Horsley: Factors of Success in Treatment of Otogenic Brain Abscess.
7. William Bain: Cause and Treatment of High Blood Pressure.

(Titles of the forty-five other contributions in this periodical cannot be given because of space limitations.)

1. **Radical Cure of Inguinal Hernia in Children.**—Turner believes it to be generally admitted that after the first year of life closure of the hernial sac through treatment with a truss is extremely improbable. The orifice may contract, but is not obliterated, and the sac remains, ready to receive some abdominal viscus which may be forced into it as the result of a strain in adult life. Operative treatment is thus strongly indicated when a definite hernia is present in children over one year of age, as well as in younger infants when the hernia cannot be controlled by a simple soft truss. The object of the operation in children is the complete removal of the sac with the minimum of damage to normal structures. Recently the author has operated upon about twenty-five patients, ranging in age from three months to twelve years, by the following method, which meets more perfectly than any other the indications referred to: A short incision is made parallel to and slightly above Poupart's ligament, exposing the aponeurosis of the external oblique; the incision stops a short distance above and outside of the pubic spine, so that the external abdominal ring is not exposed. An incision about one half inch in length is then made through the aponeurosis, parallel with and just above the middle of Poupart's ligament, thus bringing the external oblique into view. The lower edge of the divided external oblique is raised, and after it has been separated from the internal oblique the lower edge of the latter is drawn upward and outward, bringing into view the sac and cord covered by the cremaster just below the internal ring. The cremaster is torn through longitudinally, and the sac and cord are drawn forward through the small opening in the external oblique by means of a blunt dissector. Upon spreading out the cord widely the edge of the sac is readily secured, is separated from the cord as high as the internal ring, drawn upward, then separated from the lower part of the cord with dissecting forceps, blunt dissector, or gauze. Thus isolated, the sac is drawn down, tied, and removed, the stump disappearing beneath the internal oblique, which is then allowed to fall back into position. The cord is replaced in the canal and the small incision in the external oblique closed by a few catgut sutures. In this method the sac can easily be isolated and freed without interfering with the external ring or opening up the inguinal canal. The small incision in the external oblique inflicts the minimal amount of damage on the latter, which is, indeed, in a sense not opened up at all, for beneath the incision is a thick layer formed by the internal oblique and transversalis.

2. **Immediate and Delayed Laparotomy in Pneumococcal Peritonitis.** — Cameron summarizes the points suggestive of pneumococcal peritonitis as follows: Age, between five and fifteen years; sex, preponderance in female (nineteen cases to seven); onset with rigors, convulsions, or herpes labialis; early appearance of delirium or of pronounced diarrhea; simultaneous presence of pleurisy, pericarditis, or pneumonia; evidence of antecedent colitis; great and rapid exudation of fluid into the peritoneal cavity; high temperature at the onset; marked leucocytosis. Eight of the twenty-six cases reported were not operated in before death, while twelve were submitted to immediate laparotomy. Only three of the latter ended in recovery, and in none of these did the laparotomy produce any immediate improvement. The patients passed through a long illness, during convalescence the signs of abdominal abscess developed, and they recovered after the evacuation of the pus. Laparotomy at the onset of the disease does not increase the chances of recovery from the septichemia or help to cut short the peritoneal process, and waiting to operate until the disease has become localized in the peritoneum is advised. In cases seen at the onset the patient is made to sit upright in bed, ice or heat is applied to the abdomen, morphine given, and the intense toxemia is combated by subcutaneous saline infusion.

3. **Acute Poliomyelitis.**—Low presents an analysis of sixty-two cases which occurred in and around Edinburgh in 1910. The cases did not show any prodromal symptoms peculiar to the disease. Practically no evidence was obtained to show that any of the cases were infected by contact. The duration of the prodromal period varied from twelve hours to two months. In comparatively few cases was the attack attributed to any definite cause. In the majority the paralysis was bilateral. Five per cent. of the cases ended in complete recovery, and in 14.5 per cent. there was no recovery. The duration of the paralysis in the parts which completely recovered varied from three days to six months, but there were parts which were still improving seven months after the onset. The month in which there was the greatest number of cases was also the hottest and rainiest month of the year. There was no evidence that schools were responsible for the spread of the disease.

4. **Progressive Myatrophy in Tabes Dorsalis.**—Tooth and Howell report a case of severe tabes with an unusual degree of motor paralysis and muscular atrophy. A minor degree of paralysis and atrophy, particularly of muscles supplied by the cranial nerves, is of common occurrence in tabes. These lesions sometimes recover almost completely, or at least are subject to remission. The question arises, whether they are of nuclear origin, or are due to some peripheral lesion of the motor nerves. A pathological examination showed an almost universal degeneration of the anterior horns and of many of the cranial nerve nuclei, suggesting that this is the primary seat of the lesions. The point of least resistance in tabes is in the sensory roots, and the great majority of tabetics present a symptom complex indicative of little more than this. In circumstances, at present obscure, the motor neurones may fall victims to the toxine, as in the present case, almost *pari passu* with the sensory. Occasionally the atrophic picture bears a close resemblance to that of progressive muscular atrophy; in this case the only distinguishing features lay in that the cell changes were rather more acute and that the affection of the cranial nerves was unusually widely spread.

5. **Size of Uterus in Cases of Hydatid Mole.**—Briggs, in twenty-three cases of hydatid mole, found the uterus undersized in sixteen instances, oversized in four, and of normal size in one. In the remaining two cases a chorioepithelioma was present, the uterus being oversized in one and undersized in the other. The common assertion that the uterus is oversized in the presence of hydatid mole is probably not warranted. The more prevalent undersize of the organ, together with the frequent quiescence and occasional recedence of the mole, brings in an additional factor in the differential diagnosis in cases of missed abortion and intrauterine death of the fetus.

6. **Treatment of Otogenic Brain Abscess.**—Horsley lays stress on early detection of the abscess and its correct localization as the chief factors conducive to success in the treatment of these cases. Very often a case of otitis media, especially if it has been treated by the mastoid operation, is regarded as being well when it is not really well; chronic otitic cases should be watched both from the bacteriological point of view (blood counts and opsonic tests) and the neurological standpoint. In most instances the reflexes on the opposite side of the body will be found altered in chronic otitis. The more frequent performance of a bone operation is advised, because all records of abscess in the adult go to show that it is due to prolonged infection of the bone. As to the early detection of cerebral disease, excluding sinus thrombosis, the chief difficulty is the distinction between abscess and meningitis. The following differential points are mentioned: 1. Regular and full pulse in abscess, in contradistinction to an irregular and relatively small pulse in meningitis. 2. Depression of temperature,—a sign the value of which has not been properly appreciated. As a means of localization of the abscess, and to decide whether it is single or multiple, temperature observations are also valuable; if a lesion is situated in the coronal plans through the Rolandic area, the temperature, owing to the proximity of the abscess to the heat centres, rises on the opposite side of the body, whereas if the abscess is either anterior or posterior to this level, no such change takes place. 3. A graded hemiplegia, the face being most involved, then the arm, trunk, and leg in order, points to abscess rather than meningitis. If pressure is being exerted on the Rolandic area posterior to the coronal plane through the Rolandic fissure, then, although the motor paresis may be almost unnoticeable, there will be detectable a delicate loss of the sense of localization of position (i. e., of the point touched), which is a valuable early sign in otogenic abscess in the temporal lobe. 4. In meningitis the superficial reflexes soon disappear and are bilaterally affected, whereas in abscess they are unilaterally affected, and disappear late. Changes in the abdominal reflexes precede and continue for longer than the changes in the knee jerk. 5. As regards optic neuritis, examination of a large number of cases showed that the meningitic patients present a highly edematous, swollen disk in contrast to a very moderately swollen disk in the case of abscess. A perfectly bilateral neuritic change is a typical accompaniment of meningitis; on the other hand, in abscess there is an overfilling of the retinal veins, limited to one side. Treatment is adequate drainage and vaccination. For the drainage always employ concentric tubes; as far as possible, no tube is removed from the wound until the final granulation occurs.

7. **Causes and Treatment of High Blood Pressure.**—Bain referred to former researches which had tended to show that in cases of high blood pressure certain pressor bases such as isoamylamine and p-hydroxyphenylethylamine, normally present in the urine, are either greatly diminished or altogether absent, due to their retention in the system. In treating cases of high blood pressure with systolic pressure at about 200 mm. Hg, prescribe nitroglycerin or erythrol tetranitrate for a few days, put the patient on a restricted diet, advise strong sulphur water daily, and administer one of the following baths: Aix douche (without abdominal massage or needle douche), Nauheim, liver packs, modified Turkish, electric light, d'Arsonval, or a strong sulphur bath. Massage of the back and

extremities is helpful and a moderate amount of outdoor exercise very desirable. The reason for giving nitrites at first is that there is generally an initial rise of pressure attending baths, either from apprehension or heat. Where nitrites disagree, he uses guipsine or hippurate of ammonium, puts the patient on a vegetable diet, and delays bathing for a week. The sulphur water is laxative and an intestinal disinfectant. The most important part of the treatment is the diet which consists of fruits and vegetables *ad libitum,* eggs and fish in moderation, and fowl sparingly; beef and mutton are forbidden. In certain cases with slightly increased liver dullness, the liver packs were found distinctly beneficial. In the earlier stages of arteriosclerosis iodides are useful.

REVUE DE MÉDECINE.

February, 1912.

1. R. Lépine: Renal Element of Glycosuria and Its Complexity. Renal Diabetes.
2. Bernheim: Dynamic Element in Motor Aphasia.
3. Jean Minet and J. Leclercq: Atypical Zonas. I.
4. W. Janowski: Different Forms of Arrhythmia. Present State of the Question.

March, 1912.

5. A. Chauffard and H. Rendu: Diabetic Eclampsia.
6. Jean Minet and J. Leclercq: Atypical Zonas. II.
7. Ch. Roubier and H. Bouget: Pyopneumothorax in Pulmonary Syphilis.
8. Hubert Cleu: Illness of Cardinal de Richelieu.

1. Renal Element in Glycosuria.—Lépine discusses the possible factors which may account for the fact that the degree of glycosuria does not vary directly with that of glychemia, and endeavors to solve the problem whether a "renal" form of diabetes can be said to exist. The term "permeability" of the kidneys is too vague, since it refers really to a composite of several factors, viz., transudation, secretion, and resorption. Transudation alone is insufficient to account for the passage into the urine of any but low percentages of sugar, therefore, a secretory factor must also be involved. Experimental work tends to demonstrate that a process of resorption of sugar also takes place in the kidneys. Lépine was able to produce in dogs, independently of phloridzin glycosuria, glycosurias without hyperglychemia and even associated with hypoglychemia. Such conditions are probably the result of altered relations between the processes of transudation and resorption, and strongly suggest the possibility of the occurrence of a renal form of diabetes in man.

2. Dynamic Element in Motor Aphasia.—Bernheim refers to former contributions in which he adduced evidence to the effect that aphasic and other similar disturbances do not correspond quantitatively with the degree of involvement of the cortical centres supposed to preside over the functions concerned, but that "dynamic" changes must in addition be taken into consideration. He now reports a case, with autopsy, which tends to support these assertions. Notwithstanding widespread destruction of Broca's area, the insula, and the corpus striatum, direct transmission between the frontal lobe and the bulb being apparently entirely cut off, motor aphasia was not complete, nor anarthria present, even at the outset. At first spontaneous speech was impossible, though the patient could sing familiar songs and recite prayers; later, spontaneous speech was recovered. The case shows that Broca's area is not a speech centre; that the lenticular region is not a centre for phonetic coordination; that the white capsules do not represent the sole path of communication between the frontal lobe and bulb; and that the loss in power of cerebral speech does not correspond with intellectual deficiency, the latter waning in this patient while the power of speech was improving.

5. Case of Diabetic Eclampsia.—Chauffard and Rendu give a brief summary of the cases in which eclamptic phenomena have been observed in diabetes and report an additional case, in which no less than thirty-five separate eclamptic seizures were witnessed. All possibility of uremia as a cause was precluded by the absence of renal lesions and of nitrogen retention. Acetone was found in the urine, blood, and cerebrospinal fluid, and may possibly have been responsible for the seizures, though the quantity of it present was but moderate. The patient, however, was also tuberculous, and the liver at autopsy showed diffuse nodular hepatitis; hence the origin of the toxemia which resulted in the seizures could not in this case be restricted with certainty to the diabetic condition alone.

7. Pyopneumothorax in Syphilis of the Lungs.—Roubier and Bouget report the case of a woman, forty-three years old, who presented a pyopneumothorax on the right side. The symptoms, physical signs, and x ray examination suggested tuberculosis, but the sputum was fetid and contained no tubercle bacilli. The patient succumbed. At autopsy the entire right lung was grayish in color, but not much hardened, and showed numerous small bronchiectases. Histological examination revealed the syphilitic nature of the condition, an extremely marked hyperplastic process being present, with innumerable new formations involving the alveolar tissues.

Proceedings of Societies.

THE WESTERN SURGICAL ASSOCIATION.

Twenty-first Annual Meeting, Held at Kansas City, Missouri, December 18 and 19, 1911.

The President, Dr. Amos W. Abbott, of Minneapolis, in the Chair.

The Disease that Remains after Nonsurgical Treatment of Inflammation within the Abdominal Cavity.—Dr. J. W. Cokenower, of Des Moines, Iowa, in discussing this subject, drew the following conclusions: 1. Pain in the abdomen was Nature's signal of distress and always meant something, but should not be relieved to the extent that it would retard or prevent ascertaining the cause. 2. Infection in the abdominal cavity was not unlike infection in any other part of the body, and as soon as the diagnosis was cleared up, the cause and infection should be removed as far as possible in any way that would give the best results. 3. The nonsurgical treatment of peritonitis was the cause of recurrent attacks of appendicitis, cholecystitis, salpingitis, and, in fact, nearly all recurrent inflammations in the abdominal cavity producing an infected pathological condition.

Cancer of the Hollow Viscera of the Abdomen with Special Reference to Diagnosis.—Dr. MILES F. PORTER, of Fort Wayne, Indiana, reported three cases and drew the following conclusions: 1. The symptoms commonly regarded as sufficient to warrant a diagnosis of cancer of the hollow viscera were not manifest until the favorable time for surgical interference had passed. 2. Success in the treatment of cancer of the hollow viscera depended largely upon its early recognition. It was often unsafe and unwise to make a diagnosis between malignancy and benignancy without the aid of the microscope. 3. The way to improve our results in the surgical treatment of cancer of the hollow viscera lay in the direction of earlier celiotomy and immediate microscopical examination of the specimen.

Dr. L. L. MCARTHUR, of Chicago, urged the use of the erect posture when a digital examination was being made in cases of suspected carcinoma of the rectum. He also urged the use of the sigmoidoscope, or the long rectal instrument with an electric light within its lumen at the deeper end rather than the head mirror. The latter rarely gave an illumination that was satisfactory, whereas the little electric light within the sigmoidoscope did.

Dr. JAMES E. MOORE, of Minneapolis, stated that future progress must be had from making timely exploratory operations. He did not mean that these should be made by every family physician, but by men who knew disease when they felt it and saw it. Speaking of the feeling of disease, it was difficult sometimes to differentiate between benign and malignant growths when the surgeon had the tumor between his fingers. This was particularly true of the hollow viscera, yet he maintained that when a case was sufficiently grave to warrant exploration, one was justified in taking out a piece of the growth, making a frozen section, and establishing an absolute diagnosis at the time.

Dr. AMOS W. ABBOTT, of Minneapolis, merely wished to call attention to an easy way of examining the rectum in cases of suspected carcinoma, and that was with the use of the ordinary Kelly cystoscope. One could get as good a view of the bowel with it as with the larger proctoscope under ordinary circumstances, and patients did not object to it.

Dr. W. W. GRANT, of Denver, said the fact that the surgeon knew nothing of these cases, had not had the opportunity for any examination until the disease was far enough advanced to produce distinct clinical symptoms, often showed that it was too late even then to predict a good result from operative interference. As our instruments of scientific precision were at the present time indefinite and uncertain, we must get a closer study of the clinical history of these cases by the physician, and until that time came, and we had better diagnosticians and better clinicians, we should perhaps not have earlier diagnoses and better results in the treatment of cancer of the hollow viscera

Dr. JAMES F. PERCY, of Galesburg, Illinois, said the essayist had suggested that if we could have recognized the ulcer that was bleeding and had done a posterior gastroenterostomy, he might have saved his patient. The speaker had had a similar experience to that reported by the essayist, in which he resorted to posterior gastroenterostomy. The ulcer was in the pylorus. An attempt was made to close it up by adhesions to the liver. His patient did well for four or five days, so that he felt he was going to make a good recovery, when he had a profuse hemorrhage, vomited two or three basinfuls of blood, and died. He questioned whether gastroenterostomy was going to save many patients who had large ulcers.

Dr. M. L. HARRIS, of Chicago, said that until some specific reaction was discovered, the diagnosis of cancer in all internal organs, those not subjected to direct investigation by the microscope in their inception, was entirely one of probability.

Doctor PORTER, in closing, said that when one made an exploratory operation in cases of suspected cancer, as was done now in connection with the appendix, we should achieve the results we were after.

The Early Removal of Gallstones, and the Preservation of the Gallbladder as a Preventive of Disease of this and Contiguous Organs.—Dr. ARTHUR E. BENJAMIN, of Minneapolis, drew the following conclusions: 1. Gallstones were not normal residents of the gallbladder. 2. They were the products of infection from the alimentary canal and a late complication of the microbic invasion of the gallbladder. 3. Many of the severe gastrointestinal symptoms were due to the presence of gallstones lodged in the biliary tract. 4. Cholecystitis resulting in the production of gallstones would recover less rapidly when stones were present. 5. Whenever stones could be diagnosticated, an operation should be advised. 6. Gallstones often migrated from the gallbladder to the cystic or common duct and later lodged there, causing destruction of tissue and obstruction of the ducts. The operative mortality was three per cent. when in the gallbladder, and eleven per cent. when in the common duct. 7. Inasmuch as an operation for gallstones was usually one of "terminal events," an operation should be performed if possible before they were found, namely, in the cholecystitis period. 8. The interdependence of the gallbladder, stomach, liver, and pancreas, was such that the gallbladder should be preserved in all cases where it was not hopelessly diseased and unable to regain its function. 9. The frequency with which pancreatitis was associated with gallstones in the common duct made the gallbladder an essential organ to assist in the drainage of the biliary passages in pancreatitis, and it should be saved. 10. The percentage of cancer associated and following the irritation of gallstones in the biliary tract, should urge all practitioners to recognize their responsibility in a case of postponed operation for gallstones.

Further Advances in the Therapeutic Utilization of the Bile Tracts.—Dr. LEWIS L. MCARTHUR, of Chicago, was the author of this paper, which appeared in the JOURNAL for January 27, 1912.

Dr. VAN BUREN KNOTT, of Sioux City, Iowa, said that, with reference to Doctor Benjamin's paper, he regarded the statistics of the percentage of cases of pancreatitis as complicating gallstones to be unreliable. Pancreatitis was a condition which we were not, at all times, able to determine. He had been much interested in Doctor McArthur's work on the gallbladder. He had been following

some of his suggestions with beneficial results, using the common duct as a means of furnishing fluids and nutriment to the patient.

Dr. Arthur T. Mann, of Minneapolis, said it was the surgeon's duty to make an early diagnosis of gallstones. The diagnosis we made now was not one of the presence of gallstones, but a diagnosis based upon the complications of gallstones. The characteristic pain, nausea and vomiting, and inflammation around the gallbladder, were all late and not early manifestations of gallstones, and he thought we had to direct our attention, as we did to appendicitis twenty years ago, to making a diagnosis of appendicitis when there was an abscess, when there was a peritonitis, and so on, and it was the same with gallstones. We had to take a step in advance and make a diagnosis when the gallstones were forming. The symptoms of the early presence or early formation of gallstones were very obscure. This had to be worked out as was done with appendicitis. The symptoms were not in the gallbladder but in the stomach.

Some Phases in the Surgical Treatment of Gastric Ulcer.—Dr. W. D. Haines, of Cincinnati, said that one of the principal phases in the surgical treatment of gastric ulcer was the adoption of some plan which would effectively relieve the distress of the patient, free him from the handicap of ulcer symptoms in his wage earning capacity, and diminish his chances of becoming a subject of cancer of the stomach. In a limited experience with the recurrence of symptoms after operation for gastric ulcer, he was wholly unable to distinguish at the time of operation the type of ulcer which would be cured and remain cured by a gastrojejunostomy from the type to which this operation would afford but brief relief from ulcer symptoms.

Removal of the ulcer bearing area, as recommended by Rodman, while in many respects an ideal operation, carried a prohibitive mortality and had not been generally accepted by the profession as the best method. Excision of the individual ulcer, in conjunction with gastroduodenostomy or gastrojejunostomy, was an operation which was rapidly gaining favor with American surgeons. Excision had many commendable features; it was applicable to a solitary ulcer situated in any part of the stomach wall, it added very little to the risk, and the final results were more satisfactory. Due weight should be given to the physical condition of the individual case before determining upon the type of operation to be performed. Some of these ulcer patients were much reduced in weight and their powers of resistance were greatly enfeebled in consequence of long physical suffering, poor nourishment, and mental depression. This class of cases and their successful management taxed the ingenuity of the experienced, and contributed a large percentage to the death list in the surgical treatment of gastric ulcer. The rapidity with which some of these half starved ulcer patients recuperated after efficient stomach drainage was established had enabled him to convert in a short space of time an almost helpless risk into a comparatively safe risk for a secondary or causal operation, excision and resection of the ulcer bearing area. Rarely indeed had he seen a case of chronic gastric ulcer which did not show some degree of gallbladder or pancreatic involvement. With a view of relieving this phase of gastric ulcer pathology, Dr. S. H. Smith and he had for the past two and a half years been draining the gallbladder in connection with the work on the stomach. The immediate results had been very gratifying, and the subsequent history of those cases which they had been able to trace showed that they had derived permanent benefit from this additional procedure, and such as to warrant further continuance of this practice.

Dr. James F. Percy, of Galesburg, said the essayist spoke about drainage operations in stomach surgery. Recent work had shown that none of these operations was a drainage operation in the ordinary sense. If one made a hole in the bottom of the stomach and attached bowel to it, the mechanical processes of digestion would go on just the same. In other words, the organ did not empty itself until a certain number of minutes or hours after the food was put in. One merely switched the pylorus, but it was not a drainage operation in the strict sense. One might relieve the so called pyloric area from irritation and in that way produce benefit. But back of all of this was the great question, what caused gastric ulcer? None of our recent literature threw any light on that question. As the essayist had said, the gallbladder might be at the back of a number of these infections. Other men had told us that the appendix was the cause of these lesions, but we were not absolutely sure. One of the saddest chapters, were it ever written, would be the neurotic side of stomach surgery. If a case had a neurotic basis, it was more important than anything else in determining operation, unless there was some gross lesion that any practitioner could diagnosticate.

Dr. Van Buren Knott, of Sioux City, said that a few years ago we were taught that the main indication in the treatment of gastric ulcer was to reestablish gastric drainage; that if the stomach was properly drained by gastroenterostomy, made at the lowest point of the stomach, the drainage being more or less perfect, the symptoms of distress incident to the ulcer would disappear. We now know that this was fallacious. Drainage of the stomach at the lowest point did not necessarily relieve the condition of ulcer. It had been said that gastroenterostomy made proximal to the pylorus or ulcerated area would relieve the ulcer from the irritation due to or incident to the efforts of the stomach to carry on its part of digestion, but this was not true. If a gastroenterostomy was made, the food would go to the pyloric end of the stomach, irritate the ulcer on the way back through the peristaltic waves, so it did not accomplish what was thought in removing the irritation from the diseased area. The treatment of ulcer of the stomach must be based on more logical grounds in the future than in the past. Ulcer of the stomach should be treated in the same way as a diseased area anywhere, that was by removal, if possible.

Dr. L. L. McArthur, of Chicago, pointed out that physicians had, in the last four or five years, led surgeons to disconnect some of the gastroenterostomies that had been done for stomach ulcer, in which cases the diagnosis was correct and the treatment apparently the recognized treatment, but there was a failure in results. For what reason?

The motility of the stomach was perfect, or nearly so, and when a gastroenterostomy was made in the stomach in which the motility was normal, the food went out from the pylorus, and many observers, notably Dr. William J. Mayo, had found that the gastroenterostomy opening closed or became so narrow that function was interfered with, but as long as the pyloric opening was good and efficient, and the motility of the stomach was good, function went on. Therefore, before resorting to operation for gastric ulcer, it was not only important to determine the acidity of the stomach and its capacity for the Ewald meal and the motor meal, but if the motility of the stomach was good, a gastroenterostomy would be efficient.

Doctor HAINES, in closing, stated that his paper was written merely for the purpose of driving home the argument that the test meal, as it was used today, was an artificial process, pure and simple. In other words, the influence of the mind upon the secretion of the stomach was just the same as it was upon the secretion of the kidney or the mammary gland or any other glandular tissue in the body. We must seek the real cause of the symptoms. Surgeons had been operating on the stomach when they should have been looking at the right tube or appendix, the right kidney, the duodenum, the gallbladder, etc.

Fibrous Tuberculosis of the Peritoneum Involving Omentum, Intestine, and Uterus.—Dr. C. LESTER HALL, of Kansas City, Missouri, read this paper, which appeared in the JOURNAL for February 24, 1912.

(*To be concluded.*)

Letters to the Editor.

CONJUNCTIVITIS AND RIGG'S DISEASE.

NEWTON, ILL., *April 6, 1912.*

To the Editor:

I desire to report a case of obstinate follicular conjunctivitis that defied all remedies I could think of. One eye only was affected and no foreign body could be discovered at any time. Finally I sent the patient to Dr. Harry Smith, a dental surgeon, who removed a cuspid, two bicuspid, and the second and third molar teeth. All of these teeth were infected with pyorrhea and mixed bacteria. The eye is now rapidly recovering its normal condition, after at least ten days' local treatment was of no benefit.

JAMES P. PRESTLEY, M. D.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

The Friends of the Insane. The Soul of Medical Education and Other Essays. By BAYARD HOLMES, M. D., Chicago. Cincinnati: The Lancet-Clinic Publishing Company, 1911. Pp. xvi-270. (Price, $1.)

The author has collected a series of articles which originally appeared in the *Lancet-Clinic*. A diversity of subjects are treated in short essays, but the main feature of the work is the severe criticism of the present day methods of caring for the insane in all institutions, from the private sanitariums to the state asylums. "Millions are spent in custody, but not a dollar in research"; "There is no State institution where adequate encouragement is provided for the study of the causes of insanity or of the conditions of parasitism, hemology, nutrition, and metabolism during the course of the disease." It is suggested that one per cent. or even ten per cent. of the amount spent in custody could be economically devoted to the research and cure of mental diseases.

Fourth Report of the Wellcome Tropical Research Laboratories at the Gordon Memorial College, Khartoum. Volume B. General Science. ANDREW BALFOUR, M. D., B. Sc., F. R. C. P. Edin., D. P. H. Camb, Director. London: Baillière, Tindall & Cox, 1911. Published for the Department of Education of the Sudan Government, Khartoum. Depots for North America: Toga Publishing Company, New York and Montreal. Pp. 333.

To quote from the prospectus "Volume B contains a mass of interesting data on matters chemical, geological, and biological. Birds, insects, animals, and bacteria have been subjected, in turn, to careful and accurate study, and the result gives a picture of life in a tropical region at once intimate and scientifically exact. Sociology, sanitation, sanitary engineering, and the characteristics of the Sudan soils have all come under observation." As can be gathered from the foregoing, this volume is of general interest but, nevertheless, there are many articles of value to the physician and to those interested in biology. Of these can be mentioned that by H. H. H. King dealing with insects injurious to man and animals, including among others mosquitoes, blood sucking flies, and ticks. Another by the same author is on animals injurious to farm and garden crops. A well illustrated and interesting account of scorpions and allied annulated spiders is given by professor Werner. A brief paper on a parasitic herpetomonas, a flagellate organism of the "melon bug" is presented by W. M. Aders. The flagellate stage is distinguished by the formation of a typical flagellum and by division and multiplication of the flagellates. The non-flagellate stages closely resemble the Leishman-Donovan body, the parasite in the resting stage dividing into two organisms, which afterward develop into two flagellate forms. Captain R. G. Anderson's contribution, Some Tribal Customs in Their Relation to Medicine and Morals, is most interesting; as an indication of the resisting power of the human body to primitive surgery it is quite remarkable. The native theories of disease are mentioned as well as the doctors and their various cures and rites. The more common maladies and their treatments, the drugs used, personal hygiene, and various other topics are more or less briefly referred to. The concluding article is by W. H. M'Lean and G. E. Hunt on Some Municipal Engineering Problems in the Tropics; in it are discussed the water supplies and methods of sanitation, the disposal of waste water, etc. The illustrations throughout are numerous and excellent, the colored plates of the birds of the Sudan being very good. The general make up of the book is of the usual excellence of these publications.

Modern Microscopy. A Handbook for Beginners and Students. By M. I. CROSS and MARTIN J. COLE, Lecturer in Histology at Cooke's School of Anatomy. Fourth Edition, Revised and Enlarged. With Chapters on Special Subjects by Various Authors. Chicago: Chicago Medical Book Company, 1912. Pp. xvii-325. (Price, $2.)

The first part of the book, 136 pages, is devoted to a general consideration of the microscope, its optical and mechanical construction, the illuminating and accessory apparatus. As the authors are English, preference is naturally given to the type of instrument manufactured in England, rather than to the Continental type, although the latter seems the simpler and more convenient. The second part of the book is taken up with the methods used in the preparation of tissues for microscopical examination. This does not compare favorably with many other books on the same subject, particularly that of Mallory and Wright. Seven pages are given to imbedding tissues and section cutting. How one could procure thin sections for careful study by using the methods recom-

mended does not seem clear. To procure celloidin sections it is stated that "The imbedded mass can be placed between two pieces of carrot and put into an ordinary microtome, and the sections made with a knife or razor, which must be well wetted with methylated spirits; or the imbedded specimen can be removed from the cork, and, after soaking it in water, it can be transferred to gum and syrup, and the sections made with a Cathcart freezing microtome." For cutting paraffin sections the rocking microtome is the only one mentioned. No microtomes other than three of the most elementary types are discussed or in any other way referred to. One might imagine that good microtomes are not known in England, if this publication is to be considered as a sample of modern microscopy. The chapters dealing with the staining of tissues, bacteria, blood, etc., are incomplete and insufficient to a surprising degree. The methods given are few and deal mainly with general staining, no special methods other than those of Golgi and Weigert for nervous tissues and Fleming's for caryocinetic figures are given. None of the common stains for connective tissue other than picrocarmin is mentioned. For staining blood the only method given is Ehrlich's triple stain, a very good one, yet not of such overwhelming value that all references to the eosin-methylene blue combinations should be omitted. Toison's solution is recommended for staining white blood cells. The remaining chapters on laboratory technique are also incomplete and not arranged for ready reference. Part three is given over to an introduction to the use of the petrological microscope, and to chapters on obtaining and examining minute aquatic organisms and on the miscroscopy of foods. Part one, dealing with the construction and use of the microscope, is good but the second part has little to recommend it. The directions given are neither sufficient nor well arranged, and a student would have great difficulty in perfecting his technique from the perusal of its pages. The third part contains much useful information. The book is not well designed for general use. To devote 136 pages to the microscope and only eighty-two to methods of fixing, imbedding, cutting, and staining tissues, including both animal and vegetable, and also taking up bacteria, shows that the subject matter has not been well handled. The book is not one that should in any way prove a rival to the many laboratory manuals already on the market.

Caisson Sickness and the Physiology of Work in Compressed Air. By Leonard Hill, M. B., F. R. S. (International Medical Monographs.) London: Edwin Arnold; New York: Longmans, Green, & Co., 1912. Pp. xi-255. (Price, $3.)

This most interesting presentation of caisson sickness embodies the results of some fifteen years' research into the causation, cure, and prevention of compressed air illness, a subject, as the author states, of the greatest importance in the carrying on of many vast commercial enterprises. The first three chapters are devoted to the evolution of diving and to the construction of the diving apparatus and its uses. The two following contain the reports of numerous cases illustrating the nature of caisson sickness. In many that proved fatal the autopsy findings are given. A short chapter gives a description of the lesions of the spinal cord as found both in man and in experiment animals. The seventh chapter is taken up with a discussion of the theories as to the cause of the illness. The early theories were to the effect that compressed air at too great a depth kills the men exposed to it in the diving bell, by stopping respiration, and offering such a resistance to the heart that the circulation is suppressed. Haller, in 1761, was the first to set forth this erroneous mechanical theory, which has been widely held ever since. The divers really lost their lives from suffocation. A hundred years later, Bucquoy put forward far seeing views concerning the matter of solution of gas in the blood. In 1869, Leroy de Méricourt assigned the cause of the illness of divers to air embolism, comparing the diver from a physical point of view to a bottle of water charged with carbonic acid. Hoppe-Seyler established the fact that the disease is due to the presence within the vessels of a gas consisting chiefly of nitrogen, with a little carbon dioxide. In 1878, Bert demonstrated that gas was set free in the blood after rapid decompression. This work was confirmed by others, in 1900, who established on a sure footing the air embolism doctrine for lower pressures than those studied by Bert. The author of the present volume offers evidence disproving the mechanical theory and then proofs showing that nitrogen bubbles are the cause of the disease. Analyses of the gas showing eighty to ninety per cent. nitrogen, and the rest chiefly carbon dioxide with a trace of oxygen. Remaining chapters deal with the physiological effects of compressed air, body temperature, the relation of age, weight, and fatness to caisson disease, the effects on the blood, the theory and practice of decompression. In this it seems that it is the fat which is dangerous, on account of its high coefficient of solubility. It saturates and desaturates slowly, and, by its bulk, may add to the blood enough nitrogen to produce bubbles if the decompression is too rapid. The final chapter is on the treatment of caisson sickness by recompression. The book is one that will interest a great many, even if they are not directly concerned in such pursuits from either a professional or an economic point of view, and can in every way be recommended.

The Taylor Pocket Case Record. By J. J. Taylor, M. D. Philadelphia: The Medical Council Co., 1912.

This pocket case record is a very handy little book, small enough to be carried in a pocket or a bag, making it possible for the physician to keep a systematic record of his cases to which he can easily refer. and yet it contains all such notes as are important enough for reference.

A Mother's Guide. A Manual for the Guidance of Mothers and Nurses. By Francis Tweddell, M. D., Alumnus Bellevue Hospital, New York, Assistant Physician to the Babies' Hospital Dispensary, New York. New York: James T. Dougherty, 1912. Pp. ix-182. (Price, $1.)

The author has succeeded in producing a book which gives simple, clear, and complete directions, easily to be understood by the average American mother. It begins with a description of the nursery and its main furniture, the baby's bed, with a list of clothing, etc. This is followed by such general instructions as care of napkins, how to lift the baby, bathing, care of the eyes, of the genitals, airing, exercise, sleep. Then follow chapters on nursing, wet nursing, weaning, artificial feeding, peptonized milk, sterilization and pasteurization of milk, and diet from the second to the tenth year. But here we wish to give a warning: The selection of artificial feeding should not be left to the mother and should not be generalized. Each infant is a rule unto himself; the careful physician knows this, and will therefore not use a general rule, but modify his instructions in each case. On the last pages we find very practical *Don'ts*, which, we think should incorporate "don't yourself select a substitute for mother's milk." Then follow instructions on the ailments from the minor to the major diseases, such as colic and wind, diarrhea and constipation, vomiting, colds, croup, earache, adenoids and tonsils, night fevers, dentition, bad habits, convulsions, and many more.

The book can be cordially commended to the hands of every intelligent mother.

NEW PUBLICATIONS.

Kindborg, Erich.—Theorie und Praxis der inneren Medizin. Ein Lehrbuch für Studierende und Aerzte. Zweiter Band. Die Stoffwechselstörungen, die Krankheiten des Bewegungsapparates und der Verdauungsorgane. Mit 74 Abbildungen. Berlin: S. Karger, 1912. Pp. xiii-634.

Jacoby, George W.—Suggestion and Psychotherapy. With Illustrations. New York: Charles Scribner's Sons, 1912. Pp. xiv-355.

Denslow, L. N.—A Surgical Treatment of Locomotor Ataxia. London: Baillière, Tindall, & Cox, 1912. Pp. ix-118.

Roemer, Paul.—Textbook of Ophthalmology. In the Form of Clinical Lectures. Translated by Dr. Matthias Lanckton Foster. With One Hundred and Eighty-six Illustrations in the Text and Thirteen Colored Plates. Volume I. New York: Rebman Company, 1912. Pp. xvi-275. (Price, $2.50.)

Hirschberg, J.—The Treatment of Shortsight. Translated by G. Lindsay Johnson, M. D., F. R. C. S. With Twelve Illustrations. New York: Rebman Company, 1912. Pp. vii-123. (Price, $1.25.)

Fifth Annual Report of the Hospital for Deformities and Joint Diseases, New York. Pp. 91.

Annual Report of the Surgeon General of the Public Health and Marine Hospital Service of the United States for the Fiscal Year 1911. Washington: Government Printing Office, 1912. Pp. 331.

Criticism of Stedman's New Medical Dictionary. By John A. Phoustanos, M. D., Editor of La Grèce médicale. New York: H. Stamis, Greek Printing Office, 1912. Pp. 30.

Verhandlungen der Berliner medizinischen Gesellschaft aus dem Gesellschaftsjahre 1911. (Separat-Abdruck aus der Berliner klinischen Wochenschrift.) Herausgegeben von dem Vorstande der Gesellschaft. Band XLII. Berlin: L. Schumacher, 1912. Pp. lviii-597.

Forty-second Annual Report of the Board of Trustees of the German Hospital and Dispensary in the City of New York. For the Year 1911. Pp. 126.

Sitzungsberichte der Gesellschaft für Morphologie und Physiologie in München. XVII, 1911. München: J. F. Lehmann, 1912. Pp. viii-153.

Moore, A. R.—On the Nature of the Cortical Layer in Sea Urchin Eggs. On the Nature of the Sensitization of Sea Urchin Eggs by Strontium Chloride. University of California Publications in Physiology. Pp. 93.

Stekel, Wilhelm.—Nervöse Angstzustände und ihre Behandlung. Mit einem Vorwort von Professor Dr. Sigmund Freud. Zweite, vermehrte und verbesserte Auflage. Berlin und Wien: Urban & Schwarzenberg, 1912. (Through Rebman Company, New York.) Pp. viii-448. (Price, $4.25.)

Zweig, Walter.—Diagnose und Therapie der Magen- und Darmkrankheiten. Anhang: Die chemische und mikroskopische Untersuchung des Mageninhaltes und der Faeces. Zweite, vermehrte Auflage. Mit 36 Textabbildungen und 1 farbigen Tafel. Berlin und Wien: Urban & Schwarzenberg, 1912. (Through Rebman Company, New York.) Pp. xv-502. (Price, $4.)

Miscellany.

Proprietary Medicines and the National Formulary.—In discussing these perennial subjects, the *Medical Council* for May, 1912, says in part:

One of the greatest factors in promoting the use of stock formulæ or ready made drug preparations by physicians is the lack of adequate instruction and training in materia medica, pharmacy, and applied drug therapeutics in our medical schools. When the young graduate, with his lack of practical therapeutical training, has a few experiences with poorly constructed prescriptions—his own and those of his teachers—and awakens to the fact that his patients expect results, he loses some of his enthusiasm for his college and textbook instruction. Then what does he do? Either rightly or wrongly he uses the proprietary preparations which promise to help him. He has never had adequate training, in the construction of a prescription, and he must let some one who has had the training construct it for him. Most proprietary medicines which survive do so because of some inherent merit. The most of them are physician's prescriptions that have been brought to a high state of therapeutical and pharmaceutical perfection. Whatever ethical errors have been committed in their exploitation, the great majority of ethical proprietaries possess points of scientific and clinical value. The manufacturers are generally honest and enthusiastic pharmacists and physicians who have great faith in their remedies. Very few of these men have maliciously deceived; but some of them have made mistakes, and an occasional one has been either ignorant or dishonorable. The great unconscious, unwilling tribute to the value of proprietary medicines is the now all but noneffective National Formulary, the outcome of a scheme devised by some of the retail drug interests to lead the physician into a sort of sugar coated substitution. Whether it be given a sugar coating of alleged ethics or not, substitution is unfair, dishonorable, and unAmerican. The kindest view we can take of the National Formulary is that it was a compromise. *A (real) national formulary* need not be.

Iodine in Skin Asepsis.—The application of iodine solutions for the production of asepsis has almost revolutionized preoperative procedure in the outdoor departments of hospitals. The mere application of a three per cent. alcoholic solution of iodine to the skin seems to be quite sufficient to insure asepsis in five minutes without any previous bathing. The importance of this discovery in military and other emergency surgery can hardly be overestimated, a fact which has been referred to several times in these columns. An interesting study has been recently made by a London chemist, J. Wickliffe Peck (*Pharmaceutical Journal*), of the results of iodine in different solvents on cultures of *Staphylococcus pyogenes aureus*. The author experimented with a three per cent. solution of iodine in ninety per cent. alcohol and in seventy per cent. alcohol, three per cent. solutions in acetone, and in a mixture of acetone and dichlorethylene and a two and a half per cent. solution in dichlorethylene alone. The results show that the alcoholic solution is the most efficacious, thus confirming previous studies.

Meetings of Local Medical Societies.

MONDAY, *May 6th.*—Clinical Society of the New York Throat, Nose, and Lung Hospital; German Medical Society of the City of New York; Utica Medical Library Association; Niagara Falls Academy of Medicine (annual); Roswell Park Medical Club, Buffalo; Hornell Medical and Surgical Association; Brooklyn Hospital Club; Practitioners' Club, Newark, N. J.; Hartford, Conn., Medical Society.

TUESDAY, *May 7th.*—New York Academy of Medicine (Section in Dermatology) New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Clinical Society of the West Side German Dispensary and School for Clinical Medicine; Ogdensburgh Medical Association; Oswego Academy of Medicine; Syracuse Academy of Medicine; Medical Association of Troy and Vicinity; Long Island Medical Society; Amsterdam City Medical Society; Lockport Academy of Medicine; Bridgeport, Conn., Medical Association; Hudson County, N. J., Medical Association (Jersey City); Society of Alumni of Lebanon Hospital, New York.

WEDNESDAY, *May 8th.*—New York Pathological Society; New York Surgical Society; Medical Society of the Borough of the Bronx; Alumni Association of the City Hospital; Brooklyn Medical and Pharmaceutical Association; Alumni Association of the Norwegian Hospital, Brooklyn; Richmond County Medical Society; Dunkirk and Fredonia Medical Society.

THURSDAY, *May 9th.*—New York Academy of Medicine (Section in Pediatrics); Brooklyn Pathological Society; West Side Clinical Society, New York; Blackwell Medical Society of Rochester; Jenkins Medical Association, Yonkers; Auburn City Medical Society; Buffalo Ophthalmological Club; Jamestown Medical Society; Society of Physicians of the Village of Canandaigua; Gloversville and Johnstown Medical and Surgical Association; Physicians' Club, of Middletown.

FRIDAY, *May 10th.*—New York Society of Dermatology and Genitourinary Surgery; New York Academy of Medicine (Section in Otology); Eastern Medical Society of the City of New York; Society of Ex-Internes of the German Hospital in Brooklyn; Saratoga Springs Medical Society (annual).

SATURDAY, *May 11th.*—Therapeutic Club, New York.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending April 26, 1912:

Cholera—Foreign: *India,* 1911, 323,237 deaths; Jan. 1-March 16, 19 cases, 104 deaths.

Yellow Fever—Foreign: *Brazil* (Ceara), Feb. 1-29, 4 deaths.

Plague—Foreign: *Brazil* (Para), March 24-30, 1 case; *Chile* (Iquique), March 10-16, 2 cases, 1 death; *China* (Hongkong), March 3-9, 12 cases, 12 deaths; *India,* Jan. 1-March 16, 106 cases, 158 deaths; *Japan* (Formosa), March 7-16, 13 cases, 7 deaths; *Persia* (Bushire), Feb. 25-March 2, 12 cases, 9 deaths; *South Africa,* March 15-22, 3 cases, 4 deaths; *Straits Settlements,* Feb. 18-24, 1 case, 1 death; *Turkey in Asia,* Feb. 5-March 13, 4 cases, 5 deaths; *Venezuela* (Caracas), April 22, present.

Smallpox—United States: *District of Columbia,* April 7-13, 1 case; *Florida,* April 1-6, 22 cases; *Kansas,* Feb. 1-29, 20 cases; *Louisiana* (New Orleans), April 4-11, 12 cases; *Montana,* March 1-31, 17 cases; *Oklahoma,* Feb. 1-29, 64 cases; *South Dakota,* March 1-31, 90 cases, 1 death.

Smallpox—Insular: *Philippine Islands* (Manila), July 1-September 30, 9 cases.

Smallpox—Foreign: *Austria Hungary* (Galicia), March 17-26, 6 cases; *Brazil* (Para), March 24-30, 1 case, 1 death; *Canada,* April 6-13, 10 cases; *Chile* (Iquique), March 10-16, 1 case, 1 death; *China,* March 1-23, 58 cases, 45 deaths; *Egypt* (Cairo), March 4-11, 1 case; *Germany,* March 4-April 6, 26 cases; *Great Britain* (London), March 24-30, 2 cases; *India,* Jan. 1-March 16, 200 cases, 127 deaths; *Italy,* March 10-30, 16 cases, 2 deaths; *Japan,* March 3-23, 4 cases; *Portugal* (Lisbon), March 14-20, 3 cases; *Russia,* Feb. 11-March 23, 38 cases, 13 deaths; *Spain* (Valencia), March 24-30, 44 cases, 2 deaths; *Straits Settlements,* Feb. 18-March 2, 6 cases, 1 death; *Teneriffe,* March 24-30, 4 deaths; *Turkey* (Beirut), March 17-23, 90 cases, 5 deaths.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending April 24, 1912:

Gassaway, J. M., Surgeon. Granted one month's leave of absence from April 16, 1912, on account of sickness. **Glover,** M. W., Passed Assistant Surgeon. Detailed to represent the Service at the meeting of the State Medical Society and Conference of the State Board of Health, at Del Monte, California, April 16, 17, and 18, 1912. **Goldsborough,** B. W., Acting Assistant Surgeon. Granted one day's leave of absence, without pay, April 24, 1912. **Jackson,** J. M., Jr., Acting Assistant Surgeon. Granted three days' leave of absence, from April 15, 1912. **Kolb,** L., Assistant Surgeon. Granted four days' leave of absence, from April 20, 1912, under paragraph 191, Service Regulations. **McMullen,** John, Passed Assistant Surgeon. Directed to make an inspection of the medical examination of arriving aliens upon the Canadian border. **Nydegger,** J. A., Surgeon. Directed to proceed to Baltimore, Md., for temporary duty in the examination of arriving aliens, during the absence of Passed Assistant Surgeon John McMullen under official orders. **Spangler,** L. C., Pharmacist. Granted one day's leave of absence, April 16, 1912. **Vogel,** C. W., Passed Assistant Surgeon. Granted three days' leave of absence from April 25, 1912.

Boards Convened.

Board of commissioned medical officers convened to meet at the Bureau for the purpose of making a revision of the blank forms of inspection of Marine Hospital Stations. Detail for the board: Assistant Surgeon General W. J. Pettus, chairman; Assistant Surgeon General W. C. Rucker; Passed Assistant Surgeon B. S. Warren, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending April 27, 1912:

Allen, John H., Major, Medical Corps. Granted thirty days' leave of absence, about May 1, 1912. **Bartlett,** C. J., Major, Medical Corps. Granted leave of absence for fifteen days. **Brewer,** Isaac W., First Lieutenant, Medical Reserve Corps. Ordered to Madison Barracks, N. Y., for temporary duty. **Davis,** A. D., Lieutenant, Medical Corps. Left Washington, D. C., on completion of examination for promotion, on thirty days' leave of absence. **Dear,** Elmer A., Major, Medical Corps. Granted leave of absence for one month. **De Laney,** Matthew A., Major, Medical Corps. Will proceed to Philadelphia, Pa., on official business pertaining to the Medical Department of the Army. **Fauntleroy,** P. C., Major, Medical Corps. Ordered to proceed to the officer's camp of instruction, Wisconsin National Guard, Camp Douglas, Wis., May 27 to 29, 1912, for duty as instructor. **Ford,** Clyde S., Major, Medical Corps. Granted six months' leave of absence, on surgeon's certificate of disability, with permission to go beyond the sea. **Jackson,** Thomas W., First Lieutenant, Medical Reserve Corps. Relieved from treatment at the Walter Reed General Hospital, D. C., and will proceed to his station; granted two months' leave of absence, on surgeon's certificate of disability. **Johnstone,** E. K., First Lieutenant, Medical Reserve Corps. Leave of absence further extended two months and twenty-eight days; relieved from active service, to take effect August 12, 1912. **Page,** Henry, Major, Medical Corps. Ordered to camp of instruction, Raleigh, N. C., May 13 to 18, 1912, for duty as instructor of medical officers of North Carolina Militia. **Van Horn,** James B., First Lieutenant, Medical Reserve Corps. Granted seven days' leave of absence. **Whitmore,** Eugene R., Major. Ordered to camp of instruction, St. Augustine, Fla., May 6 to 10, 1912, for duty as instructor of medical officers of Florida Militia.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending April 27, 1912:

Barber, G. H., Medical Inspector. Detached from the Naval Hospital, Olongapo, P. I., and ordered home to await orders.

Births, Marriages, and Deaths.

Married.

Berry—Smith.—In Philadelphia, on Tuesday, April 16th, Dr. Edward Stanley Berry, of Shippensburg, and Miss Margaret Irene Smith. **Green—Moffett.**—In Spokane, Wash., on Monday, April 15th, Mr. James A. Green and Dr. Alberta F. Moffett, of Judith Gap, Montana.

Died.

Bacon.—In New Haven, Conn., on Friday, April 26th, Dr. Francis Bacon, aged eighty-one years. **Beekman.**—In New York, on Friday, April 26th, Dr. John Neilson Beekman, aged sixty-eight years. **Clarke.**—In Cambride, Mass., on Monday, April 22d, Dr. Augustus P. Clarke, aged seventy-eight years. **Cosby.**—In Evansville, Ind., on Wednesday, April 17th, Dr. George P. Cosby, aged seventy-two years. **Grant.**—In Cloverdale, Cal., on Monday, April 15th, Dr. Charles F. Grant. **Gulick.**—In New Brunswick, N. J., on Thursday, April 24th, Dr. Arnatt Reading Gulick, of New York, aged forty-eight years. **Kessler.**—In St. Joseph, Mo., on Tuesday, April 16th, Dr. Samuel Fritts Kessler, aged forty-nine years. **Lunn.**—In Chicago, on Friday, April 19th, Dr. Martin J. Lunn, aged forty-one years. **Neal.**—In Little Rock, Ark., on Wednesday, April 17th, Dr. Dwight B. Neal, aged fifty-five years. **Nichols.**—In Whitesboro, N. Y., on Tuesday, April 23d, Dr. Charles W. Nichols, aged sixty-three years. **Rascoe.**—In Julian, Ky., on Wednesday, April 17th, Dr. J. F. Rascoe, aged sixty-nine years. **Ripley.**—In Minneapolis, Minn., on Thursday, April 18th, Dr. Martha G. Ripley, aged sixty-eight years. **Rosenthal.**—In Philadelphia, on Monday, April 22d, Dr. Edwin Rosenthal, aged fifty-three years. **Smirls.**—In Belleville, Ill., on Friday, April 19th, Dr. Talbot Smirls, aged seventy-nine years.

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Original Communications.

FUNDAMENTALS OF THE FREUDIAN PSYCHOLOGY.

BY WILLIAM A. WHITE, M. D.,
Washington, D. C.

In the great storm of criticism which has been aroused by the Freudian hypotheses it has seemed to me that there has been very little tendency to endeavor to separate the fundamental from the incidental, and that much of the criticism which has been addressed against the incidental has by implication been supposed to apply to the fundamental. So the avalanche of denunciation has included truths that almost any one would have been willing to acknowledge, because they were associated with certain other features that were in less stable equilibrium.

In the first place, it seems to me fallacious to look upon the principles of so called Freudianism as if they all had their origin and growth and development in Freud himself. While I would not detract one single bit from the great service he has done to modern psychiatry, still all great men who have promulgated great truths have been able to do so only because those truths have been partially seen by many before them, and previous generations have prepared the way for the prophet. Freud has wrought, as all other constructive minds have wrought, out of the material that he found at hand. He has brought this material together from many sources, and by the power of his great mind, has been able to grasp wider viewpoints and deeper generalizations by so doing. Some of his generalizations are broad and comprehensive, others are of more limited extent, and so they have all degrees of value and all degrees of breadth. It should therefore be our concern to distinguish the more valuable and the more probable from the less valuable and the less probable, and not to endeavor to criticise them altogether, as is sometimes done.

To my mind, the most valuable asset of the Freudian psychology to the present day problems of the mind is the mechanistic and rationalistic viewpoint which they give to these problems. The psychoses and the neuroses, no one, be he Freudian or anti-Freudian, any longer considers to be something mysterious that comes from the nowhere and settles down like an incubus on the patient. It is universally recognized that these varieties of disorder grow out of the material of which the person's mind is composed, and that, for their understanding and for the application of remedial agents, the particular psychosis or neurosis must be fathomed,—must be understood, and I think hardly any one to-day is working in the field of neurology and psychiatry who does not attempt according to his lights to reach such an understanding of his patients. This result alone, of the Freudian psychology, and I think it is a result more attributable to the work of Freud than to any other single individual, is a sufficient contribution for any one man to have made to science in his lifetime. However, beyond this result Freud has given us a method,—the method of psychoanalysis, by which we are able to delve into the intricacies of the patient's mental tangles and come to a rational understanding of how their disorder has been builded up. No one can deny that since the advent of the Freudian psychology, not only are our conceptions of the processes in the psychoses and neuroses more rationalistic, but that by the use of the methods which this psychology has evolved we do as a matter of fact reach a better understanding of our patients and place ourselves in a better position to help them.

According to my mind, then, the great fundamental thing that Freud has done, is to have given us a rationalistic viewpoint for the psychoses and neuroses, and a method which enables us to better understand our patients.

If we go further we will find that Freud has described certain processes—certain mechanisms,—which he has discovered in operation in the cases that he has studied. In the main, these are the processes of repression and of sublimation, and such mechanisms as those of condensation and decomposition, overdetermination and displacement. Here again we have certain fundamental things that Freud has given us, about which, I take it, if they were separately discussed without reference to the particular material with which they dealt, there would be very little disagreement. These processes —these mechanisms—all of us who have had experience with the psychoses and neuroses can testify to as having seen over and over again. Not only that, they are the mechanisms of every day life, which we see in constant operation about us, and I know of no one who has seriously cast any doubt upon their existence. So that in addition to having given us a rationalistic viewpoint and a method of interpretation, Freud has defined for us a considerable number of the actual processes and mechanisms which are commonly found in operation.

What then are the things against which the criticism and denunciation of the Freudian psychology are directed? Not against these things primarily,

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at least,—not against the processes themselves,—but against the material with which these processes and mechanisms deal. It is the sexual material of the Freudian psychology which has brought down all the volume of acrimonious denunciation, and it is extremely important to my mind to realize that the sexual is the material only with which these processes have to deal, and that so far as the fundamental truths of the Freudian psychology go,—so far as their value is concerned,—the material with which these processes deal is only incidental in the general scheme. Of course, I do not mean that it is unimportant,—I only mean as between the abstract conceptions of process and content, the conception of process is fundamental, and that of content is incidental.

The Freudians believe in the very great importance of the sexual as a factor in the psychoses and neuroses, and they explain this great importance by the equal importance which the sexual plays in the mental life of every individual. They believe that there is no other one factor in mental life that is so dominating,—no other one factor that has associated with it such tremendous emotional values,—that it predominates even over the instinct of self preservation,—that it is the great fundamental, highly emotionally valued instinct which spreads out and touches every point of the psychic life, and which is manifested quite as universally in the activities and the institutions of the social organism. Whether it is as important as this or not, I am not going to discuss at this time; I will merely say that there are many and numerous facts which seem to make this degree of emphasis fully warranted. I will call attention, however, to the fact that Freud, in what I consider an extremely important contribution, has endeavored to trace the development of the sex instinct from birth to its complete realization. If this study is read carefully, it will be realized that it implies many reasons for the importance of the sex instinct in the mental life of the adult, and incidentally also it deals of necessity with the nature of the content of the mind with reference to this instinct. Freud's explanation of the development of the sex instinct is, I believe, the best piece of literature on that subject extant, and should be read by every one who finds within himself a feeling of repugnance to the sex theories that Freud has advanced. It is a wonderful analysis and interpretation of the facts of sexual life. It is because, therefore, of the tremendous importance of the sex factor in life that it is found at the basis of the neuroses and psychoses. I think everybody will grant that the sexual is an important factor,—I think I may say a tremendously important factor; whether it is the all important factor or not, that I will not discuss. I will, however, call attention to this analogy. If we were not sexual beings,—if reproduction were not the fundamental goal of the individual life, and if something else were that goal,—if something else played as important a part in the life of the individual that the Freudians believe that the sexual now plays, then would not the processes and mechanisms of the Freudian psychology still be true, and would not the only difference in the picture of the psychoses and neuroses be differences in content?

I think this distinction between process and content is of the very greatest importance in attempting to evaluate the contributions Freud has made to modern psychology. I think every one will acknowledge the fundamental things that I have set forth. The main discussion arises about the incidental things,—the relation of the sexual in its various ramifications, and I can only say with regard to the character of this discussion that it behooves the scientific man to bring forth his material which he desires to contribute to this discussion, in a judicial attitude of mind and with a full realization of the fact that the truth, no matter what it is, cannot be evil. Whether an upset in the sexual sphere must always necessarily be at the bottom of a psychosis or a neurosis, is, upon theoretical grounds, a debatable question. It is quite conceivable, as I have already pointed out, that these mechanisms might busy themselves with material that was not sexual, but whether they do or not,—whether with men as they are, in society as it is,—cases can arise where the mechanisms develop psychoses without dealing with sexual material, is a matter to be proved and not speculated upon. The Freudians assert that whatever their doubts may have been when they started to work along these lines, their doubts have universally been resolved, and that in every instance they have found the sexual element in the case. Let those who think that it is possible for these cases to develop without the sexual element bring forth such a case, and unless they can bring forth such a case, let them hold their peace.

In the few minutes at my disposal I have not attempted any criticism of any of the tenets of the Freudian psychology, nor even attempted to set forth my own opinion with regard to them. I have merely outlined what I believe to be a valuable point of view in considering them.

Government Hospital for the Insane.

WIDENING THE PYLORUS WITHOUT OPERATION.*

By Max Einhorn, M.D.,
New York,
Professor of Medicine, New York Postgraduate Medical School.

Benign pyloric strictures are nowadays universally recognized as requiring surgical aid. In fact, this group of diseases forms the foremost indication for operative intervention. How is it that the title of my paper runs in the opposite direction?

Until recently the clinicians saw in the stenosed pylorus a mechanical obstacle which could not be reached by medical measures. To enter this outlet with instruments nobody thought possible. For this reason strictures of the pylorus had to be treated quite differently from strictures in other accessible canals of the human body. The latter, for instance strictures of the urethra, of the esophagus, or rectum, are generally treated, as is well known, by means of dilating instruments.

About four years ago, in observing the great value of stretching the cardia in the management

*Read before the Academy of Medicine of Springfield, Mass., February 13, 1912.

of cardiospasm, I thought it would be very desirable to accomplish similar results in pylorospasm,—a condition very akin to it. An endeavor to carry out this plan of treatment led me to the introduction of instruments along the thread of the duodenal bucket into the pylorus and duodenum. I constructed the aspirating duodenal catheter and the dilating pyloric catheter.[1] Both instruments proved of value. They reached the new field desired, the duodenum.

Very soon afterward, I carried out this plan of treatment for stretching the pylorus;[2] I have, however, widened the scope of its application. For I

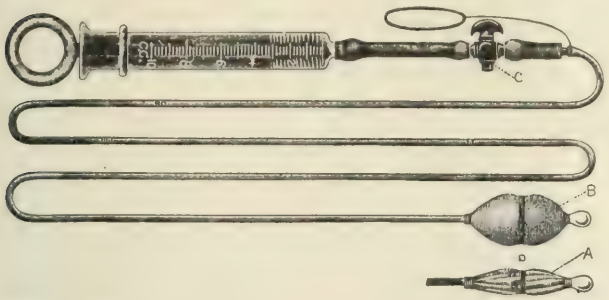


FIG. 1.—The pyloric dilator. *A*, balloon empty; *B*, balloon inflated; *C*, stop cock; *D*, rubber band, keeping balloon in shape.

found by experience that not only a spastically contracted, but also a really stenosed pylorus (of benign character) was accessible to instrumental stretching.[3] [4]

Permit me to first show you the instruments and then report two new cases treated by this method.

INSTRUMENTS.

The pyloric dilating catheter I still use in congenital pyloric stenosis of infants and in quite advanced benign strictures of the pylorus in the adult. Otherwise I employ a plain pyloric dilator. (See Fig. 1.)

In order to facilitate recognition, when the instrument has reached the duodenum, two modifications may be used; one pyloric dilator provided with a lamp (pyloric dilator and diaphane), the other pyloric dilator provided with an aspirating canal. The latter instrument is of necessity somewhat more bulky, requiring a tube with a double canal, one for inflating the balloon, the other for aspirating fluids. (See Figs. 2 and 3.)

Another modification of the pyloric dilator has for its object stretching of the pylorus *in situ*, which is impossible with the other instruments. For these can merely be pulled through the pylorus, but cannot be made to stay there any length of time. This modified dilator is provided with a double canal tube and two balloons, which can be inflated separately. (See Fig. 4.)

When in the duodenum the end balloon is inflated and pulled up in front of the pylorus, then allowed to recede about half an inch. Thereupon the second elongated balloon, lying just within the pylorus is inflated and left in position for about one minute

[1] Max Einhorn: A New Method of Catheterizing the Pylorus and Duodenum. *Medical Record*, October 9, 1909.

[2] *Idem*: Dilatation of the Stomach and Chronic Benign Ischochymia. *Illinois Medical Journal*, June, 1910.

[3] *Idem*. On Pylorospasm. *Medical Record*, January 21, 1911.

[4] Stretching of the Pylorus in Benign Stenosis. *Ibidem*, June 10, 1911.

It is understood that the physician must know exactly the amount of air he is permitted to introduce or the size of the balloon stretching the pylorus, so that no harm can result. Ordinarily I first measure the lumen of the pylorus with an ordinary dilator before applying the double balloon instrument.

I now wish to describe two of the new cases treated in this manner.

CASE I. Dr. F. L. C., D. D. S., November 24, 1911, forty-five years old, began to have neuralgic pains in the region of the liver fourteen years ago. These pains were worse at night and during the winter. About six years ago he began to vomit, first without, later with pain, several times a day, between the regular meals. At first, attacks occurred at intervals of one to three months; once he was free for six months, and once for an entire year. About five years ago he noticed the relation between the attacks and the so called neuralgic pains, which were relieved by vomiting. For the last year he had been suffering steadily from pains and vomiting. Sometimes he would vomit a gallon of white, frothy, neutral material without bile or blood. At times he felt peristaltic movements. The stool was normal. He had lost thirty pounds during the last year.

September 30, 1911, examination of the gastric contents one hour after Ewald's test breakfast shows HCl —, acidity, 75. Stomach extended to the pubis; peristaltic restlessness distinctly marked. In the fasting condition a considerable amount of gastric juice, with but few remnants of food was found. Pains appeared about one hour after meals and were intense; they were slightly relieved by the ingestion of milk or alkalies, but did not wholly disappear. There was vomiting of large quantities toward evening and during the night.

October 9th, 10th, 11th, the pains were so severe that atropine would not subdue them. Several hypodermics of morphine had to be given.

On October 2d the duodenal bucket was given at night and removed the following morning, the patient being in the fasting condition. The length of thread from the lips amounted to 75 cm. and the last 10 cm. were distinctly golden yellow (bile), while the rest was white.

October 19th, the pyloric dilator was introduced in the evening and the pylorus measured the following morning. Size 34 F. could be pulled through, but no larger size. The diagnosis of a moderate stenosis of the pylorus of a benign type, leading to pylorospasm and dilatation of the

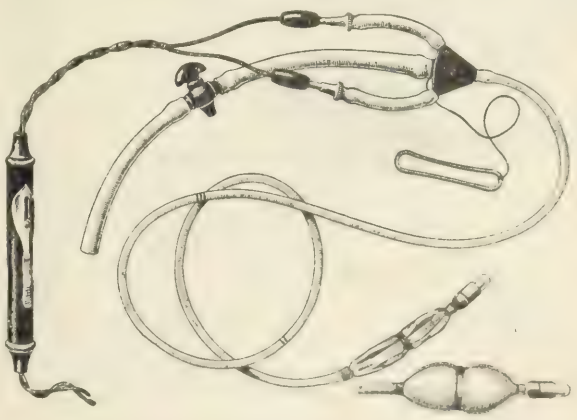


FIG. 2.—The pyloric dilator and diaphane.

stomach was made. Patient was treated by stretching of the pylorus on October 21st, 24th, and 31st.

November 5th, examination of the stomach in the fasting condition showed absence of food remnants and presence of 30 c. c. of clear gastric juice. The patient felt better and had gained somewhat in weight.

November 13th, the pylorus was dilated up to 52 F. and November 24th to 55 F. By December 22, 1911, he had gained twenty-three pounds.

CASE II. December 12, 1911. Mrs. J. B., about thirty-eight years old, had, according to the opinion of the family

physician, probably a duodenal ulcer thirteen years ago. There were several small hemorrhages from the bowel and then one very large hemorrhage, when patient became for a while unconscious. Since the large hemorrhage she had been free from loss of blood. Patient was laid up many

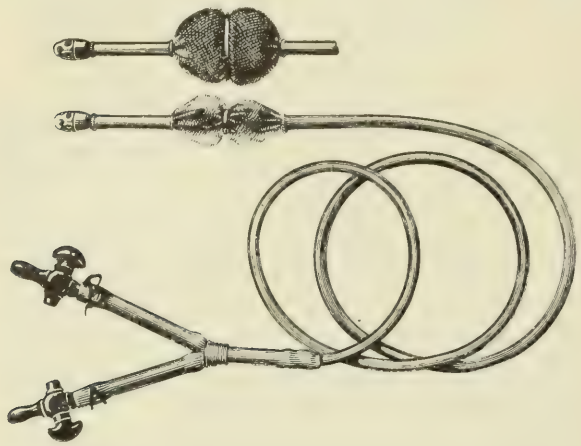


Fig. 3.—The pyloric dilator and aspirator. *A*, canal leading to aspirating end; *B*, canal leading to inflatable balloon.

weeks. Subsequently she was constipated for three years and has had gastric trouble ever since. This was characterized by the presence of pain which was more or less continuous. It came on three or four hours after eating, and had been worse during the last three months.

Patient had never vomited any blood. She has had waterbrash at times when food did not agree with her. Patient stated that food was found in her stomach in the morning in the fasting condition.

Present Condition: Stomach extended a hand's width below the navel. The liver was slightly prolapsed, reaching down to three fingers' widths below the costal arch in the mamillary line. Kidneys were movable.

The gastric contents revealed a normal acidity. The duodenal bucket test, December 15, 1911, showed the thread to be biled stained from 52 to 92 cm. and revealed a brownish discoloration from 32 to 42 cm. The pylorus was therefore permeable to 23 F. (the size of the bucket), and the stomach probably ulcerated near the cardia.

Patient was then placed on duodenal alimentation from December 17 to 31, 1911. January 4th, 1912, the pylorus

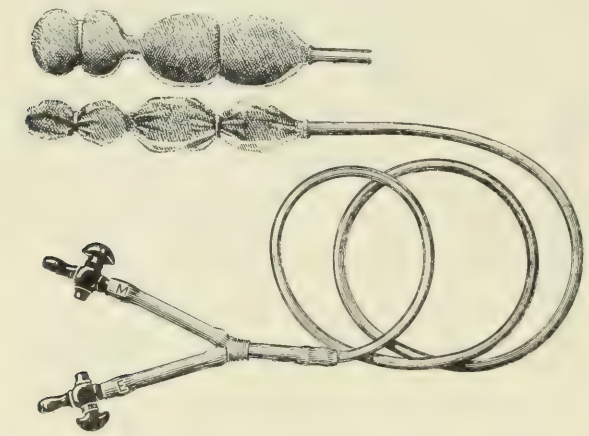


Fig. 4.—The double balloon pyloric dilator. *E*, canal leading to end balloon; *M*, canal leading to the oval middle balloon.

was measured by means of the pyloric dilator. Balloon could be pulled through when inflated to 3.8 cm., but not above this figure. The pylorus was now regularly stretched about once a week; January 10th, size 4 cm. passed through; January 18th and 30th, size 4.4 cm.

Patient improved considerably; she gained in weight and strength and was able to partake of plain ordinary food without much discomfort.

The results of this mode of treatment are very encouraging. The internal stretching should be attempted in all appropriate cases before acceding to surgical intervention. Moreover, its use is imperative in benign pyloric strictures complicated with affections of the heart, kidneys, and grave lesions of the liver. For in these the mortality of operative intervention is so great as almost to forbid it, while the widening of the pylorus by the internal route can be done practically without risk.

20 East Sixty-third Street.

DIFFERENTIAL DIAGNOSIS OF PANCREATIC AFFECTIONS AND GALLSTONES.*

By John F. Erdmann, M. D.,
New York.

From an anatomical standpoint, jaundice may be a factor of minor importance in either disease considered in this paper.[1] Bearing in mind the relations of the orifices of the ducts of Wirsung and Santorini to the choledochus and the Vaterian papilla, we can readily understand how calculus obstruction from within the choledochus, and extrinsic pressure from without, as malignancy either of the papilla of Vater, or pancreatic malignancy, chronic pancreatitis, etc., will be followed by jaundice and obstruction to the pancreatic ducts. In such an instance both gallbladder disease and pancreatic invasions may go hand in hand.

That the symptomatology of pancreatitis, in its early onset, simulates in great degree those of gallbladder prodromes and those of chronic appendicitis we must for the present admit, and can arrive only at a diagnosis of suspicion in these cases, i. e., the early or prodromal cases by the closest of clinical observation in the preoperative cases and those operated in, in which such allied symptoms have existed; then with clinical deductions a diagnosis can be arrived at more readily. As far as the literature of the present day goes, these cases have no blood, urine, or fecal examination results of any positive diagnostic value.

We all are aware that the gallstones removed during an acute evidence must have existed for years before the typical diagnostic sign of pain or colic was present, but for years failure to recognize the prodromal symptoms of eructations, flatulency, revulsions, and abhorrence of foods escaped our notice; that to-day many cases of gallstones are suspected or diagnosticated on the foregoing so called prodromal symptoms alone. How well these same remarks apply at the present date to the chronically diseased appendix, the owners of which, in the great proportion, can give no history of a typical acute attack as now understood.

The more the surgeon sees of so called chronic pancreatitis (characterized by hardening of the pancreas), upon opening the abdomen, the more he

*Read before the Eastern Medical Society of the City of New York, February 9, 1912.

[1]In this discussion I have limited the affections of the pancreas to the infection and malignant varieties and in the gallbladder involvements to cholelithiasis and the infections by pus only.

feels the necessity of carefully taking the history of his preoperative patients, and being doubly careful to crossexamine his postoperative patients in whom he found the suspicious hardening of the vulnerable or entire area of the pancreas. It will be by such means, aided, naturally, by further chemical and physiological analysis that the disease will become a diagnostic entity in its early stage, allowing thereby medical and dietary attention to take precedence in the treatment of the pancreas.

In the pronouncedly chronic nonmalignant pancreas we have made fair advance, both by clinical observation and chemicophysiological research.

We have the allied symptoms of a gallbladder disease, distention, flatulency, sense of weight and discomfort in the epigastrium, revulsion or aversion to foods, usually the meats and fatty meats, loss of weight; in some, especially the emaciated, a palpable pancreas and, as seen once by me in a woman sent me by Doctor Pomeroy, of Waterbury, and this condition also quoted by Doctor Deaver, in a paper before the hospital graduates of this city, a pancreas quite freely movable. Then the evidence of jaundice in some, that may be infective, of the ascending variety, or by compression due to the pancreas in its enlarged state pressing on the choledochus, especially so in those patients in whom the choledochus passes through, or is deeply imbedded in the pancreas, thereby producing a pressure jaundice.

Feces. The stools, in my observation, have been typically characteristic. Knowing full well that bile is passing (in postoperative cases) out both by the abdomen and through the ducts, one sees a stool that is voluminous as to the intake of food; not only one stool a day, but several, the color being of a peculiar gray yellow character, rarely with formation or shape, and resembling a "raising of bread" in which the fermentation bubbles of the yeast are exploding on the surface. The impression is also made that the large stool weighs far less than an ordinary movement. There is also frequently seen evidence of free fat globules to larger collections of fat floating on the surface or mixed with the mass. Muscle fibres are in evidence in many stools.

The urine. For some time glycosuria was considered an evidence necessary for the diagnosis of pancreatitis. In a series of six cases of pancreatitis reported previously, and several operated in since, sugar was never present, and to-day glycosuria may be considered a result rather than a symptom of pancreatitis.

Mayo Robson, in an address before the American Surgical Association, May, 1901, said: "Glycosuria, in my experience, is a rare phenomenon in this relationship."

The Cammidge "C" reaction. I am not to-day as deeply impressed with this reaction, as I stated in my second paper on pancreatitis; but am more inclined to take a point between my pessimism of the first paper and my optimism of the second. In this I believe I am in accord with the later day ideas of Doctor Deaver, the Mayos, etc. In justice to Robson and Cammidge, I again quote from the preface, page 11: "In our practice we never rely upon the pancreatic reaction alone in making a diagnosis of pancreatitis or malignant disease of the pancreas, but always take into account the results of a complete analysis of the urine and a chemical examination of the feces, as well as the clinical symptoms; it is from neglect of these precautions, and under the false notion that the pancreatic reaction was asserted to be pathognomonic, that the mistakes made by some writers have arisen."

In the *Lancet* for June 3, 1911, Cammidge, in Chronic Pancreatitis, says: "The pancreatic reaction is the most useful of all in the experience of the writer. Though not by itself sufficient, it is suggestive. That a negative reaction is against active pancreatitis, but does not exclude cirrhosis of the gland, the result of past inflammation, or malignant disease of the pancreas, in which negative result is obtained in about two thirds of the cases."

This reaction is evidenced in other conditions, among which gallbladder disease stands foremost.

Watson, in the *British Medical Journal* for April 11, 1908, page 858, says: "In a series of 250 analyses from 100 consecutive cases, I found positive reaction in such cases as acute and chronic pancreatitis, acute suppurative appendicitis and peritonitis, malaria (jaundice with epigastric tenderness), and many others, making a startling variety. He arranges them thus:

1. A group in which there is a definite logical evidence of serious organic disease of the pancreas, for example, acute and chronic pancreatitis, usually associated with disease of bileducts.

2. A group in which the reaction of urine is associated with pronounced arteriosclerosis, a condition usually accompanied by more or less sclerosis in different glands.

3. A group in which reaction is dependent upon congestion and catarrhal conditions of the gland duct and substance, with associated toxemia; for example, advanced heart disease, appendicitis, pneumonia, malaria, and the like.

Doctor Watson believed the test to be of value in spite of the many cases which give pancreatic reaction.

Louis Blanchard Wilson, of Rochester, in a paper entitled Clinical Experiences with Cammidge Reaction, published in *Collected Papers of the Mayo Clinic,* 1910, summarizes thus:

On this basis, in which we have followed Cammidge as accurately as possible, the results of our 504 tests may be analyzed as follows:

Group 1. Patients with pancreas involved: In this group there were twenty-six cases, seventeen of which were examined before operation. Of these, six gave positive reactions. Of the same twenty-six cases examined five days after the operation, six were positive, three of these having been positive before the operation, one negative, and two not previously examined. Twenty-four of these cases were examined about the ninth day after operation, and three gave positive reactions. These three had all been positive at the examination before operation. One had been positive on the second test, and the other two negative.

Group 2. Patients with pancreas not involved: In this group, containing seventy-four cases, twenty-six were examined before operation. Of these sixteen were positive. Five days after operation all seventy-four were again examined, and twenty-one were positive. Four of these had been positive before operation, two had been negative, and the remaining fifteen had not been previously examined. About nine days after operation sixty-nine of these cases were again examined. Seventeen were positive. Of

these five had been positive before opration, one had been negative, and the remaining eleven not examined before operation. Twelve of the seventeen cases had been positive five days after operation.

Group 3. Sick persons whose pancreases were not examined, but who exhibited no recognizable symptoms of pancreatitis: In this group 207 cases were examined. Seventy-three of these were positive. Of these seventy-three positives, seventeen were goitre cases (forty-four goitre cases in all being examined), nine were appendicitis cases, and the remainder were cases of salpingitis, uterine tumors, etc.

Group 4. Apparently well persons (members of the hospital staff): In this group seventeen cases were examined from one to five times each. Of these five were positive.

It will thus be seen that of the twenty-six patients who were shown to have pancreatitis (group 1) only nine (thirty-five per cent.) gave a positive reaction, and, even of these seven in one or more of the series of three tests gave negative results. Of the seventy-four sick persons without pancreatitis (group 2), thirty-five (forty-seven per cent.) gave one or more positive reactions. Of the 207 sick persons who in all probability had no pancreatitis (group 3), seventy-three (thirty-five per cent.) were positive. Of the seventeen well persons, five (thirty per cent.) were positive.

SUMMARY.

From the foregoing it is apparent:

1. That even where the most elaborate care is exercised to follow the technique of Cammidge's "C" reaction, in the most uniform manner, *if knowledge of the clinical histories and other factors of personal equation be eliminated;* the end results, judged by Cammidge's own criteria, must be considered, as a means of diagnosticating disease of the pancreas, as both valueless and misleading.

2. There is no apparent clinical relationship between disease of the pancreas and any of our various types of end reaction.

3. It does not seem to us that the end reactions are artifacts, but rather that they indicate actual metabolic variations. The relationship of these changes in metabolism to the welfare of the patient is not apparent.

Continued inflammatory changes may proceed to tumor formation, giving one a palpable tumor in the epigastrium. In the acute hemorrhagic or fulminating variety we have a picture not to be forgotten.

I cite the symptoms here from both of my previous articles on pancreatitis:

Symptoms. The onset of this condition is usually a sharp pain, accompanied with varying degrees of shock, rapidly followed in some cases by a profound toxemia, denoted or characterized by a peculiar cyanosis and lividity, with shallow breathing and rapid pulse. Halstead also calls attention to the lividity of the face and abdominal wall.

The pain is frequently of a far more intense degree than that of appendicitis or gastric perforation, etc.; in fact, my suspicions were aroused in several of my cases by the large quantities of morphine used by the family physicians to control the pain.

Hiccough is a symptom of relative frequency and persistence; there is vomiting with, and following the pain onset. Pain in the back, of an intense splitting character, has been evident in several of my cases. Pain as a symptom was also spoken of by Halstead as being more severe than that of gallstone colic. These symptoms, when considered with a history of previous digestive disturbances, and gallbladder or duct invasions, should cause us to give the subject of pancreatitis great weight.

Fitz's rule (Robson and Cammidge, page 399) is worth bearing in mind: "Acute pancreatitis is to be suspected when a previously healthy person, or sufferer from occasional attacks of indigestion is seized with violent pain in the epigastrium, followed by vomiting and collapse, and, in the course of twenty-four hours or more, by a circumscribed epigastric swelling, tympanitic or resistant, with slight rise of temperature."

The subsequent manifestations are those of any ordinary peritonitis, i. e., abdominal distention, obstruction due either to pancreatic pressure or intestinal paresis. Later, a tumor formation anywhere in the epigastric, or rather, supraumbilical zone.

Malignancies of the pancreas may present any or all of the symptoms of the chronic variety, with the later added one of tumor, in numbers of instances.

In these cases jaundice is of the persistent and deepening variety. An interesting statement is made in this connection by Mayo Robson in the address previously quoted: "There is less danger of serious hemorrhage in patients jaundiced from gallstones than in those where jaundice depends upon pancreatic disease." The Cammidge reaction in malignancies is less constant than in infective or inflammatory cases.

Reviewing the preceding remarks, one can see how many of the signs and symptoms of cholecystitis, etc., dovetail into those of invasion of the pancreas. Early or prodromal symptoms are so closely allied that at present positive differentiation is impossible.

Jaundice, in gallbladder involvement, is either due to obstruction from within or without, or infective, of an ascending or descending nature.

Under "obstruction within," we have the most frequent one of stone in the hepaticus or choledochus.

Then these, by pressure from without, are malignancy and sclerotic changes.

The infectious varieties are those either by the blood or ascending by the introduction of organism from below, as seen in patients with cholangitis or cholecystitis.

Pain. This is an entirely different picture from that seen in acute pancreatitis. The position in pancreatitis is usually epigastric, or to the left of the median line, rarely to the right, and also in the middle of the back. In gallbladders, pain is to the right of the epigastrium, through to the back and under the shoulder. In pancreatitis, the pain is frequently so excessive as to produce shock and collapse, while in gallbladder disease we rarely see shock or collapse.

Recurrence of pain is continuous in gallbladder disease; usually continuous in pancreatitis.

Pulse and general condition in gallbladder disease, good, while in acute pancreatitis the condition is a profound one, making a lasting impression.

Temperature in acute pancreatitis is subnormal to rapid rise. Gallbladder patients with colic only, no temperature; chill, or chilly sensations, and elevation in acutely suppurative to gangrenous, when the pulse becomes elevated in proportion to the intensity of the infective process.

Tumor, in gallbladder disease, is to the right half of the body, while in pancreatitis it is to the middle and left upper zone.

Cholelithiasis. History of attacks and repeated attacks of colic when colic is once established.

Stools are normal to pale, putty color, usually formed, no fat, no muscle fibre.

Urine shows evidence of bile, by tests. Macroscopically, it is from pale to deep amber in color. Cammidge "C" may be in evidence.

Abdominal palpation. Mayo Robson point of tenderness and Murphy sign on pressure are, to my belief, almost conclusive of gallbladder invasion, although occasionally duodenal and pyloric ulcer have given me both; but in both of these diseases the history has cleared the field of doubt.

Dullness occurs in the flanks occasionally in hemorrhagic pancreatitis, due to rapid fluid exudate in the peritoneal cavity.

Loss of weight in gallbladder disease is often as marked as in malignancies or pancreatic involvement.

60 West Fifty-second Street.

THE LIABILITY OF PHYSICIANS FOR ACCIDENTS OCCURRING DURING ANESTHESIA.*

By Almuth C. Vandiver,
New York,
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The liability of physicians for fatality or injury resulting from the negligent administration of anesthetics to patients is absolute. This is true whether the physician personally administers the anesthetic or whether he causes the same to be administered by a licensed assistant or by a trained nurse or by any other person. The Legislature of the State, in their careful endeavor to protect the health of the public, has provided that no person other than a licensed physician may have in his possession any anesthetic substance capable of producing stupor or unconsciousness, with intent to administer the same or cause the same to be administered to any person without the latter's consent, unless by the direction of a duly licensed physician. This offense is declared to be a felony and the punishment prescribed for a violation of the section is imprisonment for not more than ten years in the State prison. The statute in full, which is subdivision 1 of Section 1752 of the Penal Law, is as follows:

A person, other than a duly licensed physician or surgeon engaged in the lawful practice of his profession, who has in his possession any narcotic or anesthetic substance, compound, or preparation, capable of producing stupor or unconsciousness, with intent to administer the same or cause the same to be administered to another, without the latter's consent, unless by direction of a duly licensed physician, is guilty of a felony, punishable by imprisonment in the State prison for not more than ten years.

In the administration of anesthesia the law does not require the highest skill of the medical practitioner, but only a reasonable amount thereof. Care, diligence, faithfulness, and a fair average degree of skill and knowledge are the law's requirements.

*Paper read before The Bronx Medical Association, February 29, 1912, by John G. Dyer, Associate Counsel.

The implied contract of a surgeon is not to cure, but to possess and employ in the treatment of the case such reasonable skill and diligence as are ordinarily exercised in the profession by thoroughly educated surgeons, and in judging of the degree of the skill required regard is had to the advanced state of the profession at the time.

Judge Vann, reviewing the former decisions in the courts of this State, defined the full responsibility of the physicians and surgeons in the following words:

The law relating to malpractice is simple and well settled, although not always easy of application. A physician and surgeon, by taking charge of a case, impliedly represents that he possesses, and the law places upon him the duty of possessing, that reasonable degree of learning and skill that is ordinarily possessed by physicians and surgeons in the locality where he practises, and which is ordinarily regarded by those conversant with the employment as necessary to qualify him to engage in the business of practising medicine and surgery. Upon consenting to treat a patient, it becomes his duty to use reasonable care and diligence in the exercise of his skill and the application of his learning to accomplish the purpose for which he was employed. He is under the further obligation to use his best judgment in exercising his skill and applying his knowledge. The law holds him liable for an injury to his patient resulting from want of the requisite knowledge and skill, or the omission to exercise reasonable care, or the failure to use his best judgment. The rule in relation to learning and skill does not require the surgeon to possess that extraordinary learning and skill which belong only to a few men of rare endowments, but such as is possessed by the average member of the medical profession in good standing. Still, he is bound to keep abreast of the times, and a departure from approved methods in general use, if it injures the patient, will render him liable, however good his intentions may have been. The rule of reasonable care and diligence does not require the exercise of the highest possible degree of care, and to render a physician and surgeon liable, it is not enough that there has been a less degree of care than some other medical man might have shown, or less than even he himself might have bestowed, but there must be a want of ordinary and reasonable care, leading to a bad result. This includes not only the diagnosis and treatment, but also the giving of proper instructions to his patient in relation to conduct, exercise, and the use of an injured limb. The rule requiring him to use his best judgment does not hold him liable for a mere error of judgment, provided he does what he thinks is best after careful examination. His implied engagement with his patient does not guarantee a good result, but he promises by implication to use the skill and learning of the average physician, to exercise reasonable care, and to exert his best judgment in the effort to bring about a good result.

One of the recent cases of fatality caused by the administration of chloroform, considered by the appellate courts of this State is that of Yaggle v. Allen, reported in the twenty-fourth volume of the Appellate Division Reports, at page 594, 1898:

In this case the deceased had called upon the defendants, who were father and son, each a physician, to have a dislocated shoulder set. The deceased's shoulder was subject to dislocation, and in the preceding ten years it had been dislocated and reset by the defendants upon at least eight different occasions, and upon some or all of these occasions the defendants, before performing the operation for resetting the shoulder, had placed the deceased under the influence of chloroform.

Upon the occasion upon which suit was based, the deceased was placed in the operating chair, chloroform was administered to him, and the dislocated shoulder put in place. After this operation had been performed, and while still in the operating chair, the deceased expired. Thereupon suit was brought against the physicians for negligence in the performance of the operation and the administration of anesthetics.

Judgment was had for the patient's representatives. The Appellate Court reversed the judgment on the ground that in view of the conflict of expert testimony it was impossible to say whether the deceased's death was caused by the use of chloroform or from calcareous degeneration of the heart.

Recently, the administration of anesthesia by trained nurses has been advocated, and, as the writer is informed, some hospitals now permit such administration by trained nurses. For these reasons a consideration of the law relating to registered nurses may be interesting. The practice of registered nurses was regulated by Chapter 293 of the Laws of 1903 in effect April 27, 1903:

This statute provides that individuals holding a diploma from a training school for nurses, connected with a hospital or sanitarium giving a course of at least two years, and registered by the regents of the University of the State of New York as maintaining in this and other respects proper standards, shall be styled and known as registered nurses.

Training schools for nurses registered by the regents shall provide both practical and theoretic instruction in the following branches of nursing: (a) Medical nursing (including (h) materia medica), (b) surgical nursing, with operative technique including (c) gynecological, (d) obstetrical nursing (each pupil to have had the care of not less than six cases), (e) children's nursing, (f) a thorough course of theoretical instruction in contagious nursing where practical experience is impossible, (g) diet cooking for the sick including, 1, twelve lessons in cooking in a good technical school, or with a competent diet teacher; 2, food values, and feeding in special cases, to be taught in classes not by lectures, (i) bacteriology.

The full examination includes both a practical demonstration and a written test, which includes questions on the following: 1. Elementary bacteriology; 2. elementary materia medica; 3, elementary anatomy and physiology; 4, diet cooking; 5, medical nursing including contagious diseases; 6, surgical nursing including gynecology; 7, obstetrical nursing; 8, nursing in children's diseases; 9, genitourinary (for men), examination prescribed by the board of regents.

Section 206 of Chapter 293 of the Laws of 1893 provides: "Nothing contained in this act shall be considered as conferring any authority to practise medicine or to undertake the treatment or cure of disease in violation of article 8 of this chapter."

Article 8, referred to, is article 8 of the Public Health Law, of 1893, which said section covers the licensing and practising of medicine within the State of New York, but this section was amended by the Laws of 1907, Chapter 344, and therefore the amendment is the law that must not be violated. Section 7 of Chapter 344 of the Laws of 1907 provides:

The practice of medicine is defined as follows: "A person practises medicine within the meaning of this act, except as hereinafter stated, who holds himself out as being able to diagnosticate, treat, operate, or prescribe for any human disease, pain, injury, or deformity or physical condition, and who shall either offer or undertake, by any means or method to diagnosticate, treat, operate, or prescribe for any human disease, pain, injury, deformity, or physical condition."

The definition of the practice of medicine in the law of 1907 is identical with the definition in the present law governing the practice of medicine, Chapter 45, of the Consolidated Laws. Section 250 of Chapter 45 of the Consolidated Laws in reference to registered trained nurses repeats the language of section 206 of Chapter 293 of the laws of 1903.

It will be observed that the training schools recognized by the regents must include instructions in surgical nursing with operative technique including gynecological. It will be further observed that the examination prescribed by the regents includes surgical nursing with gynecology.

In the absence of any express authorization in the statute permitting nurses to administer anesthesia, it does not seem that instruction in "surgical nursing with operative technique" nor examination in "surgical nursing including gynecology," would sufficiently fit any trained nurse for the responsibilities devolving upon anesthetists.

Assuming that the administration of anesthesia is a part of the practice of medicine, it would seem that the Legislature, in passing Section 206, hereinabove referred to, providing that nothing in the act should be considered as conferring any authority to practise medicine, did not intend to grant to trained registered nurses any authority to exercise any of the functions of duly licensed physicians.

Finally it may be said that, in the opinion of the writer, anesthesia should be administered to patients only by registered physicians, and the consent of the patient in all instances should be obtained for the administration of the anesthesia. The delegation of the function of the administration of anesthesia to trained nurses, in the opinion of the writer, should be deprecated and discouraged.

The liability of the physician if negligent is fixed and certain. The negligence of his agent, registered physician or other person, is imputable to the physician and renders him also primarily liable.

THE EXPERIMENTAL PROOF OF THE IDENTITY OF BRILL'S DISEASE AND TYPHUS FEVER.*

By John F. Anderson, M. D.,
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Director Hygienic Laboratory,
And Joseph Goldberger, M. D.,
Washington, D. C.,
Passed Assistant Surgeon, United States Public Health and Marine Hospital Service.

In response to an invitation from your chairman, I have the honor to be here this evening in order to present to you the results of some experimental work recently completed by Doctor Anderson and myself. These results prove, we believe, that a disease observed and studied in this city by Dr. Nathan E. Brill—a distinguished member of this academy—and described by him as "an acute infectious disease of unknown origin" is identical with typhus fever.

I shall try to present the details of our experiments with the aid of some illustrative fever charts and diagrams (Fig. 1). But before going into these details a brief review of the evolution of the problem, of the way in which we approached its solution, and a summary of our experimental results, with a brief reference to their significance, seem

*Presented by invitation at a meeting of the Section in Medicine of the New York Academy of Medicine, March 19, 1912, and read by Doctor Goldberger.

pertinent and may help to a clear understanding of the discussion.

As far back as 1896, Doctor Brill began to notice that among his typhoid fever cases there would be presented from time to time types that were distinguishable because of the brief duration of the fever, the presence of a distinctive eruption, and the absence of the specific agglutination reaction. These early observations embodied in "a study of seventeen cases of a disease clinically resembling typhoid fever but without the Widal reaction" were published in 1898.

Doctor Brill continued his observations on this type of what was generally regarded as an anomalous typhoid or paratyphoid infection, and in April, 1910, published a paper (*American Journal of the Medical Sciences*) based on a clinical study of 221 cases collected up to December 1, 1909. Basing himself on a study of these cases, Doctor Brill presented a description of what he characterized as "an acute infectious disease of unknown origin," which he conclusively showed could be satisfactorily distinguished from typhoid fever. Not only did he distinguish it from typhoid but because of its lack of virulence—not having noted a single fatal case—and because of certain epidemiological features, he attempted also to differentiate it from typhus, although he at the same time stated that from the clinical aspects alone, no line of demarcation could be fixed.

This paper at once aroused our keenest interest, for it so happened that its appearance found Doctor Anderson and myself recently returned from Mexico City, where we had been engaged during the previous winter in the study of typhus fever. Brill's description of the disease observed by him in New York struck both of us as a splendid delineation of the disease we had been studying in the typhus wards of the general hospital in the city of Mexico. Having brought back with us some typhus immune monkeys, we at once attempted to obtain access to a case of the New York disease, with a view of obtaining blood for an immunity test, and so determining definitely the identity or nonidentity of the two diseases. In this, however, we were unsuccessful.

FIG. 1.

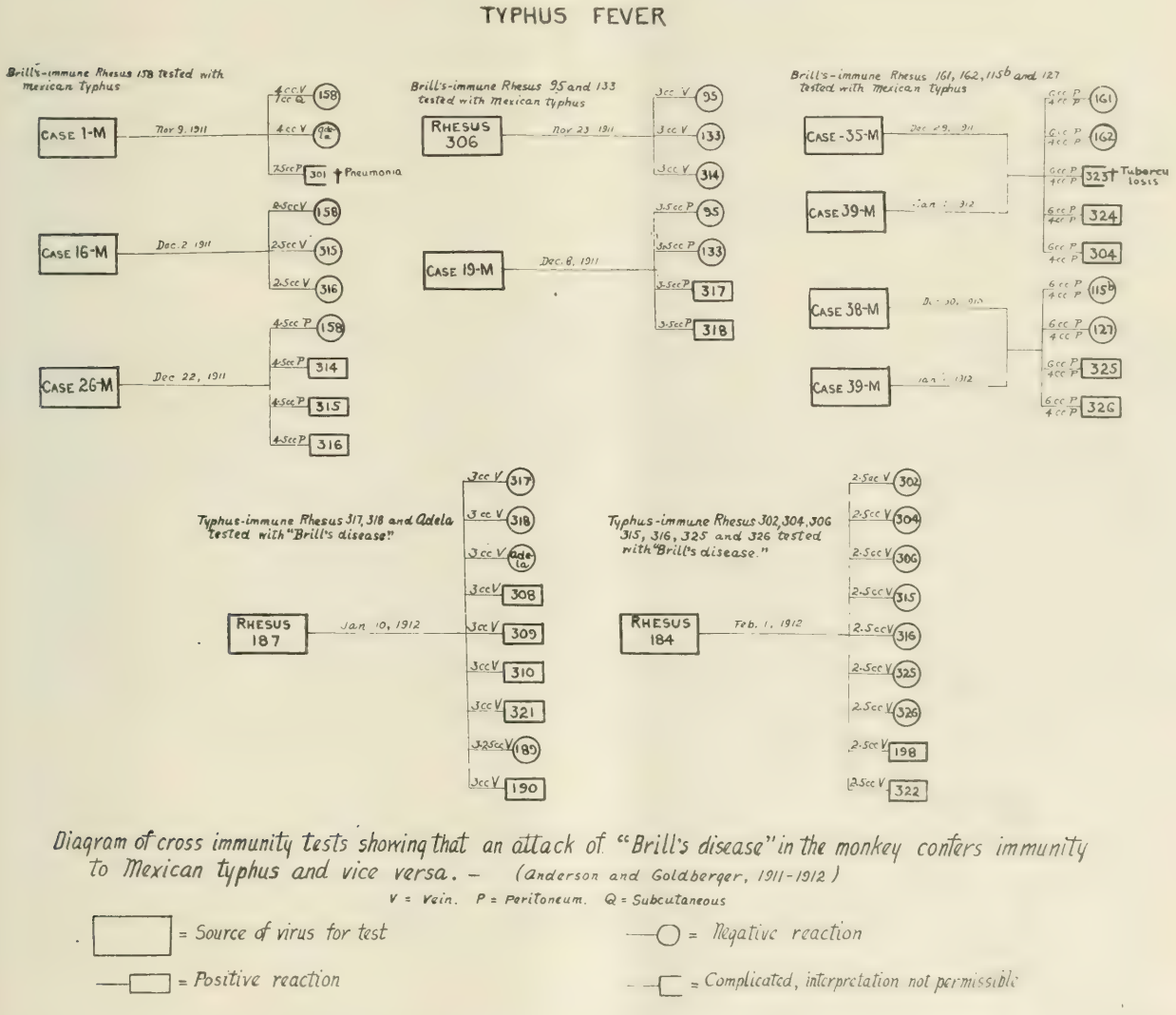


Diagram of cross immunity tests showing that an attack of "Brill's disease" in the monkey confers immunity to Mexican typhus and vice versa. — (Anderson and Goldberger, 1911-1912.)

V = Vein. P = Peritoneum. Q = Subcutaneous

= Source of virus for test

= Positive reaction

= Negative reaction

= Complicated, interpretation not permissible

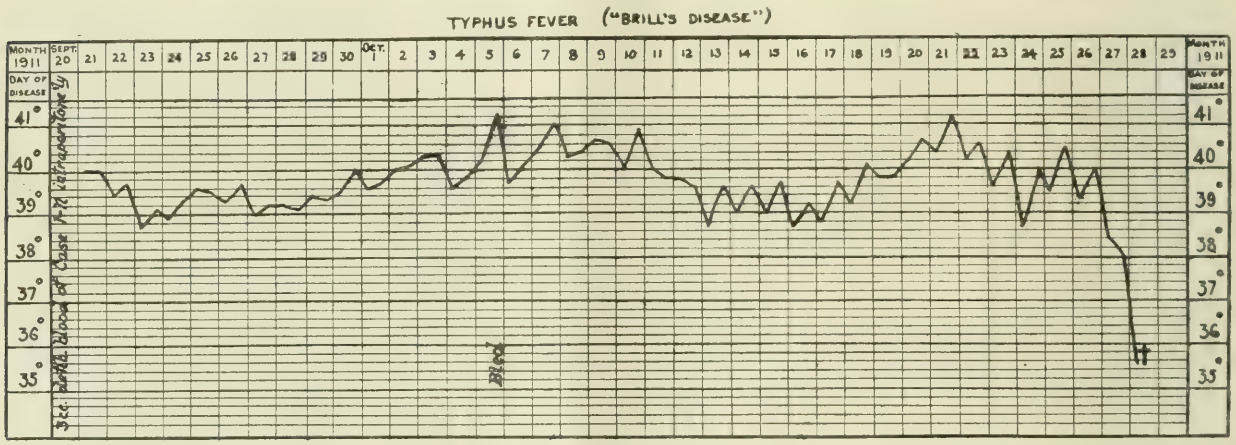
The pressure of other work diverted and held our attention until August, 1911, when our interest in the subject was again aroused by the appearance in the *American Journal of the Medical Sciences* of another paper by Doctor Brill. In this paper, as you are well aware, Doctor Brill reports a further study of thirty-four cases, including one death, observed during the year ended December 1, 1910. In this paper, also, Brill reports some monkey inoculations made by Dr. R. Ottenberg at the laboratory of Mount Sinai Hospital. These experiments interested us greatly. There were three in all. In the first, five c.c. of blood from a patient in the seventh day of his disease, was injected intraperitoneally and subcutaneously into a rhesus monkey. Doctor Brill notes that this animal's temperature was taken daily for a month and showed no greater variations than those of another uninoculated healthy monkey. The animal was lively, and at no time appeared sick.

In the second experiment, five c.c. of blood from a patient in the sixth day of his sickness was injected intravenously into a semnopithecus. The temperature of this animal was taken at regular intervals for a period of three weeks; it did not show any pyrexia.

The third experiment was with material obtained at autopsy eighteen hours after the death of a patient in the tenth day of illness. Three monkeys were inoculated; one, with blood, one with an emulsion of liver, and one with an emulsion of spleen. These three animals were kept under observation for three months and showed no signs of illness. Brill does not so state, but it is inferred from the context, that the temperatures of these three monkeys (two of them capuchins) were not taken—a point of considerable importance to which I shall refer again.

Having in mind the apparently ready susceptibility of the monkey to Mexican typhus, as shown by the experience of Ricketts and Wilder, Gaviño and Girard, and Anderson and Goldberger, we felt, at first, that Brill's results amply justified his conclusion that he was "dealing with a disease in many respects different at least from the typhus fever of Mexico." A more critical examination of the details of these experiments, however, led us to modify this opinion. In connection with his first two experiments it occurred to us that the negative outcome might be accounted for by assuming that the cases furnishing the blood for the inoculations were mild and that the blood was of low virulence. This explanation seemed not at all improbable, in view of the mildness of the disease with which he was dealing. With respect to the third experiment, we felt that this could be excluded from serious consideration in view of the fact, first, that there was no evidence to show that the blood and organs of typhus are necessarily infective eighteen hours after death, and, second and more important, that observation of monkeys without temperature taking cannot be relied upon to detect even a fairly sharp reaction, and certainly not a mild one. In view of these considerations the experiments reported by Brill, though extremely interesting and suggestive, were by no means conclusive. Almost simultaneously with this paper by Brill there appeared a paper by Louria (*Medical Record*, August 26, 1911) embodying a study of eighteen cases of a fever, con-

FIG. 2.



Temperature curve of Rhesus No. 150 in which original inoculation was made from Case I "Brill's disease." Curve shows relapse followed by death. — (Anderson and Goldberger, 1911.)

forming to the type described by Brill, observed at the Jewish Hospital of Brooklyn, during the summer and fall of 1910. Louria was evidently disposed to regard these cases as typhus, for he states that "if future investigation will show the non-identity of Brill's disease and typhus fever, one will be warranted in concluding that this handful of symptoms, occurring together in no other recorded condition, is a new addition to our nosology."

These papers stimulated our interest anew, and we decided to try once more to obtain access to cases of this disease. This time we were more fortunate and, on September 20, 1911, we saw our first case of Brill's disease in one of the wards of Mount Sinai Hospital. For the privilege of studying this and two other later cases, we are indebted to the kind courtesy of Doctor Brill and his colleague, Dr. Leo Kessel. We are also indebted for one case to Doctor Louria. To these gentlemen I beg to extend the thanks of both Doctor Anderson and myself.

Our first patient was a Russian with a typical and fairly sharp attack. He was in the seventh day

of his illness when we first drew blood. With this blood we inoculated two rhesus monkeys, Nos. 149 and 150. The next day, the eighth of this patient's illness, blood was again drawn and used for the inoculation of two more rhesus monkeys. Both these animals died prematurely, so that they need not enter further into this discussion.

Of the pair first inoculated, one gave no indications of a reaction; in the second, however, after an incubation period of about ten days, a fever developed, the course and character of which I will show later on the screen (Fig. 2). The fever lasted thirteen days and was followed by a relapse, terminating in the death of the monkey. At the necropsy there were no gross lesions.

On the sixth day of this animal's fever blood was drawn by puncture of the heart and used for the inoculation of two fresh rhesus monkeys, Nos. 157 and 158. At the same time 0.5 c.c. of it was planted in a tube of standard nutrient broth. Although this culture was still without evidence of growth nine days later, and remained so until discarded, the temperature of both monkeys began to rise, and in both developed well marked febrile reactions. One of these animals (No. 158) was selected for passage, and since then, now over six months, we have successfully propagated this infection by passage from monkey to monkey through over fifteen generations. Of the three other cases that we have had the privilege of seeing, two furnished us with blood for monkey inoculations. These were successful in one, and apparently without result in the other.

It may be pertinent to recall at this point that two years ago we found, as have since then Ricketts and Wilder, Nicolle, and his colleagues, Gaviño and Girard, and others, that the lower apes—the rhesus and capuchin monkeys—react in a definite way after an inoculation with blood from human cases of typhus.

I say with blood of human cases of typhus because Nicolle, preceding us by a few months, though without our knowing it at the time, had concluded that this was impossible, that it was necessary to pass the virus through one of the higher apes—the chimpanzee—before it was capable of infecting the macacus monkey. It was this divergence in our results that, with some other reasons, to which I shall refer in another connection, made us think at that time that there was some essential difference between the Mexican and the European disease.

Following the publication of our results, and their immediate confirmation by Ricketts and Wilder, Nicolle found that by employing our technique, that is, by changing from the subcutaneous to the intraperitoneal route, and by using larger quantities of blood, he could readily infect the lower apes directly without preliminary passage through the chimpanzee.

In a monkey that has received an intraperitoneal or an intravenous injection of typhus fever blood of sufficient virulence, fever almost invariably develops after a quiescent period of six to seventeen days. The temperature of the animal rises fairly rapidly, sometimes very abruptly, reaching its fastigium in thirty-six to forty-eight or seventy-two hours. It then continues at or near the maximum, for a variable period of one or two to five or more days, then declines. The character of the defervescence is also variable; although usually gradual, it is frequently rapid, or even critical.

The fever may be accompanied by loss of appetite, thirst, a ruffling of the fur, and a drooping posture; more commonly, however, even with a well defined febrile reaction, the animal, except for some slight listlessness, shows hardly any outward manifestations. In other words, the fever is the only definite index of a reaction. This seems particularly true of the capuchin monkey. As I have already indicated, it is this fact that deprives Doctor Brill's third experiment of any significance. At the termination of the fever there is almost always manifest some degree of emaciation, but recovery is usually rapid. Occasionally after the temperature has been normal for three or four days, it may go up a second time; such a relapse may last five or seven or more days, and end in recovery or death. We have had a typhus mortality of about two per cent.

As soon as we were satisfied that the monkey was susceptible to Brill's disease, and that we could conserve the virus by passage, we prepared to test its relationship to typhus fever by a series of cross immunity tests. Our typhus immune monkeys of two years ago having in the meantime died, it was decided that I proceed to Mexico city, where typhus fever is endemic, in order to test there the susceptibility to typhus of some of the monkeys that had recovered from an attack of Brill's disease, and from there to send to Doctor Anderson in Washington, for a test of their susceptibility to Brill's disease, animals recovered from an attack of typhus.

Following this plan of procedure, we have tested the susceptibility to Mexican typhus of seven rhesus monkeys that had recovered from an attack of Brill's disease, and the susceptibility to Brill's disease of ten monkeys that we had reason to believe were resistant to Mexican typhus, with the following result:

Of the seven Brill's immune monkeys, in not one did typhus develop, although of nine healthy controls not one has failed to react, the reactions being well marked in seven, and abortive in two. Of the ten typhus immune animals, in not one has developed Brill's disease, whereas of eight monkeys inoculated as controls, only one has failed to react.[1] (Fig. 1.) We believe that these results justify the conclusion that an attack of Brill's disease confers an immunity to subsequent infection with Mexican typhus, and, conversely, that an attack of typhus confers immunity to subsequent infection with Brill's disease. In other words, Brill's disease, so called, and typhus fever are identical.

If this conclusion is correct, and there can be no reasonable doubt of its accuracy, then it is clear that typhus fever is, and has been endemic in this city for a great many years. Moreover, there is good reason to believe that what is true of New York is also true of other large American and

[1] A diagram of the details of these tests was shown on the screen.

Canadian cities, and indeed there is reason to suspect that what is true of Canada and the United States is also true of Europe.

For obvious reasons there will be many loath to admit this, even as a possibility. Yet when one recalls how frequently the mild forms of even the familiar infectious diseases are overlooked, it need occasion no surprise that the benign form of a disease, usually thought of as an exotic plague, should fail of recognition. The truth of this is not limited by political or geographical boundaries, as is shown, if evidence of the fact is necessary, by Friedman's statement made in his interesting contribution on *Brill's Symptom Complex,* when speaking of typhus in the Baltic provinces of Russia and Finland; that "when sporadic cases running a mild course, and consequently not accompanied by any mortality, occur in large cities, they are usually not recognized." Nor is the truth of this applicable to typhus alone, as is strikingly shown by the history of pellagra and of hookworm disease in the United States.

The demonstration that Brill's disease and typhus are identical clearly shows that the classical picture of typhus, as the "great masters of medicine" depicted it, is as incomplete as has been shown to be the case with the classical conceptions of yellow fever and smallpox.

Hereafter we must carry in our minds the picture, not only of the grave and fatal forms recognized by our fathers, but also of the mild and benign type so patiently studied and carefully depicted by Brill.

Although we attacked the problem I have been discussing, primarily because of its sanitary significance, it is not my purpose to go into a discussion of this phase of the subject. I desire simply to point out that a recognition of the prevalence of these mild forms of typhus gives us a rational explanation of what Osler has well characterized as a "remarkable feature" of this disease, namely, "the occurrence of a few cases at long intervals of time from any other outbreaks, and at great distances from any known foci of the disease." In other words, these mild forms constitute the missing epidemiological link between so called sporadic cases or outbreaks. In the perpetuation of typhus this mild form plays somewhat the same rôle that the "missed" or the "carrier" cases do in such diseases as diphtheria and typhoid.

On account of its fundamental importance, I shall bring this presentation to a close by reviewing briefly the present status of the question of the transmission of typhus.

No modern student can study, even casually, the epidemiology of typhus without being struck by certain peculiarities and certain curious inconsistencies.

All observers agree that it is peculiarly a disease of the poor and the miserable, that it is a disease of jails and of armies, in a word, a disease of the "great unwashed."

The student who is familiar with the long, and at times acrimonious controversy that raged over the question of the contagiousness or noncontagiousness of yellow fever, that did not end until Reed, Carroll, Agramonte, and Lazear, established Finlay's hypothesis on a firm bases, cannot but be struck by the somewhat similar controversy with respect to the contagiousness of typhus. Almost all writers begin by telling us that typhus is one of the most highly contagious of the infectious diseases, in proof of which they cite the terrible toll it has claimed from the medical, the nursing, and if I may put it that way, the laundering profession; that is, from those who come in intimate contact with the sick or their clothing. Yet, curiously enough, in almost the same breath we are told that under some circumstances there is little or no danger of contagion. We are told that the danger is almost nil, when the patient is cared for in a large well ventilated room. Indeed, it is a well recognized fact that a case of typhus in a well to do home practically never gives rise to a secondary case.

Now why is this so? How can we explain, how can we harmonize these peculiar, these apparently inconsistent, observations? We asked ourselves these questions when we first took up the study of typhus, two years ago. These peculiarities—these apparent inconsistencies—at once suggested to us (as they must to any modern student of epidemiology) that the key to the mystery lay in some insect intermediary. Assuming this to be the case, the question arose, what insect or insects could serve this purpose? One naturally thinks of the flea, the bedbug, the louse, the mosquito, the fly, and the tick as possibilities, but a little consideration of the responsibility of these insects enables one to rule out of serious consideration all but the louse. The flea, the mosquito, and the fly are no respecters of social or economic conditions, and the tick is essentially rural,—facts quite inconsistent with the epidemiological peculiarities of typhus.

Reasoning in this way, we finally concluded that if we assumed that the louse served as an intermediary, all the important facts in the epidemiology of typhus could be readily explained. Transmission by the louse would explain why typhus was peculiarly a disease associated with misery and poverty, why it was a vagabond's disease, and why it was a disease of jails and of armies; in brief, a disease peculiarly of "the unwashed."

Curiously enough, about the time we came to this conclusion, Nicolle, Comte, and Conseil (1909) published their first report of the successful transmission of typhus from monkey to monkey by means of the body louse. Without knowing of their work, however, we began ours, as did also Ricketts and Wilder. Our own work of two years ago was unexpectedly interrupted, and although, in one of the two experiments at louse transmission we at that time made, a mild febrile reaction developed in the monkey, which not improbably was an abortive typhus, we were obliged to leave our work unfinished and return to the United States.

Nicolle's work was soon repeated and confirmed by Ricketts and Wilder. These latter workers found that the bites of infected lice were, as a rule, insufficient to cause a definite febrile reaction, but did confer a resistance to subsequent infection by blood inoculation. They also showed that the monkey could be infected by rubbing into scarifications of the belly wall, some of the feces and abdominal contents of infected body lice.

The problem of the identity of Brill's disease and

typhus brought with it the opportunity again to take up and carry forward our work on the problem of the transmission of typhus. We accordingly tried to infect monkeys with Brill's disease by means of lice. We attempted to do this in two ways; one by the subcutaneous injections of crushed body lice, and the other by the biting of these insects. In these experiments the body lice were first allowed to feed on sick monkeys for a period of six days; they were then fed daily on a healthy monkey for six days. At the end of this time, the survivors were chloroformed, rubbed up in saline solution, and injected subcutaneously into another healthy monkey. Following this plan, we inoculated two monkeys subcutaneously, and two by biting. Of the former, both were negative. Of the latter, in one developed a well marked febrile reaction, which was followed by a relapse that ended in the death of the animal. Although an attempt at passage with the blood of this monkey was without success, we have no doubt that this animal (No. 165) had an attack of typhus. We believe, therefore, that we are justified in concluding that Brill's disease is capable of being transmitted by the bite of the body louse.

Nicolle's work, the work of Ricketts and Wilder, and our own, are sufficient, we believe, to justify us in considering as an established fact that typhus fever is transmissible by the body louse. The question naturally arises as to the possibility of its transmission by some other means. Nicolle has answered this query in the negative, basing himself essentially on epidemiological considerations. Ricketts and Wilder's negative results with fleas and bedbugs seemed to strengthen this view. To us, however, it appeared that a test of the capabilities in this respect of the head louse was desirable, because of its close biological relationship to the body louse. In order to test this point, therefore, we have made four experiments in all. In our first experiment, we obtained head lice from patients on admission to the typhus pavilion of the general hospital in Mexico city. After keeping these between twenty and twenty-four hours at room temperature without feeding, they were crushed, rubbed up in saline solution, and subcutaneously injected into a rhesus monkey. Following immediately upon the injection, there was a sharp, but temporary rise in temperature; then, about a week after the inoculation, the temperature of the animal again rose and did not return to normal for a week; in other words, a typical febrile reaction developed in this monkey. Although an attempt at passage with the blood of this monkey failed, the nature of the reaction is clearly shown by the negative result of the subsequent immunity test with virulent typhus blood. The result of this experiment clearly showed that the virus of typhus was capable of surviving in the body of the head louse for at least twenty to twenty-four hours. This did not prove, however, that the head louse was capable of transmitting the disease in the normal way, that is, by biting. The next three experiments were devoted, therefore, to a test of this more important aspect of the question. In these experiments, head lice were obtained from typhus fever patients on their admission to the hospital. These insects were then kept at room temperature and applied twice daily in rapidly diminishing numbers to a monkey, for a period of five or six days. The monkey was then kept under observation for at least thirty days from the last food. None of the three animals experimented on showed any febrile reaction following the bites of the head lice. Following their immunity tests, however, one was found to be entirely refractory; in other words, one of these three monkeys appeared to have become vaccinated by the bites of infected head lice. Although we are aware that this experiment requires confirmation before it can be generally accepted, we believe, nevertheless, that we are justified in concluding, at least provisionally, that typhus fever may be transmitted by the bite, not only of the body louse, but also by that of the head louse (*Pediculus capitis*).

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ON THE PRESENCE OF BACTERIA IN FRESH EGGS.

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A certain consignment of frozen eggs was seized and condemned because the product contained from two to thirty million bacterial colonies to the gramme, of which from one tenth to one third were of the colon type of organism, and when from one hundredth to one half gramme was inoculated into guineapigs death occurred within from several hours to a day

or two. From the blood of the animals dead of the infection colon bacilli, *Bacillus enteritidis,* of Gartner, *Bacillus pyocyaneus,* streptococci, *Bacillus cloacæ, Bacillus proteus vulgaris,* and *Bacillus fluorescens liquefaciens* were isolated. These frozen eggs were described as being decomposed, filthy, and unfit for food purposes, yet, even where such organisms were isolated and the death of guineapigs cited, the case was lost, because it was shown that cakes and other pastry *could be made from such eggs and the product* (because it was mixed with sugar) *did not give off the odor of rotten eggs.*

The result of bacteriological studies of eggs is exactly like the result of such an examination of milk or water. Where either product is clean, the number of bacteria is small, and pathogenic bacteria or bacteria of the colon group are absent. Eggs which contain numerous bacterial colonies to the gramme can be compared exactly to a milk which shows millions of colonies to the c.c., due to dirt gaining access in various ways.

In my opinion a fresh clean egg is sterile; free from all kinds of bacteria. The bacteria that are present (?) in broken or cracked eggs, in commercial "dirty" eggs, in dessicated eggs, in frozen eggs, get into the product from nest dirt on the outside of the egg or from the air during breaking of the eggs, in the process of dessication, or from the hands of those who break the eggs.

Where moisture is present, and where a temperature not prohibitive to the development of bacteria exists, bacteria are going to multiply. A nest is supposed to be kept clean and not polluted and infected by excreta. An egg when it is laid is perfectly clean, but when allowed to remain in the nest for an indefinite time, and where the nest is not one which has been properly attended to, cracking and soiling must be the inevitable results. Even where we have a commercially "dirty egg," *fresh, but not cracked,* the bacteria are present only upon the *outside* and not *in* the egg. Where the egg is "dirty" and also cracked (membrane ruptured) then bacteria gain access to the egg, but not before. This I have demonstrated with fresh "dirties" obtained from several large dealers in Philadelphia. To prove that the bacteria, especially *Bacillus coli,* were present upon the shell only and not in the egg, I first allowed the egg to remain unbroken in a clean sterile beaker, containing sterile distilled water. After five or ten minutes, one c.c. of the water was removed with a sterile pipette and inoculated into bile salt neutral red dextrose bouillon in fermentation tubes. A typical reaction was present of *Bacillus coli* in twenty-four hours (abundant gas production with changing of the red to a bright canary yellow color with fluorescence). An inoculation of the water into bouillon and incubated for twenty-four hours gave an abundant growth, with fecal odor and indol production. I then took the same egg, cleaned it thoroughly with soap and water with scrubbing brush, and then left it in running hot water about 55° C. for several minutes to rid it of the soap. With clean hands I removed it and several others treated in the same way, broke the shell, and collected the egg in sterile Florence flasks; shook them thoroughly until completely mixed. Removing one c.c. with sterile pipette and inoculating into a fermentation tube containing bile salt neutral red dextrose bouillon, and incubating for seventy-two hours at 37° C. no reaction occurred indicative of a bacterial growth.

I washed a number of "dirties" with a one to 500 bichloride solution, then removed the bichloride in running hot water (55° C.) and proceeded in the same way as in the first experiment, but no colon bacilli were demonstrable after seventy-two hours' incubation, even using one c.c. of the egg.

A number of "dirties" were simply washed with warm water without scrubbing and though the water they were washed in gave a marked reaction for colon bacilli, the egg when inoculated (one c.c.) into fermentation tubes did not give reactions for this organism. Then, "dirties" were broken carefully without washing the hands or eggs, collected in sterile flasks and one c.c. inoculated into fermentation tubes containing proper media and incubated at 37° C. for seventy-two hours. No reaction indicating the colon bacillus took place.

A number of "dirties" were broken and the shells were squeezed in the hands and the whole mixed with a glass rod, in an open glass dish nine by three inches, then one c.c. was taken and inoculated into fermentation tubes and incubated at 37° C. In twenty-four hours a markedly typical reaction of the colon bacillus was observed.

One c.c. of the mixture of these eggs (usually six eggs were taken for each test) was placed in ten c.c. of sterile distilled water and one half c.c. was inoculated into litmus lactose agar and plated for at least seventy-two hours at 37° C. In some of the plates no colonies were demonstrable; in others one, two, and at most three colonies were observed, making a total of twenty, forty, and sixty colonies to the cubic centimetre. No colonies of colon bacilli were observed in plates, and I believe the few colonies present upon the plates may have been contaminants, as they generally occurred after forty-eight hours. I have also mixed fresh "cracks" with fresh "dirties" in flasks, breaking them very carefully and inoculating into fermentation tubes, there being no reaction for the colon bacillus in ninety-six hours, using one c.c. of the mixture. Ordinary fresh "cracks" broken carefully and mixed gave the same reaction, no gas or fluorescence in ninety-six hours, indicating the absence of colon bacilli. Fresh "cracks" broken and the shells squeezed in the hands, gave reactions for *Bacillus coli* in several instances.

A clean fresh egg was cracked completely, i. e., without rupturing the membrane as many small fractures were made as it was possible to make. This egg was incubated for three days, at 37° C. It was then washed carefully with running water at 55° C. for several minutes, then the membrane severed with clean scissors, the yolk and white received into a flask and mixed thoroughly. One c.c. was inoculated into fermentation tubes with bile salt neutral red dextrose bouillon and incubated at 37° C.; no indication of bacterial growth. Plates made with litmus lactose agar using 0.05 gramme (c.c.) showed no colonies in forty-eight hours.

While no general opinion, to my mind, has been recorded as to the presence of colon bacilli in fresh eggs, it appeared to me to be interesting to see in

what proportion of fresh eggs *Bacillus coli* could be demonstrated. To this end I personally obtained eggs direct from several farms as soon as the eggs were laid. In fact, they were in the laboratory and work begun upon them within twelve to eighteen hours after they were laid. These were not from *ideally* clean nests, but the eggs were all clean and no "dirties" were among them. (One lot of eggs was obtained from the Storr's experimental egg laying competition, held under ideal conditions.) Besides these personally obtained eggs, with the assistance of Messrs. Lukens, Keenan, and Cohen, undergraduate research students at Jefferson Medical College, I was able to get eggs from sixty-three different stores in eight different sections of Philadelphia. Directions were given to buy the best eggs, and where a dealer had two prices, buy some of each grade. In some few places in the southern section of the city dealers refused to sell them eggs, saying they had none. Several of the largest grocers in the city have a number of stores, and on different occasions eggs were bought from various stores of the same dealer, on the same day. The eggs were kept at room temperature and in the refrigerator were weighed every week and marked with lead pencil. The experiments with those eggs received immediately from the farm personally are as follows:

Every egg in the lot was candled, and all showed up perfectly clear by this method. All were weighed. About three dozen fresh eggs were broken carefully and placed in a clean tin can and then put in the cold storage refrigerator and kept at 28° F. for five months. At the end of this time the eggs were thawed and litmus agar plates made using 0.01 and 0.05 gramme, and only two colonies (100 to the gramme) developed upon these plates in forty-eight hours. After standing at room temperature 80° F., itmus agar plates were made using 0.1 and 0.5 gramme. At least one hundred colonies developed upon the plates in forty-eight hours at 37° C.

The can was then placed in the refrigerator and eleven days afterward making litmus agar plates with 0.01 and 0.02 c.c., uncountable colonies developed. Eighteen days after thawing, using 0.001 c.c., 372,000 colonies were counted to the gramme. In none of these plates were acid or gas forming colonies present.

At the end of eighteen days an offensive odor developed from the mixture and 0.5 c.c. was inoculated into neutral red dextrose bile salt medium in fermentation tubes, but no gas or changing of the color of medium took place in seventy-two hours. A medium sized guineapig was inoculated with 0.5 c.c. and no symptoms of any kind developed.

Two days afterward a second pig was inoculated with one c.c. of the mixture, but no untoward symptoms developed in the animal at any time.

A number of these unbroken eggs were placed in the refrigerator, some packed in sawdust, others without sawdust. Another lot was put in wire baskets and kept at ordinary room temperature, and others put in a box and packed in sawdust and kept at same temperature. Four months after receiving these eggs I examined some from the refrigerator and some from the receptacles at ordinary room temperature. A few experiments with those kept at room temperature with sawdust follow:

Taking eggs that originally weighed sixty-three grammes, but at this time thirty-seven grammes, breaking them, and emptying into sterile Florence flasks, shaking thoroughly, and then making litmus lactose agar plates with 0.02 c.c., no colonies developed in seventy-two hours at 37° C. A week later another set of eggs using 0.05 c.c. for plates showed one colony in forty-eight hours at 37° C. (practically sterile).

As to eggs kept at room temperature without sawdust, one set which averaged fifty-six grammes, but at this time thirty-nine grammes, and, following the same technique as in previous experiment, using 0.02 c.c., showed no colonies in forty-eight hours at 37° C. A week later a second set of eggs showed two colonies using 0.05 c.c., and two weeks later from a third set, there developed fourteen colonies, using 0.05 c.c., making 280 colonies to the gramme.

Eggs kept in the refrigerator with sawdust four months were then examined by the same technique and this lot which weighed originally fifty-two grammes now weighed forty-six grammes. Using 0.02 c.c. no colonies developed in forty-eight hours at 37° C. One week later, using dilution of 0.05 c.c., no colonies were demonstrable in forty-eight hours at 37° C. After another week with dilution of 0.05 c.c. four colonies (or eighty to the gramme) developed. (These to my mind might be contaminants from the air.)

As to eggs kept in the refrigerator without sawdust, using same aged eggs as in previous experiments and same dilutions and media, no colonies developed in these three lots.

After seven months, eggs weighing originally sixty-seven, fifty-eight, and sixty-two grammes, but now 51.8, 47.8, and 48.5 grammes, were examined by fermentation tubes and litmus agar plates using 0.1 c.c. and 0.05 c.c., and kept at 37° C., showed no reaction in fermentation tube and no growths upon plates up to ninety-six hours.

Guineapigs were inoculated with one c.c. from all these lots of eggs, but no ill effects were noticeable at any time.

After nine months in the refrigerator an egg originally weighing fifty-seven grammes (weighed twenty-one times) now forty-six grammes, was shaken and opened, white and yolk were mixed, and a faint odor of lecithin was manifest. Upon plates of litmus lactose agar using one c.c. and 0.05 c.c., no colonies developed in seventy-two hours.

An egg paraffined four months previously was broken without scraping off the paraffin and plates were made using 0.05 c.c. The white and yolk were separated; no odor, and no colonies developed at 37° C. in three days.

A dirty egg paraffined for five months was broken and was in a complete state of decomposition—dark in color and very offensive in odor. A clean fresh egg was paraffined for six months. The paraffin was scraped off, the egg washed, and plates were made using 0.1 c.c. and 0.5 c.c. The yolk and white were distinctly separate and mixed

only by thorough shaking. No colonies developed up to ninety-six hours.

An egg originally weighing sixty-two grammes, and eight months afterward (being weighed twenty-one times) thirty-eight grammes, was found cracked in the ice box. It was broken, placed in a sterile glass vessel, mixed with an equal quantity of sterile distilled water, shaken thoroughly and two c.c. was inoculated into litmus lactose bouillon fermentation tubes. Gas and acid production were demonstrable in forty-eight hours.

An egg originally weighing fifty-nine grammes, now 48.5 grammes (weighed twenty-one times), was put in water infected with the colon bacillus and allowed to remain for twenty-four hours. It was then washed, dried, and broken, thoroughly shaken and one c.c. inoculated into fermentation tube at 37° C. It showed gas and fluorescence in forty-eight hours.

Fresh eggs, each candled and weighed separately, were placed in water infected with colon bacilli and allowed to remain four, eight, twenty-four, and seventy-two hours. One and two c.c. of eggs remaining for the first three periods (four, eight, twenty-four hours) failed to show the presence of gas forming organisms at 37° C. in seventy-two hours in fermentation tubes.

Taking from 0.1 c.c. to 2.5 c.c. from eggs allowed to remain seventy-two hours in the contaminated water, the tubes containing one and 2.5 c.c. showed gas, while the tube containing only 0.1 c.c. failed to show gas up to five days.

A control test was made with 0.1 c.c. of colon infected water inoculated into litmus lactose bouillon, and 0.1 c.c. of infected water with green bacillus, inoculated into plain bouillon; the former showed gas in abundance and growth took place of the latter organism within forty-eight hours.

Eggs whose original weight was fifty-six grammes now 45.4, in ice box, in and upon sawdust for eight months, were put in colon infected water for twenty-four hours, washed with clean water thoroughly and inoculated into fermentation tubes. There was no gas formation in ninety-six hours (using one c.c.).

Fresh eggs put in water infected with a green bacillus for seventy-two hours showed the same organism in bouillon cultures using one c.c. of the egg. No growth occurred after leaving the egg in the infected water twenty-four hours.

Eggs originally weighing sixty-two grammes, now thirty-eight, were broken and inoculations made into neutral red dextrose bile salt agar. These had been kept at ordinary room temperature in sawdust for five months and *upon* sawdust for two more months. Gas production was present in twenty-four hours in stab cultures (weighed twenty-one times).

All the eggs from the experimental egg laying competition held at Storr's, Connecticut, were perfectly sterile.

Now as to the examination of eggs bought as fresh eggs throughout the city.

A half dozen eggs were taken as the samples and these were broken carefully and put in sterile Florence flasks, shaken thoroughly to insure perfect admixture of whites and yolks, then fermentation tubes filled with neutral red dextrose bile salt medium were inoculated with one c.c. and plates upon litmus lactose agar were made by using 0.1 c.c. This dilution was made by simply adding one c.c. to ten c.c. of sterile distilled water.

The fermentation tubes and plates were kept at 37° C. for seventy-two hours as a rule, or if colonies made their appearance so rapidly and were so numerous, counts were sometimes made in twenty-four hours and others in forty-eight hours.

Gas forming or acid producing colonies were specially searched for, and when these were found a test for indol was also made. Where no acid or gas forming colonies were found upon plates, suspicious looking colonies were removed, inoculated into gelatin and bouillon, and in this way tested for gas and indol to indicate the presence of colon bacilli.

In this lot of sixty-three different samples of fresh (?) eggs twenty-three gave typical reaction in the fermentation tube of the presence of the colon bacillus; the remaining forty samples gave no reaction for the colon bacillus. Of the twenty-three which gave a reaction for the colon bacillus in fermentation tubes, seventeen gave acid and gas colonies on plates and indol production; sixteen gave acid and gas colonies beside the reaction in fermentation tubes alone. In other words, no acid or gas colonies or indol production were demonstrable in these latter six.

From the results of the examination of the fresh eggs bought at different stores, it will be seen that a certain number of them did show the presence of colon bacilli. But in most of the specimens which gave these reactions, the eggs when opened, and even when shaken in the shell, did not respond to the tests of strictly fresh eggs. In some lots bought in the Italian neighborhoods and those of the Russians, spots and rots could very easily be diagnosticated when the eggs were opened. Forty specimens out of the sixty-three gave no reaction for colon bacilli at all, and these eggs were bought as fresh eggs, the same as those which gave the reaction positively.

Even though 0.1 c.c. was used for plating, none of these eggs gave a constant bacterial count. Some gave only a couple of hundred colonies per gramme and few gave uncountable colonies. In only sixteen were acid and gas colonies found upon the plates after three days. In contradistinction to these few specimens, all specimens of frozen eggs which were examined, millions of colonies to the gramme were the rule, and of this number a goodly proportion consisted of colon bacilli. In every specimen of frozen and dried eggs, death occurred in guineapigs in from six hours to seven days, while inoculations of the fresh eggs failed to produce any lesions whatsoever.

If clean fresh eggs are kept properly in refrigerators or in cold storage refrigerators, they will remain good and wholesome indefinitely. If exposed for sale upon the streets and sidewalks, or if they are commercially "dirty" without any attempt at preservation (by cold), or cleanliness, evaporation of contents takes place, and as a consequence the

shell is more porous, cracking is more liable to happen, and the egg becomes infected from the bacteria upon the shell.

An article by G. H. Lamson, Jr., in the *Report of Storr's Agricultural Experiment Station,* p. 205, 1907-8, 1908-9, sets forth that "most eggs have bacteria in them and though these may be few in number and the egg called 'fresh,' yet if they were placed under conditions favorable to the multiplication of the bacteria they would decompose in a short time." He asserts that the bacteria which cause decomposition in eggs have been found in the oviduct of the hen, even in the upper part, so that an egg may be infected in the earlier stage of its formation. A diseased condition of the ovary of the hen may cause the infection of eggs. This latter phase of the subject has been worked out by Rettger and Stoneburn (*Bulletin No. 68,* Storr's Agricultural Experiment Station, Storr's, Conn., April, 1911), who found *Bacillus pullorum* in the ovary of hens infected with white diarrhea. They were also able to demonstrate *Bacillus pullorum* in eggs while fresh and after incubation, obtained from a poultry farm where there had been a particularly severe epidemic of white diarrrhea.

"A large number of eggs were secured from a particular farm where there was no history of any disease that might be regarded as white diarrhea. These eggs were examined by the same method and in no case was *Bacillus pullorum* found. Many eggs obtained from the same source were used for hatching and the chicks hatched were entirely free from white diarrhea" (p. 292). Lamson also mentions that nine different kinds of bacteria were taken from one nest and each grown separately. An egg medium was made, infected with these bacteria, and incubated for three days at 37° C. At the end of this time the egg medium in each test tube showed that changes had taken place and were accompanied by the disagreeable odor of decomposition.

REMARKS.

My assertion in a previous paper that I believed fresh eggs are practically sterile, is furthered considerably by the studies just recorded.

My idea of a clean fresh egg is that it has no distinctive odor. If a large number of eggs are opened in a dish, a very slight odor as of a body of fresh water is observed. But there is no "eggy" odor. There should be no admixture of the white and yolk in the shell after vigorous shaking. No acid or gas producing bacteria are found in fresh uncracked eggs. Where an egg is what is termed "dirty," and where it is cracked so that the membrane is also broken, then colon bacilli may gain access to the egg. Or, if dirty eggs are broken carelessly, or if the hands of those who break them are not clean, then colon bacilli may gain access to the egg. The colon bacillus may even gain access to the broken eggs from dust blown about in the air. An egg can be fresh and "dirty." A clean fresh egg will remain fresh (and not show gas producing bacteria) for at least ten months in the ordinary refrigerator, packed in sawdust or bran, or without being packed in any material.

The chief point is that the egg be fresh in the first place and this can be best determined by candling.

Where an egg is kept in the refrigerator for six months, mixing of the white and yolk can be accomplished by shaking, due to partial evaporation of its contents, but no odor has developed in the egg and it can be eaten in the raw condition with relish. Eggs which originally weighed fifty-seven grammes and, after six months, have lost eleven grammes, are good and wholesome. (These I have eaten in the raw state and on two occasions where they had been in the ice box eight months.)

Where eggs are offered for sale as fresh eggs, in the shell or in frozen condition, and contain in the fractional part of a gramme gas and acid forming bacteria, and countless colonies of other bacteria to the gramme, these eggs are not fresh, or are the result of dirt or filth gaining access from dirty nests; or, from the hands of those breaking the eggs; or, they were collected in dirty receptacles or were possibly infected from the air.

Any housewife can buy clean, fresh eggs in the summer at reasonable prices (or fresh dirties and clean them), and if they are placed in the refrigerator and kept there like any other food product, these eggs can be used all through the winter. They must, obviously, be perfectly fresh when procured.

Frozen eggs or dried eggs should not contain any substance, which, in a gramme or fractional part thereof, when injected into the subcutaneous tissue or peritoneal cavity of guineapigs, causes the death of such animals.

If the death of the animal takes place from such inoculations, it is usually an easy matter to isolate the bacteria causing death from the heart blood, and a second animal can sometimes be killed when inoculated with the heart blood of the first.

From another standpoint, it is very probable that poisonous substances are generated by the bacteria (which in themselves are deadly to the animal inoculated), some of which are not dedestroyed by several hours' exposure to very high temperatures. When the guineapig dies as a result of the bacterial product, then the heart's blood is usually sterile or free from bacteria.

JEFFERSON MEDICAL COLLEGE.

VON HANSEMANN'S PLEA FOR CONDITIONAL REASONING IN MEDICINE.*

BY CHARLES F. BOLDUAN, M. D.,
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As a result of the epoch making discoveries of Pasteur and Koch concerning the bacterial nature of certain infectious diseases, many students of medical science were misled into the belief that at last all had been explained. The bacterium was *the cause* of the disease. Here and there a voice was raised in protest, but it was either unnoticed or its author regarded with disdain. This spirit still prevails to a considerable degree, though the

*Ueber das konditionale Denken in der Medizin, D. v. Hansemann. Berlin, A. Hirschwald, 1912.

gradual accumulation of problems in connection with the infectious diseases, unsolved despite the discovery of the specific microorganism, is beginning to have a sobering effect.

One of the most perplexing problems of epidemiology, and one whose solution appears to be as far off as ever, is presented by the fact that, apparently without reason, periods of comparative absence of a disease are often followed by those in which the disease is epidemic or even pandemic. Witness the pandemic of influenza in the early nineties, the large number of epidemics of cerebrospinal meningitis, both in this country and in Europe six or seven years ago, or the sudden widespread occurrence of infantile paralysis in the past few years. Students of epidemiology have long remarked the peculiar cyclic recurrence of increased prevalence of diphtheria, scarlet fever, smallpox, and other infectious diseases, and have offered various explanations to account for this peculiarity. In the case of diphtheria, for example, Newsholme expresses the belief that "diphtheria only becomes epidemic in years in which the rainfall is deficient, though in some years the excess of diphtheria in dry years is but small." There are, he says, "no instances of a succession of wet years in which diphtheria was epidemic." In the case of smallpox, the periodicity of increased prevalence has been explained by assuming that it represents the time necessary for a sufficiently large number of susceptible, i. e., not vaccinated, persons to accumulate in the community, and when this occurs, the introduction of the smallpox virus suffices to start a more or less extensive outbreak. While this may, perhaps, be the correct explanation in this case, it will not suffice to explain similar cyclic recurrences in a number of other diseases. Some writers speak of the infecting microorganism "taking on increased virulence," but this is obviously begging the question.

An equally large unsolved problem is that presented by the so called bacillus carriers. It is well known that typical, virulent pneumococci occur in the throats of very many normal individuals, that virulent diphtheria bacilli occur in from one to two per cent. of normal individuals in whom it is impossible to discover any recent contact with a case of diphtheria, that about three per cent. of individuals convalescent from typhoid fever continue to harbor typhoid bacilli in their excreta, that some ten per cent. of persons in contact with patients suffering from epidemic cerebrospinal meningitis harbor meningococci in their nasal secretion; in short, we see that the presence of the infecting bacterium does not necessarily produce the disease.

With virulent staphylococci present all about us, shall we continue to say that pustular acne or multiple boils are caused by the staphylococcus? Does it not really indicate that other factors are the determining ones, and that we should seek to learn what these other factors are? The present widespread use of bacterial vaccines is a direct consequence of this one sided view of the etiology of the infectious diseases. It is based on the assumption that a given infection *is caused* by a particular bacterium, and that once the latter is isolated in pure culture, the treatment of the disease consists merely in properly administered injections of the vaccine. The inadequacy of this view of disease is amply borne out by the failures often attending the use of bacterial vaccines.

The presence of virulent bacteria in an animal organism without the occurrence of the infectious disease, is largely dismissed as being fully explained by the researches of Metchnikoff and of Ehrlich. The body thus harboring these bacteria is said to possess an immunity against these microorganisms. A little consideration, however, will convince us that this again is not a satisfactory explanation, for the nature of the immunity in these cases has never been demonstrated, and it amounts merely to saying that the individuals are immune because—well, because they are immune.

One of the great stumbling blocks to progress at the present time is the feeling that the cause, and therefore the essential nature, of many of the infectious diseases is absolutely well established, since the specific microorganism of the disease has been isolated. It is important to bear in mind that the essence, the real nature of any disease cannot be represented merely by a single symptom, be it anatomical, functional, bacteriological, or serological. Neither the presence of a particular bacterium, nor the formation of certain metabolic products, nor yet the presence of any kind of anatomical changes, constitutes the disease, but all these together. To a large extent the false sense of knowledge just alluded to, is due to our loose and incorrect use of the term "cause."

In the use of the term "cause" we should adhere closely to the principles so clearly formulated by Hume, namely,

Cause and effect are immediately related as to space and time.
Cause must precede effect.
A like cause always produces a like effect.
It should be possible to establish the existence of a constant connection between cause and effect.

In Nature, however, we hardly ever deal with relationships so simple as to allow us to speak of *one* cause and *one* effect, and yet in medicine this has been done time and time again. In this connection, von Hansemann says, "The causative method of reasoning has actually grown to be a dogma, especially because it is so extraordinarily easy. To say that a certain disease has *a* particular cause, and to say that when *the* cause is removed the disease can also be removed, is very plausible when theoretically considered, and also very easy. Unfortunately, in many cases this does not correspond to the facts.

Von Hansemann believes that many of the errors which have been committed in medicine could have been avoided if a more logical method of reasoning had been employed, and he pleads for the employment of what he calls the "conditional method." "Let us assume," he says, "that in the investigation of a particular disease a number of conditions, 1, 2, 3, etc., are found. It will then be necessary carefully to weigh the significance of these against each other, which done, it will be found that one or more conditions predominate in the causation of the disease. Some of the conditions will be found to be of such a character that their place could just as well have been taken by almost any other condition. Others, on the contrary, appear to be

so necessary for the occurrence of the disease that they could neither have been replaced by other conditions, nor have been omitted. These necessary conditions, furthermore, may consist of a single factor or of several factors, and we may speak of them as the main, or necessary, or essential conditions. The disease cannot occur if any one of these essential conditions is lacking." Von Hansemann points out that the employment of this conditional method of reasoning in medicine will lead to far fewer errors than can be charged against the causative method, and he lays stress on the fact that the conditional method much more readily discloses the gaps in our knowledge.

It is obvious that the conditional method here outlined has long been employed by workers in medical science, though they have not perhaps clearly realized it themselves. But it is just this that is so much needed, its recognition as a valuable method and its deliberate employment in discovering where our knowledge is deficient. Nothing is so inimical to progress as the feeling that a particular problem has been completely solved. "Science advances because it is never sure of anything" (Duclaux).

601 West 135th Street.

SURGICAL ANESTHESIA:*

Its Relations to Immunity and Allied Conditions, Together with a Statement of Recent Findings Concerning Olive Oil as a Speedy Restorer of the Patient's Power to Resist Infection,

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Two years ago the girl students of the bacteriological department of the University of Wisconsin put upon the stage a drama, entitled *In Germland* (1). The characters were bacilli and other microbes, and the plot turned upon the warfare between the germs of disease and the human race (2). Although this play was called a comedy, its prototype in life belongs to tragedy, and to-day scientific effort is endeavoring to change human existence from the latter to the former. Although such a presentation in the theatre is novel, a newspaper editorial article (3) says with truth concerning it, "It is undoubtedly justified by the importance of its subject matter." Pathological germs are more destructive than ever hostile armies were, and modern medicine strives to devise effective means and methods to prevent any invasion of them or to destroy them if they are present.

Very early in the history of bacteriology rational modes of disinfection and antisepsis were established, but these dealt with microbes outside of the body. An equally important, yet more difficult problem was how to restrain the activity of pathological microorganisms which had been proved (4) to exist in all living beings. This presence of germs of disease in even apparently healthy bodies long remained a paradox. It was recognized, however, that frequently sickness was due to a sudden activity of these somatic germs, but this fact was only the more alarming, inasmuch as the cause of the sudden energizing was unknown.[1]

A suggestion toward a correct explanation was given in 1887 by Flügge and Nuttall (5), who showed that normal blood contained some bactericide. Further light on the subject was shed by Leclef and Denys (6), in 1895, when they found that in the *serum* of the blood there was some principle which, under certain conditions at that time unknown, would so work upon bacteria as to render them objects of phagocytosis. Our knowledge was further extended by Mennes (7) in 1897. He proved that the immunity conferred by immunizing sera or bacteria was due to a more extensive phagocytosis, and that this increased phagocytosis was due to a modification of the serum of the animal, a condition caused by the presence of an immunizing agent.

The matter was cleared up, however, by the work of Wright and Douglass (8), begun in 1893. They developed and formulated the present theory of opsonins and bacterial vaccines. To-day the opsonic index and its relation to immunity are so well understood, that we can assert with Wright (9) that "We have in the power of raising the antibacterial power of the blood with respect to any invading microbe, out of all comparison the most valuable asset in medicine."

The condition to which I have just called attention is an invasion of the system by pathological microorganisms, which, although violent, irregular, and unexpected, are none the less capable of being determined in both kind and extent. This sepsis is due, partially or wholly, to the inability of the serum of the blood to prepare the germ in such a way that the phagocyte will devour it. However, it may be counteracted, theoretically in all cases, practically in some, by introducing into the system proper bacterial vaccines.

There is, moreover, another condition in kind and mode of development, similar to that which has just been described, nevertheless, in important particulars, differing from it, especially in that it is created voluntarily. This condition is an impaired immunity, evidenced by a lowered opsonic index and pathological conditions not to be explained otherwise, due to the use of alcohol or of various narcotics, or of some of the inhalation anesthetics, particularly chloroform or ether. Its rationale has been recognized only quite recently, and already in one department of medicine, namely anesthesia, attention to what is known concerning the condition has yielded important results. It is, then, to these drugs in their relation to the opsonic index, or the power of the patient to resist infection, that I will call your attention.

This matter is of special interest, because in the present status of medical knowledge anesthetists cannot help producing this state of lessened resistance, and a successful dealing with it not only concerns the reputation of both the surgeon and the

*Read by request before New York Society of Anesthetists, New York Academy of Medicine, March 6, 1912.

[1] A most interesting essay upon this subject in various phases is the lecture by Simon Flexner, M.D., of the Rockefeller Institute for Medical Research, entitled Natural Resistance to Infectious Diseases and Its Reinforcement, delivered at Columbia University and printed in the *Popular Science Monthly*, July, 1909; also *Annual Report*, Smithsonian Institution, 1909, pp. 723-738.

anesthetist, but also is of vital importance to the patient.

While a complete treatment of the subject would demand a full discussion of the effect of opium and other narcotics on the opsonic power of the blood, here it must suffice to consider the influence only of alcohol, chloroform, and ether on the opsonic index. Reflection upon this consideration will suggest the way to prevent that influence in some cases, while in those in which it cannot be avoided it will show how to overcome it successfully.

Cantacuzène (10), in 1898, demonstrated that opium reduced in a marked degree the resistance of the body to typhoid bacilli. Snel (11), in 1903, published the results of his experiments with guineapigs relative to the effects of ether, alcohol, and chloral on immunity. He found that these agents "suspend immunity temporarily; and further that the longer the period of anesthesia the shorter the process of infection."

It was, however, in 1904 that the important paper of Rubin (12) appeared.[2] Thinking over the experiments of Heidenhain, which showed that fibrinous pneumonia is not due directly to cold, and the fact that alcoholics have a predisposition to pneumonia, he began, in 1902, investigations of "the influence of alcohol, ether, and chloroform on natural immunity, and especially on the rôle that the leucocytes play in the defense of the organism against various infections." Out of ten experiments with alcohol, eight were positive in showing that "*alcohol* has a detrimental influence upon the resisting power of the animals. . . . Every narcotized animal succumbed to the infection," while four control animals completely recovered, four survived the narcotized animals by a considerable time, and "the controls exhibited other signs of resistance, e. g., higher leucocytic counts and better physical signs."

Ten experiments with ether showed that "*ether* administered in doses similar to those of alcohol is still more positive in its effect. The difference in leucocytosis between the etherized rabbits and the controls is also more marked" than in the experiments with alcohol.

Further, Rubin says "The results of the *chloroform* series are not unlike those obtained with alcohol and ether." From these experiments the fact is established that a depression of leucocytosis and a vital interference with immunity exist when alcohol, ether, or chloroform is in the system. However, some animals died with a fairly high leucocyte count.[3]

By a second series of experiments to determine how such a high leucocyte count could be followed by death, it was found that either narcosis by alcohol, or anesthesia by ether, diminished in a marked degree the phagocytic power of the leucocytes, no matter how many were present.

In a third series of experiments, to determine the chemotactic relation of alcohol and leucocytes, a negative result was obtained. In the tubes containing alcohol no leucocytes appeared, while the control tubes containing bouillon were filled with them. Rubin says "This may help to explain why the leucocytes do not appear in as great numbers in infected animals that have been alcoholized as in those that have not and those leucocytes that do circulate in the blood stream which contains alcohol are not able to perform their phagocytic function well. . . . This will perhaps also explain the difference in the leucocyte counts found in the periodical and steady drinker (12).[4] It might be reasonable to suppose that ether and chloroform would give similar results. I have omitted to test the latter narcotics, because they are so easily evaporated and the results could not have been considered conclusive."

From the results of his work Rubin draws the following conclusions:

"1. Alcohol, ether, and chloroform have a decidedly detrimental influence on the natural defenses, against infection, and this lowering or suspension of the resisting power of the animal is not due to any apparent organic lesions . . . except such as are caused by the infectious material employed.

2. The narcotics appear to affect directly the substance or substances which inhibit the growth and toxic action of bacteria in the normal animal; and these substances are either the leucocytes themselves or something derived from them, or both. . . .

3. The period of detrimental action of the narcotic depends largely on the amount administered, the depth of narcosis, and the rapidity of the elimination (of the narcotic) from the system" (12).

4. Protection of the animal depends, not upon a hyperleucytosis, but upon chemotactic and phagocytic qualities of the individual corpuscles, both of which are disturbed detrimentally by either alcohol, chloroform, or ether.

To the special importance of the third and fourth conclusions attention will be given below.

In 1907, Rubin (17) showed further that "a solution of one to fifty of alcohol, and one to 200 of chloroform, completely suspends phagocytosis *in vitro*." With gradual dilutions there is a gradual increase of phagocytosis which, however, is not always proportionate to the amount of alcohol or chloroform present. "The effect of the alcohol is practically lost at a dilution of one to 1,000, and of chloroform at one to 2,000." While he thinks that some of his experiments with carmin granules indicate that the opsonins are not[5] (12) concerned with this special failure of phagocytosis he adds that "the influence of the agents in question (alcohol and chloroform) on the opsonins has not been studied so far." (17)

However, while Rubin's paper was in press, experiments regarding the effect of alcohol on the

[2]For other important initiatory studies in the relation of alcohol to immunity see Bibliography 13, 14, 15, 16.

[3]See fifth of "Five facts," page 993, of this communication.

[4]In Rubin's list there are forty-four steady drinkers and sixteen periodical drinkers. The average leucocyte count for the former is 5,200 and for the latter 6,500. Rubin calls 7,500 "the average normal number of leucocytes in each cubic millimetre, according to the best modern authorities." This, then, brings the "steady drinker" 2,300 below normal and the "periodical drinker" 1,000 below normal. "Differential counts made in twenty-five individuals show no change in the ratio of the different forms of leucocytes." Rubin: *Journal of Infectious Diseases*, pp. 438,439, May 30, 1904.

[5]See, however, the suggestion of Rubin, *Journal of Infectious Diseases*, i, 3, p. 437, May 30, 1904, line 26 of text, "*Quality* of the leucocytes has a certain connection with immunity," also p. 441, line 25 of text, "It would seem that the protection of the animals . . . depends upon both the number and *quality* of the white blood corpuscles," also lines 20 to Ex. 2. *Confer* 2, of summary, p. 444. Rubin really stumbled on the fact, but went on, passing it by without noticing it.

opsonins were actually going on, for Stewart, also in 1907, published his valuable report (18). He had confined himself to the influence of alcohol on the opsonic index, using for his drugs either port wine or peruna, and for his subjects human beings. In summing up, he says, "Where alcohol was taken internally in the form of two ounces of port wine, the opsonic power of the blood was greatly lowered . . . the normal average index for the bacillus tuberculosis . . . was 1.17, for streptococci 1.12. The average of these same cases after the administration of the two ounces of port wine is 0.73 and 0.655 respectively, showing a drop in the opsonic power of thirty-seven per cent, in the former and forty-two per cent. in the latter.

In the cases in which peruna was used, the average normal index for the bacillus tuberculosis was 1.12, for streptococci 1.09. Four hours after the ingestion of two ounces of peruna, the average index for the former was 0.133, for the latter 0.68, showing in the former a drop of over eighty-eight per cent. in the opsonic power, and in the latter a drop of thirty-six per cent.

Dr. Evarts A. Graham has recently carried this work still farther. He has confirmed much of the work of his predecessors and has added to our knowledge of the ether side of the subject. In the early part of 1910 he made a preliminary report (19) and, in 1911, he published his full paper (20). His experiments were of three sorts: *In vitro;* upon normal rabbits without operative measures; and on human individuals, these last presenting cases involving "fairly simple operative procedures, on comparatively healthy young adults with such factors as infection, hemorrhage, shock, etc., ruled out." (19)

Streptococci, pneumococci, staphylococci aurei, bacilli coli, bacilli typhosi, as well as carmin granules were used. Doctor Graham found that while "no appreciable effect of the ether on the phenomenon of bacteriolysis was revealed" (20, p. 147), and that "ether seemed to have no appreciable effect" on agglutination (20, p. 149), after an ordinary ether anesthesia there was a reduction of the phagocytic power of the blood which in the different experiments lasted over periods of from two days to several weeks.[6] "This depression, apparently, was due to a direct effect of the ether on both leucocytes and serum, not to any effect on the bacteria themselves" (19).

All this work just described, besides suggesting much else of value, establishes three facts of great interest to anesthetist, surgeon, and patient. *First,* anesthesia by ether or chloroform lowers the opsonic index, that is to say, reduces the power of the patient to resist infection, whether said infection was existing at the time of the operation, was started during the operation, or is a postoperative acquirement. *Second,* the bacteria are not materially affected either in number or activity by the anesthesia. *Third,* this impaired resistance or immunity is due to some action, direct or indirect or both, upon both phagocytes and serum.

These findings are of prime importance. Surgical operations are needful, and surgical anesthesia by means of ether or chloroform is at present indispensable. Notwithstanding this depressing influence of ether on the opsonic index, there is no form of routine anesthesia to-day which is so safe, convenient, or otherwise so desirable. I believe that *if the ether be pure any patient whose condition does not contraindicate the operation can take the ether, provided it be administered properly.* Nevertheless, in thus producing anesthesia, the anesthetist is obliged to reduce temporarily the patient's power to resist infection. Three questions, therefore, present themselves:

First. Is it possible to prevent wholly or in any degree this lowering of the patient's resisting power?

Second. How may an inevitable depression be minimized?

Third. How may a lowered opsonic index be restored quickly?

In replying to the first question, only a few words are necessary, for at the present stage of our knowledge it is not possible wholly to prevent the lowering of the resistance to infection of a patient's blood, by an anesthesia, by chloroform, or by ether.

In considering the second question, the following statement of Rubin (12) is important: "It seems that to produce a decided effect it is necessary to employ enough of the narcotic to produce *complete narcosis, even if that should last only a short time.*[7] And I have reason to believe that the longer the narcotization lasts, the more complete and the longer is the suspension of immunity."

My clinical experience long ago led me to practically the same conclusion. My teaching has been, and still is that *the increment of postoperative depression due to the anesthesia depends upon the* quantity *of the anesthetic which the patient absorbs rather than upon the length of time that the patient is kept under its influence.* Nevertheless, the duration of the anesthesia is always of *some* moment and becomes *a very important* factor whenever the quantity of the anesthetic administered is greater than is necessary to keep the patient just relaxed.

In direct answer, then, to the second question, it may be said that two precautions are necessary:

1. *Make the anesthesia as short as possible,* by having surgeon, assistants, instruments, and all else ready by the time the patient is anesthetized, and by removing the anesthetic just as soon as the operation will permit. There never need be more than a few minutes' waiting by any one, but if there is any delay, it is far better that the surgeon should wait than that the anesthesia should be protracted. Again, at the end of the operation the suturing of superficial tissues is not ordinarily interfered with by the beginning of the recovery of the patient. Therefore, under ordinary circumstances the anesthetic should be removed, so that the patient is becoming conscious at the time the dressings are applied.

[6] For scientific completeness attention should be called to different findings by A. C. Rankin, M.D., of Montreal, as set forth in his article, The Effect of Anesthesia on the Opsonic Index, *Montreal Medical Journal,* xxxiii, 1, pp. 40-42, January, 1908. He says, "This investigation was undertaken to determine whether the administration of ether as an anesthetic lowered the resistance of the body to bacterial invasion." As a result he maintains "it was found that in every case the opsonic index of the individual patient gave no variation against either *Pneumococcus, bacillus coli communior,* or *Staphyloccus pyogenes aureus.* After the anesthetic, even in those cases in which the anesthetic was poorly borne, and which showed considerable ether intoxication for some time following, no alteration in the phagocytic power of the blood was present."

[7] The italics are mine. R. H. Ferguson.

2. Administer at any time during the anesthesia only a minimum amount of the anesthetic. The open drop method by means of my inhaler (21) will make this desideratum easy of attainment.

If the anesthesia has been as short as possible, and the smallest quantity of ether compatible with a successful operation has been administered, the lowering of the opsonic index will be the least possible for that given case. All interference with phagocytosis, however, will not have been done away with. The patient's power to resist infection will be lessened, so that the third question, concerning the possibility of a prompt postanesthetic restoration of the opsonic index becomes of prime interest.

In reply to the third question, then, it may be said that a speedy postanesthetic raising of the opsonic power of the blood seems possible. To understand how this may be done it will be necessary to refer to the present accepted theory of narcosis. In 1899, Professor Hans Meyer, of Vienna, published two papers (22) setting forth his theory of narcosis. In 1900, Dr. E. Overton published a book (23) describing his theory of anesthesia; and, in 1905, Meyer again stated his explanation (24).

These two theories agree, although they were worked out independently (24) of each other. Meyer (24) says: "As a result of these studies we arrive at the following explanation of narcosis: The narcotizing substance enters into a loose physicochemical combination with the vitally important lipoids of the cell, perhaps with the lecithin, and in so doing changes their normal relationship to the other cell constituents, through which an inhibition of the entire cell chemism results. It also becomes evident that the narcosis immediately disappears as soon as the loose, reversible combination, dependent on the solution tension, breaks up. It follows, further, that substances chemically absolutely indifferent as the volatile saturated hydrocarbons, can act as narcotics. . . . This simple theory also explains the fact that all structures capable of stimulation, not only the cells of the nervous system, but all others, and all plant cells as well, are depressed by the narcotic members of this series; for in all living cells, lecithin, a lipoid body, is to be found. And indeed, the establishment of the fact that the effect on the lipoids by narcotics, such as ether and chloroform, is such as immediately to inhibit the vital processes of the cell, shows us that these lipoids are among the constituents essential to the life of the cell. . . . That many narcotics induce not pure narcosis alone but often show other distinct actions, as for example, the occurrence of convulsions, which quite overshadow any narcosis present, is easily to be understood when one remembers that the narcotics may possess an affinity, not only for the cell lipoids, but for other cell constituents as well, and through some union with these concomitant effects quite different from narcosis may be induced." It is impossible to understand the Meyer-Overton theory and to follow the experimental work of Graham without recognizing that there must be some intimate relation between the facts underlying each. Some of Graham's (25) experiments were conducted to determine whether or not the fat solvent power of the ether is the property by means of which it is capable of inhibiting phagocytosis.

Nerking (26) had tried already similar experiments and made a preliminary report. He did not, however, go as far as Graham has gone, nor reach so simple and practical conclusions. Nerking (26) like Graham (25, 20), referring to the Meyer-Overton theory, says: "Starting from this opinion, the question involuntarily presented itself, how would an anesthetized animal behave if a longer or a shorter time after the induction of the anesthesia a solution of lecithin (say in a solution of common salt) should be introduced into the bloodvessels? Is it possible in this way by introducing another supply of lecithin to tear the anesthetic loose from its union with the lipoids of the central nervous system?" He adds: "It is in fact possible to shorten or altogether suspend the anesthesia, if, not too long after the induction of the anesthesia, a solution of lecithin is introduced intravenously into the anesthetized animal with due precautions. I have worked with different anesthetics, and generally have been able to observe that in the case of animals to which a solution of lecithin had been administered the anesthesia lasted for a much shorter time than in the case of the control animals."

The last experiments of Graham were again *in vitro,* on etherized rabbits, and on human beings. For the first (a) fat was added to etherized blood, (b) ether was added to blood mixed with fat. In the rabbits the fat was injected subcutaneously. "In the human experiments five ounces (150 c.c.) of warm olive oil were passed slowly into the rectum through a tube immediately after the patient had returned from the operating room." In all instances control experiments were established and these produced results the opposite of those obtained from the "fat" experiments. The findings are striking and important, namely, by ether in the blood,

1. Bacteriolysis is not appreciably affected.
2. Agglutination is not appreciably affected.
3. In some way opsonification is inhibited.
4. Lecithin will not act as opsonin or as opsonic complement.
5. The bacteria themselves are probably not affected (27, 28).
6. The leucocytes probably are to some degree anesthetized by the ether in the serum.
7. The ether in the serum probably removes and holds in suspension some of the lipoids of the serum.
8. Ether in some way affects opsonin.
9. Ether in the circulation probably disturbs the equilibrium of the lipoids in the cells of the central nervous system (so also Meyer and Overton).
10. Ether saturated with lecithin has no power to diminish phagocytosis.
11. Lecithin added to etherized blood will restore phagocytosis.
12. Only very small amounts of lecithin are necessary to restore phagocytosis.
13. Olive oil has practically the same qualitative effects as lecithin.
14. Larger quantities of olive oil than of lecithin are required to produce results.
15. *The injection of five ounces (150 c.c.) of pure olive oil into the rectum was followed after three to*

six hours by a restoration of phagocytic power, while the injection of the same amount of physiological salt solution had no appreciable effect in shortening the period of phagocytic depression.

How this restoration takes place it is perhaps at the present time impossible to explain. That it is due to the direct action of the injected fat is evident, but whether the lecithin or the oil is taken up by the blood plasma and the cells of the body and used as a substitute for the lecithin which has been removed, a condition which however seems in part improbable, or whether the fat introduced, circulating, takes up to itself sufficient of the ether to allow a restoration of the dissolved lipoids to the blood plasma and to the cells, it is not possible to say. That the opsonic index, that is, the phagocytic power of the blood which was lost to a great degree by the inhalation of ether or chloroform, can be quickly restored by the proper use of olive oil is certain, and it is just as certain that without this oil it would not be quickly brought back, and also that there is at present no other known means of restoring it.

In order to obtain results the oil must be absorbed *as oil* (see below) and that it is so absorbed from the lower bowel when injected high in the rectum is beyond question in the light thrown by several investigators upon the subject of rectal feeding.

Deucher (29) limits fat absorption by rectum to ten grammes a day under favorable conditions. Edsall (30) and Miller (31) have shown that "the quantity of fat absorbed (by the lower bowel) was fairly considerable" (32), but Edsall seems inclined to limit absorption to the ten gramme per diem (33) mark, although according to Hamburger (34), the amount is greater. At all events, if five ounces of olive oil are placed in the lower bowel, at the smallest probable limit of absorption enough will be absorbed to become a substitute in one way or other for the lipoids whose equilibrium in the cells and plasma has been disturbed by the ether.

Any oil that may be in the intestine in excess of that which has been absorbed, is not wasted. That one channel by which ether is eliminated from the system is the gastrointestinal tract seems beyond dispute. Ether, in traces, exists at times in the vomited contents of the stomach after an ether anesthesia when its presence in the stomach cannot be accounted for by its having been swallowed.

Müller (35) calls attention to the postanesthetic eructations of gas from the stomach smelling of ether and I had reported to me in 1911 a case in which the large intestine was opened for a carcinoma of the sigmoid flexure. At times, when the actual cautery was in use inside of the gut, faint flashes were observed in the gut, thought to have been explosions of ether vapor which had gained access to the large bowel by excretion.

Any ether vapor that may be thus in the intestine, as soon as the vapor tension in the system is lessened by excretion by the respiratory tract, will be reabsorbed and thus keep down the opsonic index and tend otherwise to protract the anesthetic phenomena. Surplus oil in the intestine will absorb this ether vapor nearly as fast as it is excreted, and will therefore, not only prevent the lengthening of undesirable postanesthetic phenomena such as intestinal stasis, and distension of the colon which causes so much "backache," but also will allow a speedier restoration of the opsonic power of the blood and thus make a satisfactory recovery surer.

In order to obtain the best results in an endeavor to restore quickly the power of the anesthetized patient to resist infection, pure olive oil should be used. Mineral oils such as those from petroleum are not absorbed; animal oils are taken up only very slowly and sparingly; cottonseed oil does not seem to be absorbed as speedily as olive oil nor to the same extent. On the other hand, clinical tests show pure olive oil to be trustworthy and, for the purpose under consideration, no time should be lost by the use of other oils. It is this difference in the absorbability of the oils that renders olive oil not adapted for use in the abdominal cavity to prevent adhesions, while the pure animal oil of Crump, "extracted from the contained fat of the omentum and appendices epiploicæ of cattle," is excellent for the purpose (36) but of no special use in restoring the opsonic index.[8]

I must notice, therefore, one difficulty that confronts the anesthetist who would restore the bactericidal power of his patient's blood, namely, that of obtaining an olive oil which beyond question will be satisfactory. Not only is it hard to be certain that what is had is olive oil at all, but if it be an olive oil it is not easy to make sure that it is a good one. Crump (23) writes: "In the various hospitals in which we operate different brands of (olive) oil were used and the resulting postoperative phenomena differed so widely that we began to investigate further the properties of the various oils of the market. Much to our surprise, we found olive oil a widely differing and unstable compound. We ascertained that the number of brands runs up into four figures, there being at least three hundred brands of Italian oil alone. . . . In 232 samples analyzed from one to twenty-five per cent. of fatty acid was present."

For the use of the oil the anesthetist should always see to it that the oil as well as instruments for administering it are always at hand. The necessary instruments are: 1. A few stiff soft rubber catheters from nine to ten millimetres in diameter (numbers 27 to 30 French scale), together with some gum elastic English bougies of sizes that will permit them to serve as obturators and stiffeners of the catheters, or small rectal tubes of no less diameters than the catheters may be used instead. 2. A six ounce piston syringe with a point that will easily fit the catheters or rectal tube. The longer the barrel of the syringe as compared with its diameter the better since it permits a slower delivery and also the deposit of less oil at each forward movement of the piston.

As the failure of the syringe to work at such a time as when an endeavor to restore the opsonic index is made, is not only disappointing, but may solve the problem of life or death for the patient, contrary to the surgeon's desire, great care should be used to have an instrument which will be always in order. After personal experience with many in-

[8] A statement based upon personal communications to the author.

struments, I have discarded all syringes with rubber or leather packings and use only those made of heavy glass with a packing made of asbestos, which can be soaked in any corrosive antiseptic solution, boiled, or heated in a Bunsen flame without detriment to the packing. The syringe should be large enough not to require refilling.

Having the armamentarium at hand, introduce the tube well up in the rectum, or into the sigmoid flexure if possible. Fill the syringe with the olive oil of a temperature of about 104° F. Attach the syringe to the tube in the rectum and then inject the oil very slowly. I assign this work to a nurse, giving her careful directions to consume fifteen minutes in emptying the syringe. It will sometimes be found advantageous to have the foot of the bed or the hips of the patient somewhat elevated.

This olive oil should be injected just as soon after the removal of the anesthetic as possible. If it is going to take fifteen or more minutes to complete the dressings, then the injection ought to be begun and completed during this time, i. e., before the patient is taken from the table, provided that the surgeon's work can by any possibility be made to permit it, but if in a few minutes the patient will be in his room, then the injection may be delayed until the patient is in bed.

While a postanesthetic injection of olive oil to restore the opsonic power of the blood may be given safely to all patients who have had the ordinary preparation for an operation, and whose intestinal tract is not needed for anything else, it ought to be used in every one of the following cases if the anesthesia has been by ether or by chloroform:

1. After every anesthesia for an operation undertaken for an acute septic condition as, for instance, (a) acute pyosalpynx, (b) acute suppurative appendicitis, (c) traumatic sepsis, (d) perforation of the intestine in typhoid fever, (e) extensive abscesses, carbuncles, etc.

In such cases there is always some general sepsis left after the removal of the source of the infection which the patient may not be able to withstand until the preanesthetic power of resistance has been regained without assistance.

2. After every anesthesia for an operation on a patient suffering with an acute or subacute infection, as, for instance, (a) bronchitis, (b) pulmonary tuberculosis, (c) influenza, etc.

3. After every anesthesia for an operation on a patient suffering from any chronic infection, as, for instance, (a) tuberculosis of skin, joints, or internal organs, (b) furunculosis, (c) gonorrheal arthritis, etc.

4. If any slip in the asepsis of the operation has been observed or even suspected. In these cases, the few bacteria introduced, although they would otherwise be of small consequence, may proliferate rapidly and either kill the patient or compromise the results of the operation on account of the impairment of the patient's immunity by the anesthesia. Such a result should be anticipitated and precluded by an injection of olive oil.

5. In every case liable to develop postoperative pneumonia. Which these cases are is obviously difficult to determine beforehand, but there are some factors which may suggest the precaution of the injection. For example: for a patient whose nose and throat are not clean, and therefore from which the pneumococcus may be aspirated into the lungs during anesthesia. Park and Williams (37) and their associates have obtained "typical pneumococci . . . in a large percentage of normal cases, in both city and country," which they examined. Longcope and Fox (38) say: "During the winter months the pneumococcus has a wide distribution, and that at this time a large percentage of healthy individuals harbor virulent pneumococci in their buccal cavity. It is almost certain that some persons always have virulent pneumococci in their saliva," and as Buerger (39) has shown, "The pneumococci occurring in the mouths of normal individuals possess the usual morphological and cultural characteristics observed in the organisms isolated from other sources."

A plain lesson from these findings is that the nose and throat of each patient presented for anesthesia should be thoroughly cleansed with some mild antiseptic solution just before the anesthesia, and I know from clinical evidence that such treatment not only at times has markedly decreased the percentage of postanesthetic lung complications, but also that for one service of a large hospital it has reduced a fairly large percentage of postanesthetic pneumonias to zero. However, the impaired bactericidal power of the blood is an independent condition of the development of postanesthetic pneumonia, therefore the patient should be protected as much as possible by a prompt injection of olive oil.[9]

There are five facts to be borne in mind in regard to this use of olive oil:

1. Rectal injections of olive oil are of no use in preventing or combating ordinary infections. The inception and progress of such septichemias are not due to any disturbance of the equilibrium of the lipoids of the cells. Olive oil, absorbed by the large intestine, will restore the patient's power to resist infection only if such power has been lost on account of a suspension of phagocytosis due to the influence of alcohol, chloroform, or ether on the equilibrium of the lipoids of the cells.

2. The injection is most effective when the ether tension in the cells is greatest. This is late in the anesthesia, particularly at the time when the anesthetic is removed. Therefore no time should be lost, but the injection given just as soon after the anesthesia is over as is possible.

3. The olive oil cannot be given effectively by the mouth. So administered it is saponified and digested as any fats are. To restore the opsonic index the oil must enter the circulation *as oil*. It must, therefore, be injected into the lower bowel.

4. Oil cannot be administered before the operation as a prophylactic. Whether the oil enters the cell and takes the place of the lipoids of the cell which have been removed by the anesthetic, which seems improbable, or whether the oil brought in contact with the cell takes up the ether in the cell

[9] Obviously there are causes of postoperative pulmonary difficulties quite apart from the aspiration of the pneumococcus or the staphylococcus into the lungs, causes dependent on the general preoperative condition of the patient or upon the operative procedure, and these may be so potent that a restoration of the opsonic index may not be able to overcome them.

and allows a restoration of the lipoid equilibrium, which is quite possible, has not yet been determined. It is, however, certain that the injection of the olive oil can do no good until the equilibrium of the lipoids has been disturbed.

5. There frequently will be after anesthesia an increased leucocyte count. The anesthetist should not allow himself to be deceived by this condition. Such an increased number of leucocytes does not mean a restoration of the power of the patient to resist infection, nor that the bactericidal power of the blood has not been diminished by the anesthesia. The damage to the patient from the anesthesia does not consist in any change of the number of the white corpuscles, but in the diminished phagocytic action of the leucocytes. In a war it matters not whether an army of one million or of one thousand men be sent to repulse invaders, provided that to none of the men any means of defensive or offensive warfare be furnished. So in the matter at hand, if the leucocytes can no longer perform their duties as phagocytes, a numerous leucocytosis is of no more use than a restricted one. It is not a question of numbers but of efficiency of the leucocytes which are present.[10]

SUMMARY.

In summing up the lessons to be learned from this study of the influence of alcohol, chloroform, and ether upon the power of the body to resist disease the following are points which should be emphasized.

1. Do not give alcohol in the infectious diseases (37). It is particularly bad in pneumonia and septic conditions (40).

2. For surgical anesthesia administer at any one time, during the anesthesia, as little of the anesthetic as possible.

3. Never use alcohol as a stimulant during or after an anesthesia if the opsonic power of the blood is of any importance.[11]

4. Make the anesthesia as short as possible. Begin to administer the anesthetic as late as circumstances permit and remove it just as soon as the operation will allow.

5. Use only a strictly pure ether or chloroform, lest impurities in the anesthetic augment the unavoidable depression.

6. *Take special precautions for asepsis and antisepsis* in all operations of any length. A very slight infection, which would not manifest itself under ordinary circumstances, may develop into a serious condition after an anesthesia because of the impaired resistance.

7. Inject six ounces of olive oil high up into the rectum in all septic cases, and in all others in which the patient's power to resist infection may be called into play.

8. Remember that time is an important factor in restoring the opsonic index, therefore do not delay the administration of the oil.

9. In injecting the oil "make haste slowly." The sudden deposit of six ounces of oil may cause it to be ejected and all will have to be done over again. Give a slow steady continuous injection every time.

10. Use only pure, limpid olive oil. Absorption to do the most good must take place comparatively quickly. Therefore, take care to have at hand an olive oil free from stearins and other heavy oils, free fatty acids and other impurities.

11. If there is the slightest question whether to inject the oil or not, *inject it.* It can never do harm. Be on the safe side.

[10] *Confer* Rubin, "Some animals died with a fairly high leucocyte count."

[11] This is a second reason against the use of alcohol in connection with anesthesia, especially that by ether. Alcohol acts on the system just the same as ether does; and if the patient's nerve centres are depressed by the ether, the alcohol cannot but continue or deepen the depression.

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9 NORTH MUNN AVENUE.

A CASE OF HYSTERIA IN A GIRL OF THIRTEEN YEARS, ILLUSTRATING THE MECHANISM OF AN HALLUCINATION.

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It is with some degree of hesitation that I report this case, because to the psychoanalyst it will certainly appear to have been incompletely analyzed. Yet, since this account illustrates some of the main features of the method of Freud, I present it in preference to other and more satisfactory analyses I have made, because the latter would perhaps prove misleading if not set forth in great detail, and this space forbids.

CASE. Irene M., aged thirteen years, was referred to me through the courtesy of Dr. E. H. Shields, of this city. She was a pretty and very intelligent child of a quite serious manner. She went to school, besides doing much work about the house and assisting in the care of a younger brother and sister.

Her mother brought her to me with a history of convulsive seizures at intervals of two or three a day, worse at bedtime, since about two weeks previously. Six weeks prior to the onset of the hysteria, she had been for a few days in a hospital, suffering from an eruption of herpes over the left shoulder. From this she had completely recovered. After her return from the hospital, for several weeks she seemed quite well and cheerful.

A careful physical examination proved quite negative. The seizures varied from a brief fixed stare and a few disorderly movements, to the most severe opisthotonos (*arc de cercle*), the head touching the heels, which position was maintained frequently for a number of minutes. Inquiry as to psychic shocks or trauma proved fruitless. She seemed singularly frank and truthful. I informed her mother that I must see her in an attack.

The following evening I saw her immediately after an attack. She was weeping and apparently much depressed. She refused to go to bed. After I had talked to her alone for about an hour, it was with great reluctance that she admitted that she feared to go to bed because when she became quiet and sleepy she saw something that terrified her very greatly. She was quite amnesic for her attacks, but by a comparison of the times when she had this hallucination I found that it immediately preceded the convulsions. When she awoke the hallucination disappeared and she felt well until it reappeared—except for a constant state of terror she was in from fear of its reappearance. It was most likely to recur as she was about to fall asleep, or during momentary states of abstraction.

The "something" she saw, she could not describe in detail, because while she felt impelled to look, she feared to look. Then the seizure and amnesic interval supervened so quickly upon the vision that she scarcely had time to observe it closely. However, it was white, seemed to have wings, and appeared to flutter along the wall.

The problem now presented was the determination of the nature and origin of this hallucination. Evidently the vision was but a symbol for a group of ideas, i. e., a complex. The next evening her mother brought her to see me. I now induced the hypnoidal state (i. e., a normal drowsiness). Soon she opened her eyes, and paid no attention to any questions or any somatic stimuli. Her eyes were fixed. She seemed in a state of most abject terror, mingled with rage. She sprang up and attempted to climb up or dig her fingers into the wall. Her movements were very violent and disorderly. When her eyes were covered she turned her attack toward herself, attempting to bite her hands or dig her nails into her cheeks. When this induced attack had, after about ten minutes, subsided, she passed through a few moments of drowsiness and abstraction, then suddenly awoke. As usual she was amnesic for the whole interval, except for the first appearance of the hallucination, during which she said that while she heard my questions she could not reply.

The next evening I very easily induced a light hypnosis, in which I gave her the suggestion that the next time the vision returned she would not fear it and would be able to describe it in detail. After waking her, I again, with the aid of the metronome, induced a normal drowsiness. The attack supervened, but in a much milder form, and without the amnesia. What she saw was, as she described it, "a little angel" (a cherub's head with wings).

I now anticipated taking the angel concept as a basis and proceeding with a psychoanalysis, as the angel hallucination was in itself nothing more than a symbol (analogous to a dream symbol) of some hidden complex. However, when I saw her a few days later, her mother reported that all convulsions had ceased; she was again going to school and appeared quite well and cheerful. I then concluded to let well enough alone.

After about four weeks she returned. For several days she had been listless and quietly depressed. She feared that she was going to die. Several attempts at tracing the origin of this idea proved futile. By the following week she was convinced that death was inevitable. Neither persuasion nor suggestion made the slightest impression upon this idea. By the next week she was longing for death in order "to get it all over with." It was only at this visit that I succeeded in finding the cause for this state of quiet despair. It lay in an auditory hallucination. She had feared, because of a possible vengeance from Heaven, to confess this. A voice spoke to her a number of times a day, saying, "Irene, you will not live long."

As to the origin of the hallucination she says, in an account of her case she afterward wrote for me: "One afternoon I was playing on the piano. After I was done playing I went over and sat down by the window. I was watching the people walking back and forth, the cars, and many other sights. I thought I heard some one talking to me, who seemed to say: 'Irene, you will not live long.' I looked about the room, but could see no one. I said 'Pshaw, Irene, that's just your imagination.' It came many times after that. I did not pay any attention to it. Then I began to think about it. I thought it was a warning; an angel [or God] talking to me. My legs and hands became very heavy and numb. . . ."

We here observe an aspect of hysteria noted by many observers, the transference of a hysterical symptom. One being apparently cured, another takes its place. By the removal of the emotion of

fear from the angel hallucination, I had merely blocked a channel through which a deeper terror was expressing itself.

I now investigated more carefully her associational systems grouped about the concepts "death," "angels," etc. The chief emotional incident, which she had formerly passed over lightly for fear that she would be thought weak or cowardly, centred about her experience at the hospital when she suffered from herpes. The pain was very intense. She saw none of her family for several days. She had never had an illness of any consequence or been in a hospital before. Although she was treated kindly, the surroundings were strange and to her very frightful. Hospitals were, for her, associated with death and dying. She could not understand how she could have such severe pain and not die. Her idea of death was that an angel comes and takes one away. She tried to repress these fears and said nothing about them to anyone. She would get intensely sleepy, but was afraid to go to sleep, or even close her eyes, for fear she would die before she could awake. We thus see the fear most prominent in the hypnoidal state in which the autosuggestion of death could act most strongly.

The mechanism of repression is brought into play, and the emotion inadequately reacted to is repressed into the unconscious. It finds an avenue of expression through a hallucination. The "angel" was her own idea of an angel, projected into consciousness from a dissociated memory system. The words "Irene, you will not live long" had been at one time her own thought, but this thought had been repressed and lost to memory. The convulsions and amnesias constituted an attempted defense on the part of the ego complex against the rise of an unpleasant idea.

In most hystericals the expression of the painful affect complex is through the medium of some physical symptom. But Irene, following her first improvement, had a very fixed idea that I had, as she expressed it in her own written account of the case, "cured her spells." Her studious and introspective character perhaps explains the further direction the symptoms took. The case showed a tendency to evolve away from a hysteria toward a psychasthenia.

The question naturally arises as to whether her hallucination, "Irene, you will not live long," and general ideas of dying and death, might not have been, if the analysis had been pursued further, traced to deeper memory systems of a masochistic content, representing thus an actual wish for death as a final submission or flight from reality. The lack of evidence does not, however, in this case permit of a further elaboration of this theory.

Therapeutics consisted in an explanation of the origin of the symptoms. Prior to my unraveling of the psychological mechanism, my statements to her, that her idea that an angel was talking to her, was only imaginary, and that she should not listen to the voice, had no effect. After she understood the origin of the symptoms, and had the opportunity to express freely the fear she felt at the hospital, recovery took place. One method I took to make her thoroughly understand her case, was on three successive weeks to prescribe that she write out in her own language an original composition describing the mechanism of the development of the hallucination.

After some months, she remains quite well.

1414 Elm Street.

Correspondence.

LETTER FROM LONDON.

Performances of the Militant Suffragettes.—The Insurance Act.—New Test For Color Blindness.—Relation of the Spirochetes to other Organisms.—Miners' Nystagmus.—Death of Professor Dixon Mann.

London, *April 26, 1912.*

The recent outburst of activity among the militant suffragettes in this country has given rise to an animated medical controversy in the columns of the *Times* and other newspapers. Dr. Leonard Williams began the controversy by stating that the suffragettes responsible for the window smashing campaign were suffering from insurgent hysteria. Other medical writers who have contributed letters on the subject to the *Times* are Sir Almroth Wright, Sir Richard Douglas Powell, Sir Victor Horsley, Dr. Ettie Sayer, and Dr. Agnes Savill. The letter of Sir Almroth Wright occupied two and a half columns of the *Times* and excited widespread comment. He holds that the recruiting ground for the militant suffragettes is the half million of our excess female population, among whom he finds several types. There is first the woman who believes herself entitled to resort to physical force whenever she thinks it to her advantage. Resort to physical force between man and woman is, he believes, immoral, since it is a breach of the fundamental laws on which society is built. More abnormal is the group of women who, through long suppression of their natural instincts, have had their energy turned into wrong channels. This is a type well known to all alienists. Next to these is the class of the incomplete, those who cannot understand the fundamental differences between man and woman, and who look on an epicene world as the ideal. There is also the woman who, too self conscious of her intellectual power, is jealous that it does not receive, as she thinks, full recognition. Finally, there is a large class of immature girls, healthy enough otherwise, whose outlook on life has been misdirected by wrong advice and teaching. These girls have been told "such tales as it never entered into the heart of man to conceive" with regard to the intellectual, moral, and financial value of woman. They believe that woman suffers all sorts of indignity and injustice at the hands of man.

Naturally, these letters have aroused considerable criticism from suffragettes and others, but on the other hand they have expressed—rather too strongly, perhaps—the views of the great majority of the medical profession in this country.

The position of the medical profession under the National insurance act still remains very doubtful. The commissioners have not yet sent any reply to the British Medical Association, who on February 29th formulated their demands. These included

the following demands: 1. An income limit of £2 a week for those entitled to medical benefits; 2, free choice of doctor by patient, subject to consent of doctor to act; 3, medical and maternity benefits to be administered by insurance committees and not by the friendly societies; 4, the medical remuneration to be what the profession considers to be adequate, having due regard to the duties to be performed and other conditions of service. After careful consideration the sum of eight shillings and sixpence was given as the minimum capitation fee which the profession would accept, not including extras and medicines. The insurance commissioners have not, up to the present, replied to these demands, and as the act begins to operate on July 1st, much anxiety is being felt at the delay. If the commissioners do not agree to the demands of the profession, one of several things might happen.

The medical benefits might be left out of the act and the insured persons allowed so much per annum in lieu of medical benefit, or whole time medical officers might be appointed to administer the medical benefits under the act. In the latter case it is doubtful whether the government would be able to secure a sufficient number of doctors, as over 27,000 have signed a pledge not to accept service under the act unless the demands of the profession were conceded. The whole position is, however, still very unsettled and uncertain. Another alternative is for the medical profession, independently of the insurance act, to form a National medical service, the conditions and arrangements for which will be entirely in the hands of the profession. This scheme is being received very favorably.

At a recent meeting of the Royal Society of Medicine, Dr. G. J. Burch described a new test for color blindness. A sheet of perforated zinc is fixed on the focal plane of a convex lens of about eight diopters, through which the observer looks. On a card, six inches or so farther off, is painted a design in confusion colors, for example, red and blue letters on a dark green ground. The red blind can distinguish the blue letters, but not the red, though these are far more conspicuous to the normal eye.

Mr. Clifford Dobell gave an account of certain results obtained from a detailed study of the morphology of a large number of spirochetes and related organisms. It was urged that the much discussed problem of the systematic position of the spirochetes could be solved only by means of morphological evidence derived from a study of the spirochetes, bacteria, cyanophyceæ, and protozoa. A detailed study of these four groups had been made, and almost all the morphological characters found among the spirochetes were represented also among the bacteria. The author maintained that the spirochetes must be classified among the schizophyta (class bacteria), and not among the protozoa.

Miner's nystagmus has increased to a great extent in this country, and there is a probability of a royal commission being appointed to consider its causation and prevention. At the present time it is considered an occupational disease, within the meaning of the workmen's compensation act, and there are now over 1,600 men receiving compensation in the United Kingdom.

Some interesting correspondence has just been published between Sir A. B. Markham, M. P., who is a coal owner, and the home secretary. The former had received a letter from Dr. J. Court, of Staveley, Derbyshire, who has had some forty years' experience of the coal mining industry. Doctor Court urged that an inquiry be undertaken into the eyesight of all men and boys working in collieries and other mines in Great Britain, where both naked lights and safety lamps are used, in order to ascertain: 1. The cause or causes of miner's nystagmus; 2, the duration and best means of cure; 3, whether there is a constitutional liability; 4, whether one attack predisposes to another; 5, whether patients with mild cases are incapacitated from work underground and to what extent; and, 6, whether miner's nystagmus causes the sufferer to be a danger to himself and other miners at work with him. Doctor Court believes that the cause of the condition is the defective illumination in which the men have to work. The safety lamp in use gives a very poor light, and Doctor Court found that the disorder diminished with improved illumination, being almost unknown in naked light districts.

The death is recorded of Professor Dixon Mann, of Manchester. He was professor of forensic medicine and toxicology at the University of Manchester, and well known as the author of the leading textbook on the subject. Dixon Mann's *Forensic Medicine and Toxicology* has been the favorite textbook on the subject for the last ten or fifteen years. He was honorary physician to the Salford Royal Hospital, and represented Mancnester University on the general medical council.

Therapeutical Notes.

Preoperative Skin Disinfection.—Howard A. Kelly and C. F. Burnam, in the *Interstate Medical Journal* for April, 1912, state that during the past year they have given up the iodine method of skin disinfection and have employed the following procedure with uniformly satisfactory results: The patient is first anesthetized and then shaved, using alcohol in place of soap to facilitate the process. After this the skin is wiped off with ether and then with alcohol. The entire procedure takes but little time, is easy of application, involves the use only of chemicals always at hand in the operating room, and produces a degree of skin sterilization superior to other methods the authors have employed. Almost any area of skin of the body will tolerate this procedure.

Treatment of Laryngeal Papillomata.—Masini, at the Fourteenth Italian Congress of Laryngology, Otology, and Rhinology (*Annales des maladies de l'oreille, du larynx*, etc., No. 1, 1912), reported the case of a woman in whom repeated operations had had to be done, covering a period of thirty-five years, for the removal of recurring laryngeal papillomata, and who was finally tracheotomized to guard against asphyxia. The use of calcined magnesia in daily doses of four to six grammes resulted in disappearance of every trace of the growths within three months.

A Nasal Wash.—J. Dundas Grant, in *Practitioner* for March, 1912, remarks that in many persons who are in the habit of washing out their noses with plain water, swelling of the mucous membrane results; from this they obtain relief when their supposedly hygienic habit is stopped. A hypertonic solution, such as 0.50 per cent. Glauber's salt solution, on the other hand, would tend to deplete the mucosa. But it is generally better to use an isotonic solution, except when there is great dryness and ozena, when a hypotonic solution should be used, viz., plain water with a mere trace of salt.

For cleansing the nose in simple chronic rhinitis, Grant recommends the following:

℞ Sodium biborate, ...96 grains;
Sodium salicylate, }
Sodium chloride, } .....of each 48 grains;
Pure glycerin, ...72 minims;
Menthol water (made like camphor water),
to make, ...6 ounces.

For use, a teaspoonful of this mixture is placed in about on ounce of warm water.

Medical Treatment of Tuberculous Peritonitis.—André Philibert, discussing this subject in *Progrès médical* for March 9, 1912, states that cod-liver oil is useful in tuberculous peritonitis, provided it is well borne; in many instances, however, especially in the summer, it is not tolerated and must be given up. Repugnance to the use of the oil may often be overcome by beginning with very small doses, then gradually increasing them until five or six tablespoonfuls are taken every morning. The oil is indicated especially when constipation is present. In periods of diarrhea, however, tannin, particularly combined with iodine in a syrup, is very useful; where tannin preparations are not well borne, tincture of iodine should be given with milk, or, as recommended by Durante, the following solution may be administered by hypodermic injection:

℞ Iodine, ...0.25 gramme;
Potassium iodide, ...2.50 grammes;
Guaiacol, ...1.25 gramme;
Glycerin (pure, neutral), ...25.00 grammes.

One quarter, gradually increased to one c.c. is to be injected daily.

The guaiacol is said to prevent pain at the time of injection. For benefit to be produced this treatment must be continued a month or two.

Another useful drug is calcium phosphate, which antagonizes both sweating and diarrhea, and may be given either in cachets in the form of glycerophosphates or tricalcium phosphate, or else in solution as monocalcium phosphate.

Arsenicals, such as cacodylates and Fowler's or Pearson's solutions are useful in sluggish, afebrile forms of the disease; in cases with diarrhea and fever they are contraindicated.

In general, drug medication is, perhaps, preferably to be avoided in tuberculous peritonitis whenever possible, in order to spare the digestive tract. Certain attendant symptoms, however, may require special measures. Thus, pain may require the use of an ice bag, or better, heat or alcohol compresses; rarely of opiates. Mild constipation indicates glycerin or oil enemas, or suppositories. If it proves persistent, it is best to alternate the enemas with small doses of castor oil, or sometimes of sodium or magnesium sulphate or some laxative mineral water. In the presence of diarrhea, tricalcium phosphate is valuable. If there are colicky pains in addition, paregoric or other opiates may be given, as flatulence is present or absent. Where obstinate, copious diarrhea is noted, tannin, krameria, or bismuth are suitable. Tannin and calcium phosphate are both advantageous in that they may be given for long periods without harm. Vomiting should be treated by means of a fluid diet for a few hours, ice internally, and applications of cold to the epigastrium.

Regarding paracentesis in ascites, Philibert states that it has undoubtedly in some cases overcome the tendency to intraperitoneal effusion. An ascites which is only slowly being resorbed may not return after a simple paracentesis, or at least, it may subsequently be only partially reproduced. While persistence of ascites and high tension of the fluid are both indications for evacuation by puncture, they must also be considered as strongly suggesting the performance of laparotomy.

Treatment of Acute Suppurative Otitis Media.—G. H. Ward, in the *Journal of the Medical Society of New Jersey* for January, 1912, states that if this condition is seen in the early stages, attempts to abort it may be followed by success. Irrigations with at least one quart of hot normal saline solution, at a temperature below 110° F. and with little or no pressure, is the first step. The patient should be kept in bed, on a light diet, and small doses of calomel given, followed by a saline. In older children and adults the author has used the following local treatment with success in many cases: Saturate a long pellet of absorbent cotton with one to 5,000 adrenalin chloride solution, add a few drops of two per cent. cocaine solution, squeeze fairly dry, and insert by means of an applicator with curved tip along the floor of the nose to the nasopharynx, pressing upward and outward to the pharyngeal opening of the Eustachian tube. Examine the nasopharynx with a mirror to see that the cotton is in apposition, then leave it *in situ* for five minutes. This procedure will often open the tube sufficiently to drain the tympanum, and, in conjunction with heat, may produce resolution. The nasal and nasopharyngeal cavities should be cleansed frequently with warm saline solutions; weak Dobell's solution answers the purpose well.

If the process continues in spite of the measures taken to abort it, bulging of the drum results and a paracentesis is indicated. In infants and young children the efforts to abort should be limited. In these cases the author believes paracentesis should be practised where high temperature and a discolored drum are present, without waiting for bulging.

Treatment of Tinea Versicolor.—A writer in *Union médicale du Nord-est* for February 15, 1912, gives the following formula for an ointment in tinea versicolor:

℞ Resorcinol, }
Salicylic acid, } .....of each, 1 to 3 grammes;
Precipitated sulphur, ...5 to 15 grammes;
Hydrated wool fat, }
Petrolatum, } .....of each, 25 grammes.
Lard, }
M. ft. unguentum.

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THE NEW PENNSYLVANIA BUREAU OF MEDICAL EDUCATION AND LICENSURE.

The first report of the recently created Bureau of Medical Education and Licensure of the State of Pennsylvania is interesting in more ways than one. While fully acknowledging its responsibility in protecting the people of the State from unqualified practitioners, and in uplifting the tone of the profession and its fitness, it summarizes the results of its inspection of the seven medical schools the State contains. The reporters do not hesitate to express the belief that their inspection had been "the only thorough and efficient one ever made of the medical schools of Pennsylvania"—a declaration which the authorities of the inspected schools can fully sustain. The marvellous development of all these schools, particularly during the last few years, has evidently borne fruit, judging from the verdict of the bureau that the inspection had shown "a condition of affairs in the State which places Pennsylvania well in the fore in medical education." While justly recognizing that there is still much to be done, the opinion is expressed that this will be accomplished in a comparatively short time by a well tempered cooperation between the schools and the bureau. This is a laudable attitude which is bound to lead to eminently successful results.

A feature of the report is the statement that what criticisms the bureau has to offer are, in large part, such as can be corrected only by an ample supply of funds, for which an appeal to wealthy philanthropists is recommended, since, it is urged, "no college can assume and maintain a position of the first rank without owning and controlling its own hospitals and clinical facilities." But it happens that every school, in Philadelphia at least, owns and controls its own hospital. Indeed, as the report states, the schools are not using all the clinical facilities available—so great, we might add, is the clinical material at their disposal.

An evident oversight in this connection seems to us to invalidate the prevailing idea that the number of colleges should be reduced. That such a reduction is fully warranted in the country at large no one could deny; but that this does not apply to Pennsylvania a few figures will show. That State has not been one of those in which medical schools have grown in profusion. In the heyday of such institutions (1905), when there were 160 of them in the country, Pennsylvania, with a population one twelfth that of the United States, should have had thirteen schools—she had but seven. Even now when, as shown by the recently issued *Carnegie Foundation Report,* there are but 120 colleges in the whole country, Pennsylvania should have ten: but she still has but seven. Indeed, the total of schools of the United States would have to be reduced nearly to *one half* of the original maximum number before Pennsylvania could, with any degree of justice, be asked to reduce her present number of medical schools.

Another fallacy, in our opinion, lies in the remedy proposed, viz., that some at least of the various medical institutions should consolidate. Such a step would doubtless be, and has been, profitable in some cities, owing to the relative paucity of clinical material. But this does not apply to Philadelphia: she is not only rich in such material, but the friendly rivalry of her five regular schools, the multiplicity of laboratories and clinics these several schools place at the disposal of the one hundred and odd leaders who make up their major faculties, the close and informal relationship between professor and student, and the relatively smaller number of the latter to each instructor (Sir William Osler has expressed the hope to see the time when no medical school will have a graduating class exceeding twenty-five students), have been potent factors in perpetuating the great position Philadelphia has created for herself in the world of science. To break the golden chain, create by consolidation one or two institutions governed by a small clique of autocrats, would greatly weaken her productive

power, compromise her future as a medical centre, and diminish her usefulness to the profession and to humanity at large.

These facts and many others which could be adduced suggest plainly that in the development and improvement of medical education in this country, each State should stand on its own merits. Pennsylvania is to be congratulated on the advent of a Bureau of Medical Education whose avowed object is to "cooperate in the proper spirit with the college authorities, not in a spirit of criticism or contention or oppression, but in one of constant helpfulness."

CANCER STATISTICS; A LESSON IN DELAY.

The report of the Commission on Cancer of the State of Pennsylvania for the past year[1] covers the statistics of 400 patients from various parts of the State, and bears upon the condition in which the patients come to the surgeon. Of the total 146 were males, 236 females, and the remainder unspecified. The disease may be considered in two groups; one the superficial cancers, the other the deep seated. One is at once struck with the fact that of the superficial cancers only sixty-eight per cent. were suitable for operative treatment when first seen by a surgeon. Of the deep seated growths but forty-eight per cent. were available for operation. These figures are probably too high, for there are many patients who are seen at once to be beyond operative help and who pass immediately from the surgeon's hands and fail to appear upon his records. This state of affairs is doleful to contemplate, particularly in the case of the superficial growths where one would think that an early and accurate diagnosis would be an easy matter if an effort was made. Indeed it seems that in this class negligence is the chief factor at fault.

A precancerous condition, or a chronic irritation, is a frequent precursor of cancer in a large proportion of all cases. It has preceded the superficial growths in thirty-nine per cent. and the deep ones in forty-six per cent. of the patients. Together there is seen to have been a previous condition the cure of which might have prevented the development of cancer in almost fifty per cent. of the series.

The fatality of delay is well shown by the tables. In the superficial cancers the victims have been aware of the presence of the condition on an average of eighteen months before visiting the surgeon; in the deep cancers for fourteen months. Even when seen by a physician the influence which the latter exerted in shortening this deadly delay has been very slight, for an average period of thirteen months elapsed between the time when the patient saw the family physician and the time when he presented himself for operation in the case of the superficial growths. A year elapsed when the growth was a deep one.

The last factors which contribute to make cancer so fatal a disease through delay are two. First, when the patients consult their physicians they often get no treatment; second, when they do receive treatment it is often poor or worthless. These facts are well shown by the following details: Three per cent. of the patients who had cancer of the breast received no local examination from the first physician seen. "Maladvice" was given in thirteen per cent. of the breast cases. By maladvice the commission means such counsel as "Wait and see what develops," or such prescriptions as salves, etc. The first physician consulted in the stomach cases made no local examination in nine per cent. and gave maladvice in twenty per cent. There are similar statistics in the cases of cancer of the cervix, the uterus, and the ovary, ranging up to fourteen per cent. of failures to examine, and twenty per cent. of maladvice.

These statistics led the commissioners to the conclusions that the only efficient treatment which we now have for cancer is nearly always so delayed that its benefit is derived by but a small portion of the sufferers and that the much larger number are needlessly sacrificed. They believe the responsibility is to be divided between the medical profession and the general public. They feel that there is the greatest possible room for improvement on the part of both, but that the improvement should be earliest and most marked in the case of the medical profession.

We are inclined to join the commissioners heartily in their expressions regarding the culpability of the medical profession in permitting this fatal delay. We would go further and ask what possible excuse a physician can offer for not examining the site of the trouble in such a large percentage of the cases, for the deadly procrastination entailed in awaiting "results of development," or in the use of salves. We venture the suggestion, none too harsh, that ignorance, or woeful callousness of conscience, or a carelessness very little short of criminal, is to blame in the majority of instances. Such a collection of illuminating facts should be made the goad of the neglectful and the shame of the ignorant and the callous. It is indeed a reproach to the medical profession to learn that such a state of affairs exists, and it should be the duty of each man to remedy the conditions and to edu-

[1] *Pennsylvania Medical Journal*, April, 1912.

cate his small quota of the public to a wholesome fear of the dangers of delay and to appreciate the necessity for an accurate and early diagnosis where cancer is a possibility.

FALSE IDEALS OF MANLY PERFECTION.

A recent portrait of a lumpy athlete, who invites others, and not without success, to try his system of physical development, shows that the false ideal of physical perfection which obtained for so many years, and which demanded huge and knobby muscles of its disciples, has not yet quite died out. This type of manly perfection, once useful perhaps to hang armor upon, was thought to possess the sanction of the golden age of artistry when the lubberly Farnese Hercules came to light, to be hailed as a supreme product of the Greeks. We know it now for an example of decadent Greek taste, fit companion of the absurd and sensational Laocoon. It is naught but a type of the strong man of vaudeville with his clumsy masses of beef and his brain of a spoiled child, fit only to push his awkward dumbbells into the air, an enviable sum of achievement truly after a lifetime of work by a civilized human being. No less than strength, are speed and grace demanded of the ideal athlete, likewise a face of refinement and intelligence to tell of a brain within to comprehend art, music, and literature, and the ability to plan victories either of peace or war. Look upon the Apollo Belvidere, which embodies the true dreams of health and mental and physical efficiency, with its face of exquisite beauty above a form whose lines are tranquil poetry, yet shadow forth their readiness to start into sinewy vigor when the call for action comes. Even the Indian, the perfect savage, never resembled the Farnese monstrosity, the emulators of which find their place in modern life so much better filled by the derrick.

RADIUM EMANATIONS IN MINERAL WATERS.

Lowe, in the *British Medical Journal* for April 20, 1912, analyzes much of the collected literature bearing upon radium emanations in mineral waters and shows to what extent the evidence in favor of radium emanation from these waters is borne out by experiment and in how far it is contested. There is a great body of clinical material with but little conclusive evidence that the results obtained were due to the nitron or the emanations. Radium therapy is credited with the following powers: 1. Great increase in diuresis and excretion of uric acid; 2, increased carbon dioxide exhalation, from twenty to sixty per cent.; 3, lowering of blood pressure, especially in arteriosclerosis; 4, decrease in the viscosity of the blood; 5, great improvement in gastric and duodenal digestion; 6, solvent action on gouty deposits; 7, the dissociation of uric acid and its salts into carbon dioxide and ammonia; 8, inhibitory action in inflammation and relief of pain in rheumatism; 9, increase of sexual vitality; 10, considerable influence upon the sympathetic nerve affections; 11, production of marked results in diabetes, albuminuria, and glycosuria. It is held by many that in this element is found the explanation of the therapeutical effects of mineral water.

TREATMENT OF TRACHOMA WITH CYANIDE OF MERCURY.

Smith reports his experience with cyanide of mercury in the treatment of trachoma in the *Indian Medical Gazette* for March. He has treated 1,500 cases of severe trachoma. In order to counteract the severe pain occasioned by cyanide of mercury, two grains of opium are given twenty minutes before the injection and a few drops of a ten per cent. solution of cocaine are instilled. A speculum is introduced or the upper lid is lifted, the eye is fixed and drawn down, a fold of the conjunctiva is lifted, and twenty minims of a one to 4,000 solution of cyanide of mercury is injected beneath the bulbar conjunctiva in the upper fornix. The advantages of making the injection in the upper fornix are that the solution will spread all around the cornea, which it will not do if injected below, and that it is near the seat of the disease. After a couple of hours the pain subsides and the bulbar and palpebral conjunctiva become very edematous. The edema disappears in five or six days, leaving the conjunctiva deeply injected. A second injection, if necessary, should be given on the sixth or seventh day. Most gratifying results are obtained in pannus. In the early stages of the disease excellent results were obtained in all cases but one.

FATAL WOUNDS WITH BLANK CARTRIDGE.

Bonnette, surgeon in chief of the Thirty-ninth Artillery of the French army, notes in *Presse médicale* for April 10, 1912, that suicides with blank cartridge are growing in frequency among the soldiers. While ball cartridge, used in target practice, is carefully counted, the blank is not and is easily obtainable for fatal use by young soldiers of hypersensitive character threatened with severe punishment or dismissal. The French blank cartridge is made with a wad of pasteboard strongly compressed and stamped, and of a specially noisy powder, so made in order to accustom the men to the shock of gunfire. The wad possesses a muzzle velocity of 700 metres a second, and it is not surprising that the fragments of the wad and the grains of powder will at short distances shatter wood, clay, gourds, and the abdominal parietes of a dog, as has been determined by experiment. If the muzzle of the rifle is thrust into the mouth, death is sure; if held under the chin, the kick of the arm sometimes deflects it so that the charge passes to one side, fracturing perhaps the jaw, but not the base of the skull. With the long infantry rifle, the trigger is generally pushed by means of a cane or alpenstock, some-

times with the unshod great toe. Bonnette advises not only general instruction regarding the deadliness of the blank cartridge, but also careful supervision of its distribution during maneuvres.

HUMAN AND BOVINE TUBERCULOSIS.

Professor H. Kossel reported, on April 18th, at the Seventh International Congress of Tuberculosis held in Rome, on the two great questions: Is animal tuberculosis promulgated through the same bacillus as human tuberculosis? and, Can animal tuberculosis be transferred to man? The reporter's conclusions, which are given in the *Deutsche medizinische Wochenschrift* for April 18, 1912, are absolutely identical with those reached by the Royal Commission on Tuberculosis, of which we spoke editorially on page 812 of our issue for April 20th. Kossel says: The identification of the type of tubercle bacillus in a given case of tuberculosis can assist in discovering the source of infection. Human phthisis is, with only very rare exceptions, to be attributed to an infection with human tubercle bacilli, and the origin of infection is nearly always tuberculous man. The introduction of bovine tubercle bacillus through milk or meat from tuberculous animals plays a very inferior rôle in the propagation of tuberculosis among man. The fight against tuberculosis will be successful only if the infection from man to man can be eliminated.

Medical Law.

XI. PRIVILEGED COMMUNICATIONS.

The case of Thomas v. Byron Tp., 134 Northwestern Rep. 1021, presents an interesting question as to the competency of a physician to disclose information obtained by performing an autopsy upon one who had been a patient.

It will be remembered that one of the conditions necessary to put in force the statutes protecting information as privileged, is that the party should be a "patient" of the physician. The Supreme Court of California, some years ago, in passing upon the question as to whether or not a physician would be permitted to testify as to information obtained in an autopsy, held that a dead man could not be considered a "patient, . . . but is a mere piece of senseless clay which has passed beyond the reach of human prescription, medical or otherwise," and therefore information so obtained was held not to be privileged.

In this case, the deceased had been a patient of the physician who performed the autopsy and the autopsy was performed without the consent of decedent's husband. Upon the trial of the case, which was an action brought to recover for personal injuries, from which decedent was alleged to have come to her death, the physician was not permitted to testify to any information obtained during the patient's life, because such information was privileged, but the trial court permitted the doctor to state what he found in making a post mortem examination, and also to give his conclusion as to the cause of decedent's death. Upon appeal, the question of the correctness of admitting this testimony was brought up for review. Mr. Justice McAlvay, passing upon this question, said:

It is a question of first impression before this court, and one upon which the authorities give no great assistance. There is no dispute that the relations of physician and patient existed during the lifetime of plaintiff's decedent, or that all communications and knowledge which are within the inhibition of our statute received by this physician during her lifetime, were privileged and so continue, there having been no waiver; but it is maintained that the death of the plaintiff's wife made this testimony competent. From the examination of this witness we conclude, by the questions asked, the answers to which were excluded as privileged, that he had during the lifetime of the patient made such an examination of her person, and received such information, as was necessary to diagnosticate her case and prescribe for her, and also that he had disclosed to defendant's attorney such facts. We must conclude from the record that on account of this relation, which existed between the witness and deceased, it was possible for him to proceed within a few hours after her death to hold an autopsy.

No case is cited by counsel, nor have we been able to find any, where the exact question here presented has been passed upon. Defendant relies upon the case of Harrison v. Sutter St. Ry. Co., 116 Cal. 156, 47 Pac. 1019 (the California case above referred to), in support of the contention that the testimony of the doctor as to what the autopsy disclosed and his conclusions therefrom were competent and admissible. The headnote and part of the opinion in that case are misleading. The opinion states clearly that the relation of physician and patient never existed during the life of the deceased. Deceased was a passenger on a street car which collided with a brewer's truck, causing the injury. The doctor in the employ of the brewery came and examined the man for his employer. What the opinion states further has no bearing upon this question before us.

This statute without amendment has been in force in this State since the Revision of 1846. Its provisions are therefore a part of the fixed policy of the State. This court has given it a liberal construction in protecting the privilege of the patient created by it. To allow the testimony of this attending physician as to this autopsy, and his conclusions therefrom, would operate to take away such privilege clearly granted. This testimony is improper in the case. Any other construction and determination is not in harmony with our construction of this statute and cannot be entertained. It was an error to admit it.

News Items.

Changes of Addresses.—Dr. Joseph D. Bryant, from 32 West Forty-eighth Street, to 48 West Fifty-ninth Street, New York.

Dr. John G. Williams, to 1136 Dean Street, near Bedford Avenue, Brooklyn.

Yellow Fever in Chile.—It is reported that an outbreak of yellow fever has occurred in Tocopila, Chile, and as a result the port has been closed. Forty cases of the disease have been reported, with seven deaths.

Clinic for Defective Children in Denver.—A clinic for the psychological study of defective children has been established at the University of Colorado Medical School, Denver. Dr. George Neuhaus is in charge of the new department.

Canadian Association for the Prevention of Tuberculosis.—The twelfth annual meeting of the Canadian Association for the Prevention of Tuberculosis will be held in Toronto on May 20th and 21st, under the presidency of Dr. J. George Adami, of Montreal. Dr. George D. Porter is secretary of the organization.

Philadelphia Clinical Society.—Dr. Mark I. Knapp, of New York, after being entertained at dinner by Dr. Charles E. de M. Sajous, on May 6th, read a paper before this society on Diagnosis by Inspection. This was followed by a demonstration of what may be accomplished by inspection alone, on three patients furnished by members of the society.

Smallpox in Michigan.—During the first three months of this year there were 283 cases of smallpox reported to the health authorities of the State of Michigan, and of these 245 occurred in persons who had never been vaccinated.

Commencement Exercises at Creighton University.—Ninety-three graduates received diplomas on Saturday evening, April 27th, at the joint commencement exercises of the medical, dental, and law departments of Creighton University, Omaha, of whom fifty-three were from the medical department. This is the largest class ever graduated from the university.

Endowment Fund of the Barlow Sanatorium, Los Angeles.—The directors and advisory board of this institution gave a charity ball benefit on April 10th, from which it realized net receipts of $47,585.10, $34,125 of which was given toward the endowment fund which shows the total endowment of the institution to be $101,000. The sanatorium will immediately open ten more beds which have been closed for two years, making the capacity forty beds. This institution is for the worthy poor patients with tuberculosis, residents of Los Angeles county, and the only charge made for any patient is $5 a week.

New Physicians' Building.—A twelve story office building occupied exclusively by physicians and dentists has recently been opened in Saint Paul, Minn. It was constructed at a cost of over $1,000,000 and extends the full width of a block, fifty feet deep. On the roof, 200 feet high and overlooking from its commanding position in the business district other office building in the city, is a laboratory and emergency operating room for use of the tenants in the building. There are at the service of the tenants a compressed air vacuum cleaning system, electric light and power in each room, a fully equipped medical and bacteriological laboratory, and pharmacy, and also facilities for developing x ray photos and the making of color photos required by physicians. Supply houses carrying surgical instruments and dentist's supplies have also offices in the building.

Vital Statistics of New York.—During the week ending April 20, 1912, the following cases of communicable diseases, with the deaths therefrom, were reported to the Department of Health of the City of New York: Typhoid fever, 25 cases, 2 deaths; smallpox, 1 case, 0 death; measles, 1,704 cases, 24 deaths; scarlet fever, 483 cases, 28 deaths; whooping cough, 60 cases, 5 deaths; diphtheria and croup, 271 cases, 38 deaths; chickenpox, 266 cases, 0 death; pulmonary tuberculosis, 451 cases, 192 deaths; cerebrospinal meningitis, 4 cases, 11 deaths. There were 257 deaths from pneumonia, 163 from organic heart diseases, 147 from Bright's disease, 63 from congenital debility and malformations, 70 deaths by violence, and 126 stillbirths. The total deaths from all causes numbered 1,562, corresponding to an annual death rate of 15.75 in a thousand of population, as compared with a rate of 18.17 for the corresponding week in 1911.

New York City Children's Hospitals and Schools, Randall's Island.—The scientific committee of the medical board of these institutions are to present the following programme as a public clinic, and the profession is cordially invited to attend, May 20th, at 2:30 p. m., at Randall's Island: A Case of Recurrent Edema of the Eyelids, Associated with Extensive Accessory Nasal Sinus. Disease, Operation, and Recovery, by Dr. David G. Yates; a, Case of Lupus Vulgaris, b, Case of Ichthyosis, by Dr. Edward Pisko: a, Ocular Findings in Amaurotic Family Idiocy, b, Ocular Findings in Cretins, by Dr. Martin Cohen; a, Types of Idiocy, b, Case of Poliomyelitis in an Imbecile, c, Case of Dystonia Musculorum Deformans, by Dr. Charles E. Atwood; Demonstration of Cases Showing Results of Dorsal Root Section in Cerebral Diplegia, by Dr. L. Pierce Clark and Dr. Alfred S. Taylor; Cases of Old Trachoma, by Dr. Thomas C. Mulcahy; Some of the Fallacies of the High Enema, by Dr. E. Eliot Harris; Surgical and Medical Results of Oöphorectomy on the Feeble Minded, by Dr. William S. Bainbridge and Dr. Edward W. Peet; Statistical Study of Deaths, Etc., in the Feeble Minded, by Dr. William L. Stowell; Treatment and Results of Pott's Disease of the Spine, by Dr. Percy W. Roberts and Dr. Charles Ogilvy; a, Onychogryphosis: Child of Five Years, b, Tuberculosis Cutis: large Tubercles: Boy of Twelve Years, c, Adenoma Sebaceum, by Dr. C. A. Kinch.

Memorial to Doctor Musser.—Plans are being made for the permanent endowment of the social service department of the University Hospital, Philadelphia, as a memorial to Dr. John H. Musser, who founded this department and did much to carry on the work. Steps have been taken toward the collection of the fund, which it is expected will amount to at least $50,000. It will be called the John Herr Musser Memorial Fund, and the income will be placed at the disposal of the hospital for the maintenance of its social service department. Among the members of the committee who have the matter in charge are Dr. Charles H. Frazier, Dr. Thomas G. Ashton, Dr. M. Howard Fussell, Dr. George E. de Schweinitz, and Dr. F. H. Klaer.

The American Medicine Gold Medal.—Recalling that in the early history of *American Medicine* over 7,500 physicians bought stock in the enterprise, the editors of that periodical have established the American Medicine Gold Medal for Conspicuous Contributions to the Progress of Medical Science. It is to be awarded each year to the American physician, surgeon, or investigator who, in the opinion of three trustees, whose names will be announced later, has made the most noteworthy contribution to medical science. The name of the first recipient of this medal will be announced at the forthcoming meeting of the American Medical Editors' Association, at Atlantic City, and annually at this meeting thereafter. Further particulars regarding the medal will appear in the May issue of *American Medicine*.

Army Medical Corps Examinations.—The surgeon general of the army announces that preliminary examination for the appointment of first lieutenants in the Medical Corps of the United States Army will be held on July 15, 1912, and September 3, 1912. Full information concerning these examinations can be procured upon application to the Surgeon General, United States Army, Washington, D. C. The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training, after graduation. The examinations will be held concurrently throughout the country at points where boards can be convened. In order to perfect all necessary arrangements for the examination, applications must be complete and in possession of the adjutant general at least three weeks before the date of examination. Early attention is therefore enjoined upon all intending applicants. There are at present sixty-eight vacancies in the medical corps of the army.

Personal.—Dr. Jerome M. Lynch, of New York, and Dr. H. Sheridan Baketel, of New York, editor of the *Medical Times*, have been nominated as first lieutenants in the Medical Reserve Corps of the United States Army.

A dinner was given on the evening of May 1st by the senior class of the College of Physicians and Surgeons, of Boston, in honor of Dr. T. D. Crothers, dean of the faculty.

Dr. Willim H. Park, of New York, Dr. Arthur W. Booth, of Elmira, and Dr. Aaron B. Miller, of Syracuse, have been appointed members of the State Board of Medical Examiners.

Dr. G. B. Lawson, of Roanoke, Va., has been appointed a member of the State Board of Medical Examiners, to succeed Dr. Rawley W. Martin, of Lynchburg, who died recently.

Dr. Orville Horwitz, of Philadelphia, has resigned as professor of genitourinary surgery at Jefferson Medical College, after twenty-six years of continuous service in the institution, and has been elected emeritus professor.

Dr. James W. Holland, who resigned recently as professor of medical chemistry and toxicology at Jefferson institution, has been elected emeritus professor.

Dr. Edward H. Bradford, the new dean of the Harvard Medical School, was the guest of honor at a dinner given by the senior class on the evening of May 3d.

Dr. R. L. Dixon, secretary of the Michigan State Board of Health, has been appointed a delegate to represent the board at the National Antituberculosis Congress, the Surgeon General's Conference, the Atlantic City meeting of the American Medical Association, and the International Congress on Hygiene and Demography.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

April 25, 1912.

1. Alexander Lambert: Care and Control of the Alcoholic.
2. Edward O. Otis: Conference on Diseases among School Children and the Remedy. Introductory Remarks.
3. Richard C. Cabot: Diseases of the Mouth, Throat, and Chest.
4. George S. C. Badger: Malnutrition.
5. C. Morton Smith: Diseases of the Skin.
6. Joel E. Goldthwait: Orthopedic Defects and Rickets.
7. Arthur Willard Fairbanks: Nervous and Mental Disorders in the Schools.
8. Beth Vincent: Blood Transfusion for Hemorrhagic Disease of the Newborn: The Use of the External Jugular Vein in Infants.

1. Care and Control of Alcoholics.—Lambert describes the manner in which alcoholics are at present cared for and treated, and has a pretty good opinion of the prognosis when the patients really desire to be rid of their habit and pay for treatment. The use of tobacco changes the prognosis greatly in his opinion, and he has arrived at these conclusions against his previous prejudices. Among those classes of alcoholics who have otherwise a good prognosis, the chances are even that he will return to alcoholism if he is a cigarette smoker. If he smokes a pipe or cigar the chances are about three to two that he will not return. If he does not smoke at all the chances are about eight to two that he will not return.

2, 3, 4, 5, 6, and 7. Diseases among School Children.—Cabot says very plainly that if anything is to be done that will effectively improve the health of school children, it will cost a good deal and increase taxes. All public work is expensive if it does any good. He urges the establishment of school clinics.——Badger urges the establishment of open air rooms in the schools and the serving of lunches in the morning session.——Smith would like to see opportunities to give somewhere medicated baths, to have underclothing sterilized at the same time in cases of skin disease, and arrangements so that boys with pediculosis could have their hair clipped as often as necessary.——Goldthwait calls attention to the fact that the droop shoulder, the flat chest, the forward position of the head, the hollow lower, and rounded upper back, the relaxed and prominent abdomen, which are seen in many school children, are an expression of fatigue. The cause of the fatigue may be underfeeding or poor conditions at home; it may be too little sleep; it may be too great physical demand in the way of work; it may be the result of improper seating; it may be the result of improper adjustment of the clothing; it may be the result of the peculiar adjustment of the organs inside the body; it may be the result of excessive rapidity of growth with the naturally weak muscles; or it may be, and probably often is the result of a too severe mental strain in the child, trying to keep up with a curriculum framed for those more physically fit.——Fairbanks recommends the abolition of all competitive work, or all moral or material rewards for excellence in school work, the elimination of special examinations for promotion, which should depend solely on the capacity shown by the child in its ordinary routine daily work, the elimination as far as possible of a fixed standard, either of grade or of graduation, to which children are expected to conform at definite periodical intervals, or at definite and arbitrarily fixed ages, the elimination of report cards sent to parents, more personal contact with the parents and the home, the abolition of afternoon sessions for all grades below the fifth, or the devotion of this session to educative play without restraint, the assignment of the easiest studies for all grades from the fifth upward in the afternoon session, the reduction of time during which concentration of the attention is required for any one subject, and the abolition of home lessons.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

April 27, 1912.

1. Roswell Park: Thanatology.
2. Harry I. Wiel: Angioneurotic Edema.
3. Henry W. Cook: Periodical Physical Examinations.
4. P. G. Heinemann: Fermented Milks Prepared from Commercial Ferments.
5. John B. Murphy: Surgery of Bones, Joints, and Tendons (To be continued).
6. N. J. Rosanoff: Inheritance of the Neuropathic Constitution.
7. E. Fletcher Ingals: Myocardial Degeneration.
8. Orvall Smiley: Acne Vulgaris Treated by Autogenous Vaccines.
9. Melville Silverberg: Periurethral Complications of Stricture.
10. J. Morrison Hutcheson: Pancreatic Glycosuria.
11. Joseph M. Flint and Carl Kellner: New Preservative for Pick-Kaiserling Specimens.
12. E. M. Prince: True Hermaphroditism.
13. Emil Amberg: Spontaneous Tympanomastoid Exenteration.
14. Davenport White: Pellagra in New England.
15. O. H. Brown and W. G. Scott: Oxalic Acid Poisoning.
16. C. S. Minnich: Treatment of Gastric Ulcer.
17. R. L. Rhodes: Malformation of Female Genitals.
18. Bernard L. Wyatt and Kossie L. Buckner: Ruptured Tubal Gestation Sac with Operation.
19. A. O. Singleton: Dermatobia Noxialis in Man.
20. S. J. Gardner and W. T. Cummins: Prostatic Carcinoma in a Youth.
21. David J. Davis: Relation of Varieties of Streptococci to Experimental Arthritis.

2. Angioneurotic Edema.—Wiel, in the five cases mentioned, found it apparent that the angioneurotic edema was not the disease in each instance, but a complication, or accompaniment of other diseases unlike in nature, but yet similar in that gastrointestinal disturbance of some sort was present. This would suggest, at least, that a toxemia of intestinal origin was the *fons et origo* of the clinical manifestations. The angioneurotic edema appeared in patients suffering from a variety of conditions. von Recklinghausen's disease, tuberculosis, lues, gonorrhea, and cholelithiasis. Resembling the cases reported by others, the angioneurotic edema was characterized by a tendency to recur, an involvement, for the most part, of the skin of the face and genitalia, and by the presence of an intense itching rebellious to treatment. In the line of treatment no one measure or remedy was uniformly successful. The most generally useful was the application of compresses moistened in a solution of aluminum acetate, argyrol (20 per cent.), boric acid, calamine lotion.

8. Acne Vulgaris Treated by Autogenous Vaccines.—Smiley names as the essentials to success in the vaccine treatment of acne the knowledge and experience necessary so to determine the dose and the intervals between inoculations as to excite the desired immunizing response. The dose is governed by the general condition of the patient and the degree of virulency of the infecting organism, together with the reaction and resistance of the patient. It is evident that there can be no hard and fast rule as to dose, although in the writer's cases from 100 to 150 million valency was the initial dose employed. The staphylococcus vaccine is increased by the addition of one eighth or one fourth of the

initial dose every other day until a response is noticed, after which the dose remains the same as long as the patient is improving. The interval between doses is then determined by the length and degrees of the negative phase. The acne bacillus is present in all cases, but it is very difficult to isolate and propagate. The acne pustule is formed by the secondary infection or implantation of the accompanying pus forming organism on the sebaceous matter or comedo which is formed by the action of the acne bacillus or its toxine, stimulating the sebaceous glands. Of the 100 cases reported by the writer, in 86 cases *Staphylococcus albus* was present. In 10 cases *Staphylococcus albus* and *aureus* occurred together. In 3 cases *Staphylococcus aureus* was found alone, and in one case *Staphylococcus albus* and *citreus* were together.

MEDICAL RECORD.

April 27, 1912.

1. O. Kiliani: Personal Observations on Wassermann's Experiments on Mouse Tumors.
2. H. A. Hare: All Pulmonary Physical Signs Are Not Those of Tuberculosis.
3. Charles E. Woodruff: Athletic Superiority of Our New Stocks.
4. Walter A. Jacobs: Chemical Constitution and Physiological Action.
5. M. M. Smith: Pellagra.
6. Edward L. Hunt: Overwork and Fatigue in Relation to Nervous Prostration.
7. Eugene H. Eising: Injection of Paraffin for Incontinence of Urine Following Trauma to the Urethra.
8. John F. Lockwood: Pure Air by Diffusion.

2. All Pulmonary Physical Signs Are Not Those of Tuberculosis.—Hare believes that there is a tendency to regard all abnormal physical signs in the lungs as indicative of tuberculosis, unless the symptoms are pathognomonic of other affections, and patients are often classed as tuberculous who are not so diseased. The writer reports eight cases to prove that there are no physical signs to be found in the chest which cannot be produced by lesions entirely nontuberculous in character. Dullness and the absence of vesicular breathing at the base of the lungs nearly always elicits a diagnosis of "consolidation" or "pneumonia," but in severe bronchitis, in whooping cough, and after operations in the upper abdomen the real condition is often atelectasis. Bronchial lymph nodes, although universally noted in works on pathology as being often the seat of disease, are seldom regarded by the general practitioner as important in the light of diagnosis, although they are often the cause of marked physical signs. Although the chief cause of disease of these nodes is tuberculosis, it is not invariably so, but they may be infected by other organisms and many physical signs supposed to have their origin in the lung tissues are but pressure effects due to bronchial occlusion. The predominance of tuberculosis does not excuse us when we unnecessarily commit the patient and his family to the "constant woe of worry and alarm," before excluding those other conditions which produce similar physical signs.

3. Athletic Superiority of Our New Stocks.—Woodruff has heard the wail of the pessimist both here and in England: "The Americans are becoming degenerate and are bound to die out"; "the British are suffering from alleged physical decay and bemoan the future of the human race in general, and the English part of it in particular." Although it is well known that certain types in each nation have a higher death rate and that there is a slow but constant change in the general average, the writer denies that there is ground for such pessimistic utterances, both civilizations being built up by a constant immigration and the influx of new blood. The process of decay of certain types is quicker in America and the new blood asserts itself sooner than in England. The descendants of the signers of our Declaration of Independence are but little seen in public life, indeed, most of them are nonentities, while immigrants and the sons of immigrants occupy the places of prominence. In like manner the descendants of the signers of Magna Charta controlled England for many centuries, but are now extinct. In the endeavor to find out who are the fittest in America the writer analyzes the victories at Athens in 1906, and he finds that to a large extent the American winners were foreigners or of foreign born parents, and that the successes were almost all in short events, requiring an enormous expenditure of energy in a short time, while the Europeans outclassed us in slow contests of endurance. This result is due to the stimulating character of the climate, following which exhaustion occurs, as in the case of stimulants generally, though it may require several generations to be noticeable. The North men die out when they migrate southward. America is, according to the writer, destined to be the athletic leader for all time in events calling for a spurt of nervous energy.

5. Pellagra.—Smith estimates that, at the present time, there are from 10,000 to 15,000 cases of pellagra in the United States, principally in the southeast. Insane asylums have furnished the most malignant type of the disease. Pellagra is rapidly increasing at the present time. As to its etiology, many theories have been advanced, but none has stood the test, and we have no definite knowledge as to its cause. The diagnosis of pellagra in well marked cases is made from the so called pellagrous triad of erythema, nervous, and digestive disturbances. Its diagnosis is not infrequently missed by competent diagnosticians because of the lack of knowledge of its symptomatology; an early diagnosis is difficult in any case. The mortality rate of pellagra is much higher here than in Europe, the type of the disease being apparently more severe than that of the Italian pellagra. From twenty-five to 33.3 per cent. of the cases are fatal in the United States, double the mortality of "sunny Italy." There is no known specific treatment, but large success follows the regulation of diet, wholesome environment (climatic change, if possible), and arsenical medication in the form of atoxyl, soamin, salvarsan, etc. The writer suggests that pellagra should receive the serious consideration of the National Health Department, that it should be made a reportable disease, and that an educational campaign should be instituted against it.

BRITISH MEDICAL JOURNAL.

April 20, 1912.

1. R. W. Philip: Tuberculization and Detuberculization.
2. A. R. Short: End Results of Operation for Cancer of the Tongue.
3. W. B. Bell: Estimation of Calcium Metabolism.
4. T. W. Parry: Osteitis Deformans with Fracture of the Femur on Stooping.
5. W. A. Potts: Tests of Intelligence.
6. J. S. Mackintosh: Arrest of Severe Epilepsy in a Child Aged Four Years.

7. T. P. Lowe: Radium Emanations in Mineral Waters.
8. W. G. Walford: Effect of Unsuitable Neck Clothing on Health.
9. A. Goodall: Tincture of Digitalis; Potency and Keeping Properties.
10. P. B. Roth: Lateral Curvature of the Spine.
11. C. R. Box: Left Sided Subphrenic Abscess Due to Perforated Duodenal Ulcer.
12. R. W. Mullock: Operation for Decompression: Recovery.

1. Tuberculization and Detuberculization.—Philip calls attention to the fact that both clinically and experimentally the tubercle bacillus is not alone sufficient for the development of tuberculization, but that there must be the added factor of faulty hygiene. This is in reality the prime factor and is concerned mainly with the questions of overcrowding, lack of proper exercise, deficient ventilation, paucity of fresh air and sunlight; in general an artificial atmosphere of living. He shows that by the fifteenth year of life seventy-five per cent. of all children have been tuberculized. At least thirty per cent. of school children have evidence of tuberculosis which is clinically demonstrable. Therefore the tuberculous seeding is an early occurrence and as there is no way of predicting which of the seedlings will bear fruit and which will be overcome, it is necessary to take every available means to stamp out the flame in each one. Tuberculosis is dependent upon the will of man and its eradication is as possible as its spread has been certain. The use of some such scheme in each community will in time stamp out the disease. The adoption is advised of the methods in use as the basis of the Edinburgh Coordinated Antituberculosis Scheme, which are briefly: Compulsory notification, the tuberculosis dispensary, the sanatorium for early cases, the hospital for advanced cases, the tuberculosis school, and the farm colony. Each community must have its central clearing house for the control of the disposition of all cases. The scheme must even go further and the patients must be sought out and made to undergo the requisite treatment. One must not wait for the patient to seek advice nor must one allow the patient to regulate the frequency of his visits; both must be compulsory. By some such comprehensive plan as this and by that only will the detuberculization of the human race be accomplished. All nations must join in the work.

2. Cancer of the Tongue.—Short summarizes the results of operation for the relief of this disease as follows: 1. The immediate mortality of thirty-eight operations was 5.3 per cent. 2. Of twenty-nine cases seven were apparently cured (that is well after two years); this gives a percentage of 24.1 of apparent cures. 3. The results are much better when the glands are removed even when there is no sign of their involvement. Recurrence is greatly delayed or completely prevented by this procedure. 4. Local recurrence occurred in six out of twenty-nine cases after partial removal of the tongue.

3. Calcium Metabolism.—Bell thinks it best to estimate the calcium content of the blood and of the urine to give an idea as to the state of calcium metabolism which shall take account of the factors of intake, absorption, storing in the body or retention, and excess of loss over intake. He has previously described a method applicable to the estimation of the calcium in the blood and now offers one which is applicable to the urine. It is essentially a precipitation method, in which the solution to be tested is balanced against a solution of known strength under constant conditions. The test measures up well by exact chemical estimations and has the advantage of rapidity and simplicity.

7. Radium Emanations in Mineral Waters.—See *Editorial Article*, p. 1000.

9. Tincture of Digitalis.—Goodall has examined some twenty-three samples of tincture of digitalis during a period of three years with special reference to their strengths and keeping properties. He found that nearly fifty per cent. of the samples showed some departure from an average standard of activity. The limits of the variation were from 275 per cent. over strength to forty per cent. under. It seems safe to believe that the tincture retains its full activity for one year, but that after that period deterioration is likely to take place.

11. Left Sided Subphrenic Abscess.—Box gives an account of a case of this condition arising as a result of perforation of a duodenal ulcer. Free gas was found to the right of the falciform ligament and purulent fluid to the left. The case is very closely similar to one previously reported by Rolleston, and Box offers an explanation for the peculiar spread of the pus in both. In the autopsy upon this case, and one somewhat similar which came to autopsy many years before, the duodenum was found to have been situated so that the perforation occurred to the left of the mesial abdominal watershed formed by the forward projection of the bodies of the vertebræ. As a result of this position the fluid tends to gravitate into the stomach chamber on the left side beneath the left leaf of the diaphragm. Box does not believe that the condition is the result of adhesions except in so far as they may serve to fix the duodenum to the left of the middle line.

LANCET.

April 20, 1912.

1. H. G. Adamson: Significance of Skin Eruptions. (*Lecture III.*)
2. A. Balfour: Mosquitoes and River Vessels.
3. T. P. Lowe: Radium Emanation in Mineral Waters.
4. T. J. Horder: Vaccine Therapy in Rheumatoid Arthritis.
5. T. Guthrie: Recurrence of Adenoids.
6. A. A. McConnell: Volvulus of the Spermatic Cord.
7. H. Smith: Treatment of Early Stages of Senile Cataract.
8. R. Abercrombie: Mechanical Therapeutics.

1. Significance of Skin Eruptions.—Adamson concludes his trio of letters upon the modern views regarding the significance of the skin eruptions with a consideration of some of the rarer forms of disease. He regards true neurotic eruptions as rarities, except herpes zoster and Raynaud's disease. In considering the patterns and distribution of the various eruptions he calls attention to the influence of external causes, such as is seen in the occupation eczemas, the eczemas under the napkin in babies, and the lichen simplex, all of which are due to the site of the irritation and not to the character of the irritant or the nature of the parts affected. The different types of dermatitis artifacta show their nature by their locations and conformations. The effect of light is seen in the cases of hydroa æstivalis which is due to light and in the eruption of smallpox which has its worst eruptions on parts not protected from light. Lupus vulgaris is most common on the cheeks of children or on their knees, probably from infection through kissing or from crawling upon the floor. The parasite in some diseases lives only in certain locations, as the various

forms of louse and ringworm; this is probably due to some acquired trait of the parasite and has to do primarily with his food supply. The vascular network of Renaut probably exercises a very considerable influence upon the location of some of the eruptions. It has been suggested that the site of the rose spots in typhoid fever was in close correspondence with the zone of Head for intestinal disorders. If this is true it may be due to the stagnation of the bacilli in these areas on account of the retardation of the circulation by reflex vasodilatation. In a similar manner the vasomotor and other mechanisms are seen to exert more or less influence upon the site of the eruption. This matter of location, when carefully observed, is a very valuable aid to diagnosis, particularly in some of the more doubtful cases.

2. **Mosquitoes and River Vessels.**—Balfour has been able to trace the introduction of infected mosquitoes into Khartum to the harboring of their larvæ in the bilges of boats and the carrying of adult mosquitoes upon the vessels. It was a striking confirmation of this source of introduction to find that the only places where infected water containers and the like were found were along the dockyards. Further, it was noticed that the portion of the town on the bank of the river opposite the wharves was quite free from infection until the onset of continual winds, which blew across the dock area toward the town. Quarantine and inspection of the incoming vessels, with thorough destruction of the larvæ in their bilges, will probably eliminate this source. The proper destruction of the larvæ would alone accomplish this purpose, but it is not possible to get all boat captains to observe these precautions.

4. **Vaccine Therapy in Rheumatoid Arthritis.**—Horder believes that vaccine therapy occupies an important position in the treatment of this disease, but that it must not be applied to every case that comes along, nor can it be considered as sufficient alone. All means at hand must be employed, and the vaccines are to be considered as but one of the means. He believes that one should make a critical analysis of the symptoms and signs referable to the joint changes, the changes in the nervous tissues and blood, and the state of the general nutrition; and should examine with special reference to the discovery of one or more points of infection, before considering the measures to be adopted. The nose, pharynx, accessory sinuses, respiratory tract, intestines, urinary tract, and uterus should all be searched over for foci of infection. Thorough bacteriological examination of any infection found is then necessary. If an infected focus is found it must be sought to determine whether it does really stand in causative relation to the arthritis. In any case it is to be drained or subjected to such surgical procedures as may be necessary for its eradication. Local treatment should always precede inoculation. Even after the needed surgical measures have been undertaken the vaccine treatment should be held in abeyance for at least two weeks, for during this interval there is likely to be an autoinoculation of the patient from his focus, and this is a contraindication to the use of vaccines. This also gives time to see what good will result from local measures. If the case is an acute one, or subacute with evidences of intoxication, the preliminary use of immune sera is indicated. If the case is chronic one may start at once with the use of autogenous vaccines. From 2,500,000 to 5,000,000 bacilli are to be used as the initial dose and the dose is to be raised rapidly with a simultaneous lengthening of the interval between injections. The treatment is to be continued for at least three months, unless some contraindication arises. Such contraindications are increase in pain, stiffness, or swelling of the joints, loss of weight, or nervous disturbances. The results are, on the whole, very encouraging.

5. **The Recurrence of Adenoids.**—Guthrie concludes that in the vast majority of cases in which recurrence does occur, there was an incomplete removal in the first place. Complete removal is seldom followed by recurrence. By complete removal Guthrie means such as leaves the surface smooth and free from any palpable fragments. Probably the most important factor influencing the recurrence is that of age. In children under four years of age there is a decided risk of a recurrence; the chances of recurrence between four and seven years are slight; after the age of seven they are practically *nil,* provided in all cases that the removal is complete. Recurrence is favored by an attack of one of the specific fevers, especially measles or whooping cough, within a short time after the operation. Congenital syphilis seems to make recurrence the rule rather than the exception. Untreated anterior nasal obstruction also probably favors recurrence.

7. **Treatment of Senile Cataract.**—Smith found by accident that the injection into the subconjunctival tissues of twenty minims of a one in 4,000 solution of the cyanide of mercury is very beneficial and often even curative in many cases of early senile cataract. The injection is so painful for a few hours that it is necessary to cocainize the eye and to keep the patient under the influence of a small amount of morphine. The injection is followed by an intense reaction which looks alarming and lasts two or three days. He has never seen any harm result, however. There is hope of improvement in those whose vision has been reduced to fifty per cent, of the normal and the most favorable are those with less than a thirty-three per cent. reduction. Some early cases fail to respond at all, and Smith hopes to be able soon to classify these for the sake of prognosis.

PROCEEDINGS OF THE ROYAL SOCIETY.

April 10, 1913.

1. A. D. Fraser and H. L. Duke: An Antelope Trypanosome.
2. A. D. Fraser and H. L. Duke: Relation of Wild Animals to Trypanosomiasis.
3. H. L. Duke: Transmission of *Trypanosoma nanum* (Laveran).
4. T. Lister Llewellyn: Causes and Prevention of Miners' Nystagmus.
5. F. H. A. Marshall: Effects of Castration and Ovariotomy upon Sheep.
6. W. Lawrence Balls: Stomatograph.
7. W. B. Alexander: Further Experiments on the Cross Breeding of Two Races of the Moth *Acidalia virgularia.*
8. H. S. Ryland and B. T. Lang: Instrument for Measuring the Distance between the Centres of Rotation of Eyes.
9. George A. Buckmaster and J. A. Gardner: Composition of Blood Gases during Respiration of Oxygen.
10. C. Gordon Douglas, J. S. Haldane, Yandell Henderson, and Edward C. Schneider: Physiological Effects of Low Atmospheric Pressures, as Observed on Pike's Peak, Colorado. (*Preliminary communication.*)
11. Edward Halford Ross: Development of a Leucocytozoon of Guineapigs.

12. Arthur Harden and Dorothy Norris: Bacterial Production of Acetylmethylcarbinol and 2.3-Butylene Glycol from Various Substances. (*II.*)
13. J. Howard Mummery: Distribution of the Nerves of Dental Pulp.

2. Trypanosomiasis in Wild Animals.—Fraser and Duke found only *Trypanosoma uniforme* in their examinations of the blood of various wild animals, including antelope. The available evidence points to the bushpig, crocodile, monitor, frog, and fowls as being refractory to *Trypanosoma gambiense*.

3. Transmission of Trypanosoma Nanum.—Duke reports that a form of trypanosome examined in an infected goat from the Sebwe river, Uganda Protectorate, proved to be *Trypanosoma nanum*. This trypanosome can be transmitted by *Glossina palpalis*, the proportion of positive flies obtained being relatively large, and indicating that this fly may play an important part in the spread of the disease in Uganda.

4. Miners' Nystagmus.—Llewellyn made an analytical study of 400 cases of this neurosis with the object of discovering its cause and the best methods of prevention. Of the entire series forty-one cases belonged to that variety of the affection in which the symptoms are absent or latent, and there is apparently no disability. In the remainder disability was manifest. In addition to the chief symptom—a rotatory oscillation of the eyeballs that prevents the miner from accurately fixing anything toward which his vision is directed—giddiness was present in 308 cases, headache in 305, night blindness in 262, and photophobia in 159. The disease is one of extreme complexity, in which many factors are at work. The chief factor is strain caused by deficient light. Error of refraction, deficiency of retinal pigment, position assumed at work, accident and ill health are all factors of less importance. As the result of working for long periods in the comparative darkness of the pit, the retinal cells probably lose their power of producing sufficient pigment for exact vision. This failure occurs sooner in fair, blue eyed people and in those who, owing to refractive error, are already subject to eye strain. The more frequent occurrence of nystagmus in winter, the loss of visual acuity, and the photophobia, are all in favor of this theory. The most important preventive measure is improvement in the lighting power of the miner's lamp. Shades should always be fitted to the lamps to be used in going to and from the coal face. No man with error of refraction should be allowed to work underground. Improvement of ventilation is also of great importance, since the light given by a lamp falls off very rapidly as the oxygen percentage of the air diminishes.

5. Effects of Castration and Ovariotomy in Sheep.—Marshall found that the development of horns in the males of a breed of sheep in which well marked secondary sexual differentiation occurs (as manifested especially by presence or absence of horns), depends upon a stimulus arising in the testes, and that this stimulus is essential not merely for the initiation of the horn growth, but for its continuance, the horns ceasing to grow whenever the testes are removed. The removal of the ovaries from young ewes belonging to such a breed does not lead to the development of definitely male characters, except possibly in an extremely minor degree.

9. Blood Gases during Respiration of Oxygen.—Buckmaster and Gardner think it justifiable to conclude that the inhalation of oxygen neither materially augments the quantity of this gas in the blood nor alters the average carbon dioxide content of the blood.

13. Nerves of the Dental Pulp.—Mummery refers to the difficulties hitherto met with in tracing nerve fibres into the dentine, notwithstanding the strong clinical evidence in favor of their existence, and reports that the dentine is richly supplied with nerves from the pulp. The bundles of medullated nerve fibres entering the tooth at the apical foramen send off numerous side branches, which at the periphery of the pulp lose their medullary sheaths, the axis cylinders spreading out into a mass of neurofibrils which form a plexus beneath the odontoblast layer of cells. From this, fibrils pass between and around the odontoblasts and enter into another narrow plexus—"marginal plexus"—at the inner margin of the dentine. From this plexus, in turn, fibres can be seen to pass into the dentinal tubules. In well impregnated preparations fine beaded fibres can be traced in the tubules, and in the majority of cases there appear to be two fibres in each tubule, which can be traced in many preparations to the inner margins of the enamel and cementum.

AUSTRALASIAN MEDICAL GAZETTE.

March 16, 1912.

1. A. A. Lendon: Lister: His Life and Work.
2. M. Nonne: Significance of the "Four Reactions" for the Diagnosis of Syphilitic Organic Nervous Diseases.
3. R. Worrall: Cornual Pregnancy.

March 23, 1912.

4. R. Humphrey Marten, W. T. Hayward, H. Swift, and B. Poulton: Reminiscences of the Late Lord Lister.
5. C. MacLaurin: Surgery in 1911.
6. J. W. B. Bean: Romance of Medicine.

BULLETIN DE L'ACADÉMIE DE MÉDECINE.

April 2, 1912.

Chaussé and H. Benjamin: Rôles Played by Placental Transmission and Milk in Tuberculosis of Calves.

Transmission of Bovine Tuberculosis.—Chaussé, examining the bodies of 25,000 adult bovines in the abattoir at Versailles, found 2.86 per cent. of males and 11.11 per cent. of females infected with tuberculosis. Of 25,500 calves examined in the first three months of life, only forty, or 0.15 per cent., were tuberculous. These forty were divided into three classes, according to the route of infection. Those showing tuberculous involvement limited to the lungs and their lymphatics, and in which, therefore, the disease had been acquired by the respiratory route, numbered thirty-four; those showing involvement of the lymph glands related to the digestive tract, and arising from ingestion of the bacilli, numbered two, while only the remaining four cases, showing predominance of hepatic lesions, could be attributed to hereditary transmission. These and other observations tend to show that both transmission *in utero* and the milk of infected cows play but a minor rôle in the tuberculosis of bovines, and that even at an early age infection generally takes place through the respiratory tract.

PARIS MÉDICAL.

April 20, 1912.

1. GOUGEROT: Soft Chancre.
2. P. CARNOT and BAUFLE: Small Continued Doses of Digitalis in Paroxysmal Tachycardia.
3. SÉZARY: Chronic Latent Hypoepinephry.
4. DIEULAFÉ and HERPIN: Pathogenesis of Dental Caries.

1. **Soft Chancre.**—Gougerot avers that practical experience does not confirm the classical descriptions of this lesion, and draws attention to the gravity of the accompanying adenitis, which often proceeds to suppuration while the chancre is healing, and frequently does not appear till the chancre has vanished, but then goes on to intractable suppuration, even to phagedena. Mixed chancres are common, and syphilis may escape diagnosis owing to the phenomena accompanying the soft chancre. Soft chancre is extremely contagious and autoinoculable. The adenitis or bubo is invariable as a sequela, and is what demands careful treatment. Gougerot advises absolute rest at first, with local applications of collargol, or blue ointment with petrolatum. If it suppurates, do not incise at once, but inject iodoform ether, mercury benzoate, or nascent iodine water. The puncture should be made with a thick needle, not a trocar, and at the border of the bubo, not in the centre. Any liquid injected should be reaspirated and not allowed to remain. A compressive dressing should follow, and a new injection made next day at some little distance from the first. These measures may obviate the necessity for incision. If this becomes imperative, it may be done with a bistoury, followed by washing with silver nitrate, one to 100, or a paste composed of zinc chloride, one part, zinc oxide, 10 parts, water, q. s. Powder subsequently with dermatol. If a phagedenic action begins, hot air cauterization may be tried, or the thermocautery under anesthesia, or one of the following chemical caustics may be used: Copper sulphate, 33.3 per cent., camphorated phenol, camphorated salol, camphorated naphthol, resorcin, one in 10, potassium chlorate, acid mercury nitrate, one in 10, Labarraque's solution, one in 25, methylene blue, in powder, or 15 parts to 100, pyrogallic acid, etc. Ricord had great confidence in the tartrate of iron and potassium in a solution of one to 16.66. The number of agents recommended, however, shows how untrustworthy they are. Between these caustic applications, local baths are administered, alternated with compresses of zinc chloride, one to 1,000, or Finger's paste, beechwood creosote, 10 parts, calcium sulphate, 50 parts. Sterilized radium mud has been used with apparent benefit. Redundant flesh will have to be clipped away, and drainage may be required. Internally, a tonic should be exhibited, of iron, arsenic, and quinine. Under exceptional circumstances a more serious operation will be required, deep scraping with a curette, cauterization with zinc chloride, all under general anesthesia.

3. **Hypoepinephry.**—Sézary characterizes as chronic latent hypoepinephry a nondestructive permanent lesion of the suprarenal capsules without the symptoms of Addison's disease; obviously it is discoverable only at autopsy. The symptoms that arise from this lesion may be aggravated catarrhal icterus with lesions of liver and kidneys, or a pneumonia or acute pulmonary congestion, with great asthenia and progressive amyotrophy. The menace of this condition is that if any intercurrent disease appears, the patient cannot count upon any support from a reactionary hypersecretion of the suprarenals, which are permanently disabled. Opotherapy demands the use of the entire capsule.

PRESSE MÉDICALE

April 17, 1912.

1. R. BENSAUDE: Rectocolonic Endoscopy.

April 20, 1912.

2. PIERRE DESCOMPS: Ligature of the External Carotid.

1. **Rectocolonic Endoscopy.**—Bensaude points out that this procedure, in permitting exact and early diagnosis of rectocolonic lesions, also indicates the proper therapeutic measures for many affections, cancer, polypi, dilatations, hemorrhoids, which may be handed over to the surgeon in ample time for safety. The process is also of value in both medical and surgical treatment. Valvotomy has been advised in certain forms of constipation supposed to be due to exaggerated development of Houston's valves, easily discoverable in this way. Polypi and hemorrhoids, not more than 15 centimetres from the anus, may be removed, ulcerated surfaces may be dusted with astringent powders, or treated with silver nitrate, or petrolatum carrying bismuth carbonate according to the method of Friedel. Capital results have been obtained in ulcerative proctitis with high frequency currents, and stricture may be dilated through the endoscope with sounds or by means of electrolysis, avoiding the danger of passing instruments blindly. Tubes of radium may be inserted through the proctoscope with good results in hemorrhage, catarrh, ulcer, and even cancer; at least they relieve pain and diminish discharge. The proctoscope is a valuable means of objective diagnosis, for many rectal troubles present great similarity of symptoms.

2. **Tying the External Carotid.**—Descomps mentions the difficulty of this procedure, even in the cadaver. He details the proper technique, beginning with the correct position of the subject; gives the surface markings, line of incision in skin, subcutaneous tissue, and aponeurosis, the proper handling of the parotid gland, the digastric muscle, vessels, nerves, and ganglia, denudation of the artery, and passage of the thread.

SEMAINE MÉDICALE.

April 24, 1912.

CHAUFFARD: Pathogenesis of Albuminuric Retinitis.

Albuminuric Retinitis.—Chauffard points out that although we all know the importance of ophthalmoscopy in the early diagnosis of many circulatory, nutritive, and organic diseases, particularly Bright's, we seem to know little of the actual cause of the symptomatic retinitis itself. Histology verges gradually on histochemistry in this study. There are many retinal lesions, as a matter of fact, apparent in Bright's disease, neuropapillitis, circumpapillary edema, retinal hemorrhage, and punctiform white spots. Arteriosclerosis and arterial hypertension account for the hemorrhages. For the papillitis, Chauffard invokes chloride retention and cephalorhachidian hypertension. As to the white maculæ, possibly there is a double cause,

Bright's and either pregnancy or diabetes. Nitrogen retention may give rise to them, or—a new hypothesis—they may be due to hypercholesterinemia. As to this latter condition, we may find the suprarenal capsules responsible. Hyperepinephry and progressive renal impermeability are the most likely causes of albuminuric retinitis. As to treatment, lumbar puncture is useful in the early stages; later, restricted diet seems to be almost our only resource, comprising what Chauffard calls the hypocholesterinemic diet, i. e., skim milk, starchy vegetables, sugar, and meat cooked without salt.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

March 14, 1912.

1. A. Schittenhelm: Disintegration of Albumin, Anaphylaxis, and Internal Secretions.
2. L. Aschoff: Mechanical Side in the Pathogenesis of Round Ulcer of the Stomach and Its Relations to Cancer.
3. K. Fujinami: Simple Method of Estimating Gastric Juice with Röntgen Rays in an Empty Stomach.
4. Max Henius: Importance of Stomach Tube for Diagnosis.
5. Hanns Pollitzer: Nature and Rôle of the Albumin Deposited by Acetic Acid in Orthostatic Albuminarias.
6. Berthold Hirschfeld: Hereditary Diseases.
7. Friedel Pick: Hereditary Diseases.
8. O. Reunert: Inflammatory Tuberculosis.
9. O. Roepke: Diagnosis of Tuberculosis (*To be continued*).
10. Engelen: Treatment of Cholangitis with Chologen.
11. L. von Liebermann: Therapeutics of Blepharitis.
12. Paul Korb: Prothemin.
13. M. Schall: Technical Novelties in Medicine, Hygiene, and Nursing.
14. G. Mamlock: Preserving Food.

March 21, 1912.

15. A. Cramer: Medical Testimony in Nervous Diseases and of Neurotic Employees Belonging to the Accident Insurance Class.
16. F. Rosenbach: Experience with the Use of Tuberculin Rosenbach in Surgical Tuberculosis (*To be concluded*).
17. Ferdinand Blumenthal: Chemotherapeutic Problems.
18. Georg Becker: Anthrax Therapeutics.
19. M. Tuschinsky: Treatment of Malaria with Salvarsan.
20. Johannes Schürer: Mushroom Poisoning.
21. Curt Kayser: Results from Röntgen Ray Treatment and of the Glycyl Tryptophan Reaction in the Diagnosis of Carcinoma of the Stomach.
22. Hochstetter: Possibility of Curing Tuberculous Inflammation of the Meninges.
23. O. Roepke: Diagnosis of Tuberculosis (*To be continued*).
24. Eugen Schlesinger: Influence of Summer Heat upon Nurslings and Older Children.
25. Josef Hirsch: Treatment of Puerperal Fever with Argatoxyl.
26. Carl Lüders: Periodical Swelling of the Salivary Glands.
27. R. Müller: Afridol Soap.

March 28, 1912.

28. Gustav Killian: Treatment of Tuberculosis of the Larynx.
29. F. Rosenbach: Experience with the Use of Tuberculin Rosenbach in Surgical Tuberculosis (*Concluded*).
30. O. Roepke: Diagnosis of Tuberculosis (*Concluded*).
31. E. Sonnenburg: Traumatic Appendicular Inflammation.
32. Hoffmann and Budde: Catgut with Tincture of Iodine.
33. Heile: Prolapse of the Rectum.
34. F. Gudzent and Apolant: Simple Method for the Proving of Uric Acid in the Blood and Other Colloidal Fluids.
35. Richard Flachs: Dentition.
36. Erich Klose: Results from Orthopedic Treatment of Infantile Spinal Paralysis.
37. Marie Raskin: Double Staining Method of Diphtheria Bacilli.
38. W. Scholtz: Answer to Erich Hoffmann's Article on the Combined Mercury Salvarsan Treatment of Syphilis.
39. Gustav Wrobbel: Technique of the Therapeutics of Seasickness.

2. Mechanical Side in the Pathogenesis of the Round Ulcer of the Stomach and Its Relation to Cancer.—Aschoff remarks that we should consider all kinds of disturbances of the circulation in the etiology of acute ulcers of the stomach, while in the chronicity, the location, and the formation of these ulcers we must regard as of importance mechanical actions, stagnation of gastric fluids on the physiological and pathological constrictions, mechanical friction on the curvature, but not primary disease of the vessels.

6 and 7. Hereditary Diseases.—Hirschfeld endorses Pick's opinion that physicians and pathologists do not pay enough attention to Mendel's law of heredity.——Pick adds to his former article, which appeared in 1911, seven family trees through which he proves the hereditary importance of certain diseases, based upon Mendel's law. Among other families he cites the house of Hapsburg. Among the diseases which he shows to be hereditary he gives two families with diabetes, one with alcaptonuria and one with xeroderma pigmentosum.

16 and 29. Use of Tuberculin Rosenbach in Surgical Tuberculosis.—Rosenbach reports his experience with the tuberculin produced by him. He cites forty-eight surgical cases and says that his tuberculin shows good effects, producing a very active immunity, an intensive reaction of the tissues to tuberculous products, and the ability to discharge dead products which cannot be resorbed. The methods of application can be either local or subcutaneous.

19. Treatment of Malaria with Salvarsan.—Tuschinsky bases his article upon his experience in seventy-seven cases of malaria treated exclusively with salvarsan. He comes to the conclusion that salvarsan in tertiary malaria is a very good remedy. It should be given intravenously in a dose of 0.5 gramme; which is to be repeated after ten days. The tropical form of malaria is not influenced by the drug.

25. Treatment of Puerperal Fever with Argatoxyl.—Hirsch gives the history of twelve cases of puerperal fever treated with argatoxyl; one patient died, eleven recovered. He did not observe any detrimental influence of the remedy upon the heart or lungs; three accidents occurred at the place of injection. The author leaves it in doubt whether the remedy alone is to be credited with the beneficial results, although no other drug was used. Argatoxyl contains thirty-three per cent. of silver and twenty-three of arsenic.

32. Catgut with Tincture of Iodine.—Hoffmann and Budde state that catgut will be made aseptic through immersion in five per cent. alcoholic tincture of iodine or in one per cent. aqueous solution of potassium iodide and tincture of iodine. The strength of the catgut does not suffer if the material is left for five days in the solution. It is of importance to use only catgut freshly immersed in tincture of iodine.

PRAGER MEDIZINISCHE WOCHENSCHRIFT

March 28, 1912.

1. Karl Walko: Excessive Motility and Hypertony of the Stomach.

April 11, 1912.

2. R. Kleinertz: Therapeutical Value of Alsol.

ZENTRALBLATT FÜR CHIRURGIE.

April 13, 1912.

1. F. Smoler: Ptosis of Transverse Colon.
2. W. Kausch: Paralysis after Use of Esmarch's Bandage.

1. Ptosis of Transverse Colon.—Smoler reports a case of this nature, met with in a woman thirty-four years old, which was corrected by shortening of the ligamentum gastrocolicum, fixation to the ligamentum teres on one side, and to the anterior surface of the stomach on the other.

ZENTRALBLATT FÜR GYNÄKOLOGIE.

April 6, 1912.

1. B. S. Schultze: Diagnosis and Surgical Treatment of Genital Diseases of Female Insane.
2. C. Holste: Vaginorectal Fistula of Uncertain Etiology.

3. Th. Johannsen: Antimeristem in the Treatment of Inoperable Carcinoma.
4. A. Theilhaber: Electrometrogram.
5. C. H. Stratz: Striæ of Pregnancy.
6. C. Knopp: Attempted Abortion in Tubal Gestation.

April 13, 1912.

7. O. Hoehne and G. Linzenmeier: Investigations Referring to the Situs of Ovaries *in vivo* for Röntgen Ray Treatment.
8. E. Kaufmann: Treatment of Strictures of the Rectum.
9. A. Wesenberg: Death from Bleeding during Labor on Account of a Rupture of an Aneurysm of the Splenic Artery.
10. A. Fiesler: Roentgen Ray Therapeutics in Gynecology.

3. Antimeristem in Cancer.—Johannsen reports three cases of cancer treated with Schmidt's antimeristem, which was very unsuccessful, so much so that he says that he would not try the preparation again. Schmidt, in Cologne, asserted about nine years ago that he had discovered the bacillus of carcinoma in the fungus class of mycetozoa (de Bary), which organism would, according to Schmidt, produce malignant growths in animals. Schmidt then prepared a serum which he called cancroidin, later antimeristem. The theory of cancer etiology and the treatment with the serum has been severely criticised.

CORRESPONDENZ-BLATT FÜR SCHWEIZER AERZTE.

March 20, 1912.

1. Carl Wegelin: Histogenesis of Endemic Goitre.
2. Hedwig Reinhold: Poisoning from Food.

April 1, 1912.

3. F. Stirnimann: Anorexia in Children.
4. Brüstlein: Caution with Scopolamine.
5. Carl Wegelin: Histogenesis of Endemic Goitre.

April 10, 1912.

6. Caesar Amsler: Endocarditis of the Mitral and Aortic Valves.
7. Rusca: Hematocolpos.

1 and 5. Histogenesis of Endemic Goitre.—Wegelin reviews our knowledge of endemic goitre. He speaks of the two main theories, the first represented by H. Bircher, which places the disease in relation to certain geological formations, while the other, represented by Kocher, tries to find a relation between the disease and certain conditions of the soil. But in both theories no light is shed upon the real agent of goitre. Finally, the uniform conclusion was reached that drinking water must be the carrier of the toxine of goitre. Experiments with monkeys and white rats, based upon this drinking water theory, showed that it was possible to produce goitre in these animals with such water. Thus, pathological anatomy will now have to decide whether the experimentally produced goitre in animals can be compared with human struma and whether these two changes in the thyroid will have the same histogenesis. Besides, the human struma will need a great deal more explanation, and it must be proved scientifically whether the formation of a goitre is a product of an increase of colloid or of an excessive growth of epithelia; furthermore, it must be decided which change is of more importance, the diffused enlargement or the tubercular growth. The University of Berne is situated in a district in which goitre is very prevalent, and Wegelin has made a good many experiments himself and collected much material with the assistance of others; for example, he has compared the histology of thyroids received from Berne, Chaux-de-fonds, Munich, Berlin, Königsberg, and Kiel; from Freiburg, Berlin, and Göttingen; and has had thus material from goitre free and goitre endemic localities. It was seen that the normal thyroid from Berne weighed nearly twice as much as the normal thyroid from Kiel, especially the thyroid of children. He comes to the conclusion that the distinguishing features of the Berne thyroid, an endemic locality, is a product of the goitre toxine upon the thyroid. Besides, it shows a relatively larger number of epithelial cells as the thyroid of a goitre free locality, representing the picture of epithelial hyperplasia. The iodine contents of the thyroid also received a careful examination. Wegelin thinks that the thyroid is injured by the goitre producing toxine and an overgrowth of epithelial cells is the consequence, leading to a primary injury of the epithelium itself.

4. Caution with Scopolamine.—Brüstlein takes up Brunner's article on this subject which appeared in the *Münchener medizinische Wochenschrift* and which we reviewed. Both authors come to the final conclusion that pantopon scopolamine anesthesia is the ideal procedure, provided it is undertaken by a physician thoroughly conversant with the drug, who uses certain precautions, and who estimates his doses from patient to patient. Otherwise, the narcosis produced by these drugs is dangerous, especially in the hands of the inexperienced and careless operator.

ALIENIST AND NEUROLOGIST.

February, 1912.

1. Martin W. Barr: Asexualization of the Unfit.
2. J. Madison Taylor: Asexualization of the Unfit.
3. C. H. Hughes: Real and Pseudoexpert Testimony before Courts and Juries.
4. James G. Kiernan: Is Genius a Sport, a Neurosis, or a Child Potentially Developed?
5. Arthur MacDonald: Statistics of Physical Measurements and Anomalies of Criminals.
6. Smith Ely Jelliffe: Notes on the History of Psychiatry.

1 and 2. Asexualization of the Unfit.—Barr makes an earnest plea for legislation providing for the sterilization of degenerates, citing from his own extensive experience, as well as that of many others, the certainties of heredity and the rapid rate of reproduction among imbeciles and confirmed criminals. Experience proves that the various operations not only prevent the multiplication of degenerates, but are followed by improvements in the character and behavior of the individuals. Four States have already passed legislation authorizing the asexualization of confirmed criminals, idiots, imbeciles, and rapists, viz., Indiana, California, Oregon, and Connecticut. The main arguments used by opponents of such legislation is that it would be infringement of the personal rights of the individual, but one of the fundamental laws of society is subservience of the individual to the best good of the race. As a matter of fact, many degenerates voluntarily request the operation, or even attempt it upon themselves.——Taylor, in discussing Barr's paper, emphasizes the necessity of legislative control in the matter and summarizes: "Many of these unfortunate beings are capable of at least a small measure of improvement by asexualization. That wheresoever they come in contact with those of the opposite sex they have no power of controlling the sexual impulse. The offspring of such are almost invariably as bad as or worse than themselves. In the light of these facts can we assume the responsibility of denying these degenerates the privileges of asexualization?"

AMERICAN JOURNAL OF OBSTETRICS.

March, 1912.

1. A. B. Emmons and J. L. Huntingdon: The Midwife.
2. H. Grad: Preparation of the Patient before Operation.
3. Kate C. Spain: Childbirth in Elderly Primiparæ.
4. C. H. Judd: Blood Pressure in Pregnancy.
5. C. E. Ferguson: Ante Partum Eclampsia with Conservative Treatment.
6. A. Hussey: Relation of Vaginal Hysterotomy to the Problem of Rapid Vaginal Delivery.
7. C. N. Ballard: Nervous Phenomena as Sequelæ of Changes in the Pelvic Viscera.
8. J. V. V. Manning: Symptomatology of Infantile Paralysis.
9. T. A. Williams: Interpretation of Unusual Types of Poliomyelitis.
10. R. S. Morris: Prune Juice Vomiting as a Symptom in Children.

1. The Midwife.—Emmons and Huntingdon give answers in their article to three questions: Has the trained and supervised midwife made good? Shall midwives be licensed? Shall midwives be abolished? They discuss her status in England and Germany, particularly the latter, where training consists of a six months' course, during which time she lives in the hospital. After completing her work she is under State regulations, governing not only her care of obstetrical cases, but even her home, her equipment, her clothing, and her person. Elaborate rules also exist, defining her position in relation to the physician. Even under these conditions the midwives have not made good. The minimum training required of a physician who is to take charge of obstetrical cases is stated briefly and compared with that of the ordinary midwife. The conclusion is that the midwife should not be licensed. This then leads to the answer concerning the abolishment of the midwife, which is logically, yes. She should be abolished wherever possible and poor patients should be taken care of voluntarily by younger physicians who signify their desire to be on call for a certain period. These in connection with district nurses can take care of the work.

3. Childbirth in Elderly Primiparæ.—Spain first considers what may be considered as an elderly primipara, and finds that the majority of authors regard thirty years as the turning point. Although the usual teaching is that childbirth in such cases is considerably more difficult than in those younger, yet a study of the statistics seems to indicate that such is not the case. The results show that the morbidity and mortality records, both maternal and fetal, differ very little, if at all, in the elderly and younger primiparæ. The one point that is, however, emphasized is the induction of premature labor at about the thirty-sixth week.

5. Ante Partum Eclampsia with Conservative Treatment.—Ferguson briefly reviews the many and confusing theories concerning the etiology of eclampsia and then considers the treatment. In view of the growing tendency to conservatism regarding the necessity of forceful delivery, he reports three cases in which the expectant or noninterference method was used. All were primiparæ, and only one gave any indication of albuminuria until the onset of the spasms. In none of the cases was there any treatment until the onset of the first convulsions. After treatment, there was a complete cessation of the convulsions and a rapid improvement of all the urgent symptoms. The treatment is, morphine in one quarter grain doses, repeated every thirty minutes until the patient is in a deep sleep, chloral in twenty grain doses in one half pint of warm milk, repeated as often as is necessary to keep the patient asleep.

AMERICAN JOURNAL OF SURGERY.

April, 1912.

1. R. Elmergreen: Vaginal Ptosis: Surgical Treatment.
2. C. R. Hyde: Present Status of Conservative Work on the Uterus, Tubes, and Ovaries.
3. E. Novak: Certain Gynecological Aspects of Neurasthenia and Hysteria.
4. F. E. Neef: Surgical Essentials.
5. O. W. Hunter: Rôle of the Male in Infertilitas Matrimonii.
6. H. A. Foster: Surgical Removal of Tonsils.

1. Vaginal Ptosis.—Elmergreen asserts that the perineal body, sphincters, puborectalis and coccygeus muscles, the two layers of the triangular ligament, and the anterior fibrous coat of the vagina are all vital in maintaining the normal relations and support of the pelvic viscera. The perineal body is the most important, and operative restoration of this structure, with proper after treatment, will alone be sufficient in many cases to overcome prolapse, cystocele, and rectocele by giving rest to the overstretched ligaments and permitting them to recover their former integrity and resiliency. Inability completely to empty the bladder, and decomposition of the residual urine give the symptoms in cystocele. Laparotomy is condemned in the treatment of cystocele, rectocele, or prolapsus uteri; in all his cases uniform success was obtained in operating externally only. For cystocele of the first degree, Elmergreen denudes deeply over the sac and brings the edges together with chromic catgut. In second degree cystocele, with perineal laceration, he places the patient in the extreme lithotomy position, repairs the perineal body with a deep V incision and through and through silkworm gut sutures, and does an anterior colporrhaphy as above. The patient is allowed to urinate in the knee chest position after two or three days of catheterization. For complete procidentia he advises a vaginal hysterectomy.

2. Present Status of Conservative Work on the Uterus, Tubes, and Ovaries.—Hyde's opinion is that the rational course in pelvic surgery is conservative as far as good judgment indicates, but not too far. Before forty years, if there are not more than four small pedunculated subperitoneal fibroids, or small interstitial fibroids, and the tubes and ovaries are not hopelessly diseased, and there are no associated hemorrhages, myomectomy may be done. After forty years, it is best to hysterectomize, owing to the danger of associated malignancy. In any case, multiple fibroids, cervical fibroids, or large interstitial or intrauterine fibroids call for hysterectomy. If double pus tubes are present, both tubes and uterus should be removed, as the uterus is then an infected and nonfunctioning organ, and may be a source of future trouble. The ovaries should be left if possible. Salpingostomy is justifiable only where the patient wishes children, and where the tube cannot be saved, as the operation is disappointing and pregnancy seldom occurs. With two badly cystic ovaries one should be removed and the other saved, as this prevents the nervous phenomena of artificial menopause. Pus ovaries should be removed, but in gonorrheal cases, where the ovaries are shelled out of an exudate and are apparently normal, they can often be saved.

Small needles, fine catgut, good coaptation, sutures not too tight, and gentle handling are important factors in these cases. A resected or conserved ovary should be tacked up to the broad or round ligament, within two inches of the inguinal canal.

6. Surgical Removal of the Tonsils. Finger Enucleation.—Foster has used his method of enucleation in 1,500 cases, and the results were uniformly good. The patient is etherized to the degree of abolishment of reflexes, is placed in the dorsal position, the head supported by the assistant. The operator stands at the patient's right. The mouth gag is applied and the tip of the right index finger is placed on the mucous membrane of the right supratonsillar fossa and swept outward and forward, separating the anterior pillar from the capsule. The distal phalanx then sweeps upward, outward, and backward around the capsule to the posterior pillar. Now the globe is drawn forward to avoid tearing the posterior pillar, and the finger sweeps around the base. If the tissues are not too fibrous the pedicle is freed by the index finger, or by it and the thumb, but in very fibrous tonsils the volsellum is used to draw the tonsil through a small snare, and the pedicle is freed close to the wall of the throat. The patient is then turned on the face to allow the blood to escape. No sponging is required. The left index finger is used for the left tonsil.

AMERICAN JOURNAL OF UROLOGY.

February, 1912.

1. T. Rovsing: Prostatectomy and Its Indications in Prostatic Hypertrophy.
2. H. Lilienthal: Ureteral Catheterization as a Therapeutic Measure.
3. E. L. Keyes, Jr.: Two Cases of Pneumoscrotum following Nephrotomy.
4. W. E. Leighton and B Lewis: Echinococcus Cyst of the Kidney.
5. M. Krotoszyner: Nephrectomy in a Case of Bilateral Pyelonephritis.
6. A. Hyman: Vesical Calculus with Multiple Recurrences.

March, 1912.

7. W. F. Braasch: Neglected Principle in Cystoscopy.
8. T. Rovsing: Treatment of Multilocular Kidney Cystoma (Congenital Cystic Kidney) by Means of Multiple Punctures.
9. J. R. Hayden: Use of Ultraviolet Ray in Diseases of Genito urinary Tract.
10. D. A. Sinclair: Bladder Tumors Treated by Fulguration.
11. W. J. Heimann: Present Day Diagnosis of Acquired Cutaneous Syphilis.
12. L. Buerger: Improved Urological Examining Table.

2. Ureteral Catheterization.—Lilienthal cites four cases in which ureteral catheterization was used as a therapeutic measure. Case one was in a woman, four months pregnant, who had fever, strangury, and vomiting for a week, and slight tenderness in the region of both kidneys. The urine contained red and white blood cells. The ureters were catheterized, drawing very cloudy urine from one side and but slightly turbid from the other. All the patient's symptoms disappeared within twenty-four hours. She had a similar attack a few weeks later relieved in the same way. Pyelitis of pregnancy should be more often treated through the ureter catheter.. In case two, after a hysterectomy, the patient had fever, nausea, chills, and sensitiveness in the right renal region. The urine showed albumin and leucocytes. She had been taking urotropin for a week. Both ureters were catheterized and cloudy urine obtained from both kidneys; all symptoms vanished. In case three, a feeble old man, seventy years of age, suffered pain in the right loin, high temperature, nausea, ischuria, almost to suppression. The urine was cloudy but scanty. A radiograph showed no calculi. The right ureter was catheterized and pus followed by clear urine was obtained. This fluid was under tremendous tension. The patient's condition immediately improved and he continued to do well. In case four, the patient had stones in left ureter, five cm. from the bladder. These stones were removed by operation. The operative wound leaked urine for the next two weeks, then there was a diminished flow from the wound and a rise in temperature. Stricture of the ureter was diagnosticated. A small catheter was passed up the ureter and withdrawn at the end of forty-eight hours. Pain and fever returned and the catheter was replaced and kept in the ureter for two weeks. The patient was discharged with no return of symptoms.

3. Pneumoscrotum.—Keyes describes two cases in which pneumoscrotum followed exploration of the kidney. The first case was one of a hydronephrotic kidney in which a vein from the lower pole of the kidney apparently caused the hydronephroses, and was cut. Neither the kidney nor its pelvis was opened. The wound was closed without drainage. On the second day the patient had a temperature of 102.4° F., and there was marked emphysema on the left side of the scrotum, which disappeared in a few days. The wound healed by primary union. The second case was a bullet wound of the left lobe of the liver, causing a hematoma in the region of the left kidney. There was much pus in the urine and frequency of urination. Upon operation the kidney was found to be surrounded by dense adhesions, its upper pole scarred by the passage of the bullet. Neither kidney nor pelvis was opened. Wound was sutured without drainage. On the second day the patient had a temperature of 103° F. and pneumoscrotum. The temperature did not go down, so the wound was opened and gas, pus, and fecal matter escaped. In this case the gas came from the colon, which had been torn in separating the adhesions. The first case he does not explain.

4. Cyst of Kidney.—Leighton and Lewis report the following case: Patient, born in Italy, but in this country for two years, came to the hospital because of a painful tumor of the right loin. Tumor had been present four years and occupied most of the right abdomen. On operation the typical egglike echinococcus cysts escaped when the tumor was ruptured. The tumor was removed, and four days later the patient died of shock. Examination of the kidney showed typical echinococcus cysts. The authors have been able to find only eleven other cases of echinococcus cysts of the kidneys occurring in North America.

8. Treatment of Cystic Kidney.—Rovsing says that we do not know whether congenital cystic kidney is a retention cyst due to inflammation of the pelvis, pyramids, a congenital malformation, or a neoplasm. Sometimes its rapid growth and the presence of similar cysts in the liver point toward its being a neoplasm. The coexistence of the disease in both kidneys further suggests neoplasm. In one sense it is malignant, because it is bilateral and the mechanical effects of the tumor impair the renal function. Because of bilateral involvement nephrectomy should not be performed. The treatment is palliative and consists of multiple punc

tures of the cyst at the time of operation. Rovsing describes three cases. In the first case, the patient was well for three years after operation and finally died of uremia. The operation removed the tension of the kidney, and the renal function improved after the operation. The second case was one of an enormously enlarged cystic kidney, in which multiple puncture was performed. The patient is well two and a half years after operation. On a third patient the same operation was performed. A week after operation the twenty-four hour excretion of urea was eight times as much as before operation. Rovsing believes that the normal renal tissue between the tense cysts is under pressure and the renal function inhibited. When the cyst is punctured and the pressure removed, the renal function is resumed.

10. Bladder Tumor.—Sinclair describes two cases, one of multiple papilloma of the bladder, and the other of cancer, which were treated by fulguration. In the first case the growth was entirely removed. Six months after the removal a number of growths returned which were destroyed by fulguration. The second case was in a woman in whom cancer of the bladder was removed through the urethra. Fulguration treatment was instituted because of return of the growth and distressing symptoms some months after operation. After treatment a number of times by fulguration the patient's symptoms were much improved, and one year after operation the patient was without symptoms.

JOURNAL OF BIOLOGICAL CHEMISTRY.

March, 1912.

1. TREAT B. JOHNSON: Hydantoins: Action of Potassium Thiocyanate on Alanine.
2. PAUL E. HOWE, H. A. MATTILL, and P. B. HAWK: Fasting Studies. VI. Distribution of Nitrogen during a Fast of 117 Days.
3. PAUL E. HOWE and P. B. HAWK: Studies on Water Drinking. XIII. (Fasting Studies. VIII.) Hydrogen Ion Concentration of Feces.
4. W. R. BLOOR: Carbohydrate Esters of the Higher Fatty Acids. II. Mannite Esters of Stearic Acid.
5. OTTO FOLIN and W. DENIS: Protein Metabolism from the Standpoint of Blood and Tissue Analysis. (*Second paper.*) Origin and Significance of Ammonia in Portal Blood.

3. Hydrogen Ion Concentration of Feces.—Howe and Hawk determined the hydrogen ion concentration or "true acidity" of the feces of three men by means of the hydrogen electrode devised by Salm. Two of the determinations were made in a series of water drinking experiments and the third in a fasting test. The reaction of the feces proved to be uniformly alkaline. As the result of water drinking with meals there was a tendency for the hydrogen ion concentration to increase. Pronounced changes in the diet, such as high protein, low protein, and fasting, did not affect the hydrogen ion concentration sufficiently to cause other than small variations in the reaction. The alkalinity of the stools in the fasting test was opposed to the acidity reported under similar circumstances by previous investigators. The hydrogen ion concentration was found to differ for the feces of different individuals living on the same diet.

5. Ammonia in the Portal Blood.—Folin and Denis were able to show by experiments in cats that the large intestine clearly is the chief, or at least the most constant source of the ammonia found in the portal blood. Many of the bacteria present in the large intestine, such as *Bacillus coli*, rapidly produce ammonia from albuminous materials, especially in the absence of carbohydrates. Further, since the large intestine is practically never empty, there are always present the conditions for ammonia formation; the ammonia in fasting animals is often as abundant in the portal blood as during digestion.

JOURNAL OF NERVOUS AND MENTAL DISEASE

March, 1912.

1. CHARLES W. BURR: Causes of Death in Tabes.
2. WILLIAM B. CADWALADER: Amyotrophy of Lead Poisoning. Increased Reflexes.
3. ALLEN ROSS DIEFENDORF: Mental Symptoms of Acute Chorea.
4. S. N. CLARK: Clinical Classification of General Paralysis of the Insane.

1. Causes of Death in Tabes.—Burr has collected the histories of thirty-four cases of tabes and presented them in outline with reference to the causes of death. In tabes, as in other degenerative diseases of the nervous system, death is generally caused by intercurrent affections. In the series of cases here presented the pathological processes most frequently noted were chronic myocarditis, valvular heart disease, and chronic nephritis. Atheroma of the aorta is mentioned nine times. The immediate cause of death was tuberculosis in six cases, croupous pneumonia in five, septichemia in two, pulmonary edema in eight, myocarditis in six, other cardiac diseases in three, and uremia or renal disease in four. In many cases it was difficult to determine positively the immediate cause of death on account of the numerous pathological conditions present. Arterial sclerosis was common.

2. Amyotrophy of Lead Poisoning.—Cadwalader reports two cases of chronic lead poisoning with muscular atrophy and increased tendon reflexes. One of the cases presented the clinical and pathological picture of amyotrophic lateral sclerosis. The other case was one of neuritis with some of the tendon reflexes increased; the latter was explained pathologically by the presence of minute hemorrhages and cellular changes in the cerebral cortex, similar to those reported by Spiller, Quensel, and Mott.

3. Mental Symptoms of Acute Chorea.—Diefendorf calls attention to the fact that acute chorea is distinctly a brain disease, and that it is commonly characterized by both mental and physical, or motor, symptoms. The generally accepted classification of the mental symptoms is that of (a) mild mental symptoms, and (b) the psychoses. The first group represents much the larger number, and is characterized by symptoms involving chiefly the emotional field. In the second group delirious states leading to stuporous or paranoid conditions predominate. Analyses of the different types with illustrative examples are presented.

4. Clinical Classification of General Paralysis of the Insane.—Clark has reviewed the cases of paresis among the patients of the Kankakee State Hospital in regard to the percentages of the different types as classified by Kraepelin. Of about one hundred cases, sixty-six per cent. represented the demented, twenty-five per cent. the expansive, two per cent. the agitated, and five per cent. the depressed types of the disease.

NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

March, 1912.

1. J. M. Calloway: Extrauterine Abdominal Pregnancy (Primary).
2. O. W. Cosby and R. H. Blackman: Toxemia of Pregnancy.
3. A. C. King: Various Anesthetics in Obstetrical Work.
4. C. N. Chavigny: Injuries to the Parturient Canal during Labor.
5. Marion Souchon: Perineal Ureterolithotomy in a Male.
6. A. P. Crain: Nutrition in Infancy.
7. E. M. Dupaquier: Epidemic Cerebrospinal Meningitis.

April, 1912.

8. Carroll W. Allen: Nerves and Their Sensations, Especially Pain.
9. Howard D. King: Etiological and Epidemiological Irregularities of Cerebrospinal Meningitis, with Some Remarks as to Carriers.

2. Toxemia of Pregnancy.—Cosby and Blackman draw the conclusion that varying degrees of toxemia, due to suboxidation or unoxidized substances (principally of the nitrogenous derivatives in the circulation), cause nearly all the untoward symptoms of pregnancy, from simple morning sickness to pernicious vomiting and eclampsia. Urea and uric acid are harmless end products which can be easily eliminated as such, but toxemia is induced only when the nitrogenous particle is incompletely oxidized, leaving bodies such as xanthin, hypoxanthin, ammonia, creatin, etc. Toxemia of pregnancy and autointoxication of the nonpregnant woman are identical, but the pregnant woman is more liable to this autotoxemia on account of increased catabolic activity, more sedentary habits, and the increased demands for oxidation on account of the fetus. Oxidation is initiated and controlled by the adrenal system, the thyroid secreting a fluid which stimulates the adrenal activity, thereby increasing oxidation, as proved by its physiological enlargement in normal pregnancy, to meet demands for increased oxidation, and, as shown by Mayo, danger of eclampsia is imminent when this enlargement does not occur. "The internal secretion of the adrenal is the constituent of the hemoglobin molecule which carries oxygen to the tissues"; when suboxidation or adrenal insufficiency is present, thyroid extract will increase both. For lessening the irritability of the vasomotor centre the writers prefer veratrum viride. They deem chloroform unsafe by reason of its degenerative action on the liver, and do not advise morphine when renal disease or anuria is present. Chloral and the bromides in large doses control the convulsions, but are inferior to veratrum. Elimination and low protein diet are advised. Venesection, followed by the use of physiological salt solution, will safely and surely prevent eclampsia and control it if present.

JOURNAL OF TROPICAL MEDICINE AND HYGIENE.

March 15, 1912.

1. Lawrence G. Fink: Blackwater Fever in Burma.
2. T. Lindsay Sandes: Salvarsan and Leprosy.

2. Salvarsan and Leprosy.—Sandes administered a total of two intramuscular and forty-eight intravenous injections of salvarsan in thirteen typical and active cases of leprosy. Tubercular leprosy did not seem to be at all benefited, though three months (excepting in one case) had almost elapsed since the last injection. The bacilli were, however, distinctly fewer and more difficult to find as a rule in smears made after treatment than in those previously obtained. The skin eruptions of the maculoanesthetic form of the disease did seem to be influenced, but whether this was merely a temporary improvement or an initial sign of a prolonged amelioration or cure the author cannot yet judge. On the whole, the results were not encouraging.

April 1, 1912.

1. H. H. Scott: Deep Suppuration of Thigh Associated with Peculiar Bacillus.
2. J. R. D. Webb: Suppuration in an Encysted Hydrocele of the Spermatic Cord.
3. L. G. Fink: *Gloriosa superba* Poisoning.

1. Deep Suppuration of the Thigh.—Scott reports from Jamaica three cases of a well characterized, apparently hitherto undescribed, but probably not rare affection, associated with the formation of a hard, brawny, and very painful swelling in the skin of the thigh. Prolonged fever was observed, but the most striking clinical feature was the enormous quantity of thin, serous fluid causing the swelling. A special bacillus, for which is suggested the name *Bacillus seroficus,* was found in the blood stream, the condition being apparently one of bacteriemia with arrest locally of the organism (at least in part) in the marrow of one of the longer bones, and formation of pus when opportunity for secondary infection occurred; such infection took place in five to six days in the first and third cases; the second ended fatally, too soon after incision for pus to form. A careful study of the related microorganism, a large, motile, square ended rod, showed it to resemble *Bacillus mycoides* more closely than any other organism.

3. Gloriosa Superba Poisoning.—Fink reports three cases, one fatal, of poisoning with the root of this plant, which grows in upper Burma. The symptoms included tingling, followed by numbness in the lips, tongue, and throat, as well as other phenomena resembling those produced by aconite.

MONATSSCHRIFT FÜR KINDERHEILKUNDE.

March 23, 1912.

1. Georg Sainmout: Sugars.
2. Ivar Wickman: Extubation Difficulties and Their Treatment.
3. Friedrich Boschan: Irritability of the Sympathetic Nervous System.
4. Ernst Tezner: Pain in Infantile Paralysis.
5. Carl Leiner: Abstract of Dermatological Literature for 1911.

March 30, 1912.

6. H. Helbich: Physiology of Milk Secretion.
7. Felix Bauer: Cutaneous Reaction.
8. Eichelburg: Tuberculosis in Infancy.
9. Hermann Keiner: Tracheotomy.
10. Xaver Lewkowicz: Treatment of Scarlet Fever with Streptococcic Serum.

1. Sugars.—Sainmont, from experiments on dogs, comes to the conclusion that milk sugar is better tolerated than cane sugar. Similar studies on infants might have given different results.

5. Dermatology in 1911.—Leiner gives a review of the year's literature in syphilis, scarlatina, measles, German measles, varicella, diphtheria, vaccination, tuberculosis, etc.

6. Milk Secretion.—Helbich shows that it is possible to empty a breast completely and at times to increase the milk secretion, simply by mechanical expression, without having an infant suck the breast. He was able to procure from one to two quarts of milk daily from wet nurses by mechanical expression (milk pump) applied three times in twenty-four hours, at eight hour intervals.

8. Infant Tuberculosis.—Eichelburg reports a case of cured tuberculous glands of the neck in an infant ten months of age. The patient came from a tuberculous family and at four months showed a

positive von Pirquet reaction. No other signs of tuberculosis were present.

9. Tracheotomy.—Keiner prefers the transverse tracheotomy incision to the longitudinal, both on the low and high operation. He also recommends making the incision with an intubation tube in the larynx.

10. Serum in Scarlatina.—Lewkowicz calls attention to the fact that the streptococcic serum used in scarlet fever is not a specific serum, and therefore has no effect in the course of the disease in the *first week,* because at this period of the disease the streptococci, for the most part, have not yet begun to act. The serum could be used, however, during this first period as a prophylactic measure against the secondary streptococcic infections which come later on. Lewkowicz used the streptococcic serum in half of his cases and used the other half for control. He injected the serum at one time in doses of 50 or 100 c.c. The serum had no effect on the temperature curve, nor in the mortality of the very severe cases. The patients all died whether or not they received the serum. It did not seem to prevent complications such as nephritis, glandular enlargement, arthritis, etc., but it did seem to do good as a prophylactic measure. In the cases which had received the serum the complications seemed to be much less severe than in the control cases. The serum should be used as a prophylactic measure early in the disease, not only in the severe, but also in the mild cases.

INDIAN MEDICAL GAZETTE.

March, 1912.

1. J. M. Woolley: Convict Marriages in the Andamans.
2. P. Heffernan: Acute Polioencephalitis Superior.
3. Leonard Rogers: Gleanings from the Calcutta Post Mortem Records.
4. J. W. D. Megaw: Cases of Probable Lathyrism.
5. F. F. Strother Smith: Treatment of Trachomatous Conditions by Subconjunctival Injections of Cyanide of Mercury.
6. C. L. Dunn: Note on Complement Deviation in the Sera of Vaccinated Calves.
7. A. Whitmore: Tetanus Infection from an Operation Wound.
8. H. H. Broome: Treatment of Oriental Sore by Carbonic Acid Snow.

5. Treatment of Trachoma with Cyanide of Mercury.—See *Editorial Article,* p. 1000.

Proceedings of Societies.

THE WESTERN SURGICAL ASSOCIATION.

Twenty-first Annual Meeting, Held at Kansas City, Missouri, December 18 and 19, 1911.

The President, Dr. Amos W. Abbott, of Minneapolis, in the Chair.

(*Continued from page 965.*)

Results in Gallbladder Surgery.—Dr. B. B. Davis, of Omaha, said that by correspondence, and by personal examinations and interviews, he had been able to gain a fair knowledge of the postoperative condition in 234 cases for periods ranging from six months to twelve years following operations. Of this number, there were sixty men and 174 women, or approximately three women to one man. Of the 234 gallbladders of which a record was made, 150 contained stones, and eighty-four represented cases of cholecystitis, acute or chronic, without stones. At the primary operation 176 were drained, and fifty-eight were subjected to cholecystectomy. Only one of the fifty-eight patients on whom cholecystectomy was done primarily, had had enough postoperative trouble to require relief by secondary operation, and this was done to break up adhesions that were interfering with the emptying of the stomach. Relief was complete eighteen months after the operation. Of the 176 patients with primary drainage, eleven had been such sufferers as to be willing to have another operation performed. The second operation in ten of these cases was cholecystectomy with relief finally in all of them, but at least two of the patients continued to have considerable pain for several months. One of the cases operated in a second time did not seem to show sufficient cause for cholecystectomy, and a drainage operation was done. The relief was only partial.

Aside from the eleven patients operated upon secondarily for unrelieved or recurrent symptoms, five had been readmitted to the hospital for medical and massage treatment without operation. Two of these patients were relieved by the hospital treatment, and two received no benefit and were still suffering. The fifth patient had been back twice and each time rest, hot packs, Carlsbad salts, careful diet, and light massage had given relief. His last stay in the hospital was only three months ago, and it was agreed that if the symptoms returned he would come back for a cholecystectomy.

Besides the five patients just mentioned who returned to the hospital for treatment, he had records of twelve others that complained greatly for a time, but, as far as it had been possible to ascertain, most of them were better, and at least seven were completely relieved. His records in regard to persistent fistulas were incomplete, but several had not closed for from three months to six months after operation. One of these was still discharging almost a year after the patient left the hospital, but as there was no pain and the general health was excellent, the woman would not consent to another operation. As nearly as it had been possible to learn from the postoperative history of his cases, an encouragingly large number were practically relieved immediately and completely as soon as they recovered from the operation.

Tubal Sterilization.—Dr. Lawrence W. Littig, of Davenport, Iowa, read a paper on this subject in which the following conclusions were drawn: 1. Animal experiments, the ligation or excision of pathological tubes, and the results of like operations on normal tubes proved conclusively that tubal ligation, with or without excision, was not an efficient measure to prevent conception. 2. The only operation which gave a promise of success was excision of all or a part of the tube with a deep wedge shaped incision of the uterine cornu, including the *pars uterina* of the tube, the uterine defect to be closed with a musculomuscular, and a seroserous row of sutures. 3. The anterior abdominal approach was the easiest, the simplest, and the safest. 4. Granting that the State had the right to sterilize its mental and moral delinquents, tubal ligation, as legalized in Iowa, considering its remote possibility of suc-

cess, and its ever present, although vanishing danger, was an unjustifiable operation, entirely without promise as a means to lessen the procreation of the unbalanced. 5. In medical practice, tubal sterilization was but rarely justifiable, because it did violence to the most deeply rooted of all instincts, after that of self preservation. 6. Considering the almost fiendish pertinacity with which the female economy conserved the function of the Fallopian tubes, the efficiency of vasotomy or vasectomy might also be questioned, unless Kipling was right when he said, "But the woman that God gave him, every fibre of her frame, proves her launched for one sole issue, armed and engined for the same, and to serve that single issue, lest the generations fail, the female of the species must be deadlier than the male."

Artificial Tendons and Ligaments of Silk in the Surgical Treatment of the Paralyses.—Dr. Nathaniel Allison, of St. Louis, stated that his experience covered a considerable number of cases and dated back to one year and a half ago, when the operation of anterior foot suspension was first performed. Since then twenty odd patients had had the method employed to afford stability at their ankles in one form or another. But one case had been operated in to check hyperextension at the knee. In none of these cases had the silk shown any tendency to come out, nor had there been an infection. The after treatment of these cases should be carefully overseen for at least a year. Plaster of Paris dressing must be worn for the first six weeks. After this, braces might be supplied, which would support the limb and protect the artificial tendons from undue stress, the idea here being to give the tissues a sufficient period of time to produce fibrous tissue in sufficient quantity to insure permanency of the support.

New Apparatus for the Reduction of Fractures of the Lower Extremity.—Dr. Charles H. Lemon, of Milwaukee, said that this instrument was one of precision, and when used intelligently much could be accomplished with it. That it would enable surgeons to obtain better results than was possible by Buck's extension was his experience after five years of personal use. It had made unnecessary the general operation of closed as well as many compound fractures by enabling the surgeon at his leisure and without the aid of assistants completely to extend fractures. By its use it was his hope that more definite apposition of fragments in all parts of the leg would be made possible, because the rods which carried the foot piece from which the extension was made, could be placed in any position the human leg could assume. It had overcome the difficulty recognized by Sir Astley Cooper, and the limitation of Mr. Lane's plate in intrascapular fractures of the femoral neck. That this instrument might prove in the hands of others the valuable adjunct it had proved to him in the treatment of fractures of the lower extremity, was his reason for exhibiting it.

Chronic Brain Abscess of Traumatic Origin.—Dr. William Jepson, of Sioux City, reported the results in six cases of chronic brain abscess of traumatic origin which had been submitted to operation. There was one recovery among the three cases from gunshot wounds, and two recoveries among the other three cases of fractures produced by means other than missiles.

Doctor Jepson pointed out that in all cranial fractures assuming the type of punctured wounds, there existed a great tendency to the production of a chronic abscess, which he designated as an encapsulated infection, and as long as the capsule held, which might be many years, the same would be without symptoms, as the capsule separated the tissues to a far greater extent than that of destroying them. That such capsule, however, sooner or later gave way, converting a latent into a potential infection, and the development of symptoms indicative of acute inflammation followed. Doctor Jepson spoke of the danger of infecting the arachnoid space, a danger which should be guarded against by a not too rapid escape of the pus.

Choice of Technique in Enterostomy Incident to Operations for Intestinal Obstruction.—Dr. John P. Lord, of Omaha, favored refinement in the technique of enterostomy, to render its application less objectionable than it was when the operation was performed by the present well known methods, which he considered too crude. Their very objectionableness prevented their use, except as a last resort. The frequent early use of an unobjectionable method improved results. The drainage of the bowel in chronic as well as in acute obstruction made for safer surgery. Venting by an enterostomy tube in uncertain or insecure sutures, especially in complicated cases in resections of the large intestine, removed the element of gas distention and allowed rest to the bowel, a necessary condition to insure primary union. The technique favored was practically identical with an E. J. Senn gastrostomy. Leakage had never been troublesome, and in all patients who survived closure was complete in a short time. The literature showed the use of the purse-string suture of the intestine about a catheter, but little was said about multiple pursestring sutures as in a Senn gastrostomy. Doctor Lord contended that the simplicity and safety of the method favored made the indications for enterostomy more frequent, and if it were often used and had a more general early application it would make for safer and more satisfactory intestinal surgery incident to operations for obstructions.

President's Address.—Dr. Amos W. Abbott, of Minneapolis, said he believed the secret of success of this association was this: The criticism in this association was not only honest, but capable. Here the work, not the individual, was discussed. The members felt that the criticism was just and that it came from an authority, equal to, and often higher than his own. They came for the truth, and when they were through, they felt that they had it, and that small as the footing might be, each member knew where he stood. No member of the association would willingly fatten on an error that would do injury to his clientèle. He wanted to get at the absolute scientific value of his work. He had no vanity to sacrifice, but wanted only to take back to his people facts on which he could depend. On the other hand, when the approval of members had endorsed his work, he was assured of its reliability

and was proportionately comforted and encouraged. These, he believed, were the chief reasons for the success of this association.

Infection of the Retroperitoneal Lymphatics.—Dr. JAMES E. MOORE, of Minneapolis, said that they were all familiar with perinephritic abscesses and retrocecal abscesses when the appendix was outside of the peritoneal cavity, but aside from these, comparatively few cases had been reported in which the abscess was known to be of retroperitoneal origin. We should naturally expect this large space behind the peritoneum, with its abundant areolar tissue and free lymphatic communication with parts so frequently the seat of infections, to be a very common location for abscesses. The chances were, that owing to the inaccessibility of these parts, infections and even abscesses often occurred here that were not recognized. When there was an infection here the intestines usually became distended, which added to the natural difficulties of examination; when chills, fever, and sweating were present, the cause of which was not found in any of the usual locations, or when the symptoms continued after thorough drainage of pelvic or abdominal abscesses, the retroperitoneal space should be suspected. It was quite possible that in many instances where patients had died from sepsis without the abscess having been discovered, it was located in this region. The presence of tuberculous abscesses in this location had been very frequently recognized. The reported causes of nontuberculous abscesses in the retroperitoneal space were typhoid, appendicitis, salpingitis, infection following abortion and parturition, and suppuration of the inguinal glands. In some cases following parturition infection had manifested itself as late as three months after labor. A few cases had been reported without apparent cause. The writer's experience was limited to four cases, the first two occurring years ago before laboratory facilities were at hand.

Treatment of Cancer of Uterus by Actual Cautery, with a Practical Method for Its Application.—Dr. JAMES F. PERCY, of Galesburg, Illinois, stated that he had improved his technique in using the actual cautery in otherwise inoperable cases of cancer of the cervix and body of the uterus, as follows: 1. The abdomen was prepared as for any abdominal operation. 2. The patient was put in the full Trendelenburg position. 3. An abdominal incision was made just sufficient to admit one or two fingers of an assistant into the pelvis. In a thin patient one finger was enough. 4. A fever thermometer indexed to register at least 250° F. was introduced through the urethra into the bladder after the urine was removed by catheter. A second similar thermometer should be in readiness for use in the rectum, if it was necessary to cauterize deeply posteriorly. The fingers could be used here also, and might be all that was necessary. 5. The cautery was applied in the vagina through a speculum after the pattern of that of Ferguson. This speculum was made on the plan of a thermos bottle. 6. There was no use attempting this work unless the cautery used was perfect in its action, that is, had more heat under control and at command than would ever be required. Doctor Percy referred to the use of the cautery in this disease twenty years ago by Dr. John Byrne, of Brooklyn, New York, and commended it. He based his technique on the statement of Loeb, that a section of mouse cancer, when frozen, would grow again when transplanted; but if the temperature of a control section was raised to 113° F. plus, it could not be successfully grown. A special form of heavy cautery was used which would raise the temperature in the pelvis to 120° F. plus. He showed that by the technique described, the use of the cautery could be made just as accurate and finished as when the knife was used.

If all cases of cancer in the region of the body under consideration were submitted to the improved cautery operation described, Doctor Percy was more than convinced that practitioners would obtain not only the advantage of no primary mortality, but in addition a largely increased percentage of lives greatly prolonged in comfort, with freedom from hemorrhage, exhausting and offensive discharge, and mental distress.

(To be concluded.)

Book Reviews.

[*We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.*]

Immunity. Methods of Diagnosis and Therapy and Their Practical Application. By Dr. JULIUS CITRON, Assistant at the University Clinic of Berlin, II Medical Division. Translated from the German and Edited by A. L. GARBAT, M. D., Assistant Pathologist, German Hospital, New York. Twenty-seven Illustrations, Two Colored Plates, and Eight Charts. Philadelphia: P. Blakiston's Son & Co., 1912. Pp. xiii-209. (Price, $3.)

Although there are many books dealing with various phases of immunity, this volume is a distinct addition to the literature. A perusal shows that it has been written, as the author states, so to present the subject of immunity that the general medical man, who is even slightly acquainted with laboratory work, can learn the details of the various reactions and their significance. Inasmuch as the author has had considerable experience in teaching, the book is particularly well adapted for use in laboratory work. The details necessary in carrying out the various reactions are given in full and enable one readily to repeat the processes. The first two chapters deal with laboratory methods in general, then come two dealing with the various manifestations of active immunity. Two chapters are devoted to a detailed presentation of tuberculin as used in diagnosis and in therapy. The various reactions are given concisely but clearly. The ophthalmoreaction is described, but caution is emphasized in its employment, particularly that it should not be used in cases where there is, or has been some disease of the eye, tuberculous or otherwise. The relative value of the tests is also given. Toxine and antitoxine occupy two chapters and one is devoted to the toxines of the higher animals and plants. Other chapters appear on agglutination, precipitins, cytolysins, then the method and technique of the complement fixation occupies some thirty-five pages, this including a clear presentation of the underlying principles. The last two chapters discuss Wright's theory of opsonins and the technique of obtaining the opsonic index, and serum therapy, with special reference to serum sickness and anaphylaxis. For those who wish the laboratory methods, they are here in all necessary detail and at the same time the theoretical side is clearly stated. The translation is good and a very complete index add another point of value. The book is a distinctly valuable one.

Microscopy, Bacteriology, and Human Parasitology. A Manual for Students and Practitioners. By P. E. Archinard, A. M., M. D., Bacteriologist to the Louisiana State Board of Health and City Board of Health, New Orleans. Second Edition, Revised and Enlarged. Illustrated with One Hundred Engravings and Six Plates. Philadelphia and New York: Lea & Febiger, 1912. Pp. 267. (The Medical Epitome Series.)

This volume of the medical epitome series contains a great deal of information, but in such a condensed form that it would be difficult for students to obtain from it a satisfactory knowledge of the subjects discussed. For purposes of review it might be of value, but unless more comprehensive books were employed for study the topics would be but poorly comprehended. To cover three such large fields in 257 small pages is an impossibility, and the individual who studies from so sketchy a volume may find that he is not adequately prepared. The theories of immunity are disposed of in little more than a page, and the Wassermann reaction with the Noguchi takes two pages. In neither case could the reader understand the underlying principles, nor in the latter instance perform the test. In the portion on bacteriology under the presentation of the anthrax bacillus an error has appeared in the statement that it "is anaerobic, but can grow without the presence of oxygen." In the chapters dealing with the various parasites the newer scientific names have not been made use of. The plates do not seem to have been placed with much care; that showing the spirochete appears fifteen pages ahead of the chapter, of bubonic plague twenty pages ahead, the same with the bacillus of influenza, malignant edema, fourteen, of tuberculosis, ten, and of streptococci, nine pages ahead. The illustrations are, however, very good also the press work. In the preface the author states that "he has broadened its scope by including information on a few protozoa nearly akin to bacteria. This will make the book more useful to advanced students, as well as to general practitioners seeking to enlarge their knowledge of the microscopical world by attending special postgraduate courses." To the reviewer the book does not seem to fill that field. It attempts to cover too much in too little space. It seems to have been rather hastily put together, and the portion dealing with the intestinal parasites has not been brought up to date.

Who's Who in Science (International). Edited by H. H. Stephenson. New York: The Macmillan Company, 1912. Pp. xvi-323. (Price, $2.)

The book before us carries a proud title, promises a great deal, but is very disappointing. From beginning to end it is poor. To begin with, there is a list of the world's universities, to which the editor has added: "Any omissions in this list are due to the university in question not replying to our communication." This list is so incomplete as to be absolutely worthless. Under the name of the university are given certain notes, such as, site, date of foundation, principal (a rather peculiar title), registrar, and senior professors. Gynecology is absolutely left out, to mention only one omission. Even if the universities did not answer, the name of the institution at least should have been given. The next part takes up the biographies, alphabetically arranged, with a very short supplementary list. Here the omissions are very pointed. Walsh, of Johns Hopkins, is not mentioned, the Mayo brothers of Rochester, Ewing of New York, nor J. A. Wyeth, to mention only a few Americans, although many more could be added to these names; Kraepelin is not given, but Henri Du Bois is; very pointed is the omission of Ehrlich's name; again we find the names of people who have died, such as Pflueger, etc. To come back to the Americans, Tiszla is not to be found, and, *horrible dictu*, Theodore Roosevelt has not found grace in the intellectual eye of the great judge of science.

The third part gives a classified index, which corresponds to the biography.

Der Kampf gegen den Schmerz bei operativen Eingriffen vom Altertum bis zur Gegenwart mit besonderer Beziehung auf die Zahnheilkunde. Von Johannes Wolfram, praktischem Zahnarzt in Oldenburg. Mit fünf Abbildungen nach Kupferstichen. Leipzig: Johann Ambrosius Barth, 1912. Pp. x-66.

Dental Anesthetics. A Textbook for Students and Practitioners. With a Contribution on Analgesia, by John Bolam, L. D. S. (Edin.), Lecturer on Dental Materia Medica and Therapeutics, Newcastle-upon-Tyne Dental School. By Wilfred E. Alderson, M. D. (Durham), M. S., B. Hy., D. P. H., Honorary Physician, Newcastle-upon-Tyne Dispensary; Senior Honorary Anesthetist, Newcastle-upon-Tyne Dental Hospital; Lecturer on Dental Anesthetics, Newcastle-upon-Tyne Dental School. New York: William Wood & Co., 1911. Pp. viii-100. (Price, $1.25.)

These two books, although they treat the same subject, approach anesthesia and analgesia—the first word used for general, the other for local anesthesia—in two different ways. The German author has written a historical sketch of the anesthesia from ancient times up to the discovery and use of ether, chloroform, nitrous oxide, ethyl bromide, ethyl chloride, the mixtures of narcotics, and scopolamine-morphine combination; and finally of local anesthetics. An interesting report is attached, containing statements from all German dental colleges, which by the way are all departments of the universities and as such State institutions, as to the drugs used for narcosis. This book is embellished with five illustrations from the middle ages, depicting dental practice.

The English book treats of the subject practically. It is divided into more or less the same chapters and speaks of the dental use of nitrous oxide, ether, chloroform, ethyl chloride, and local drugs.

Soziale Pathologie. Versuch einer Lehre von den sozialen Beziehungen der menschlichen Krankheiten als Grundlage der sozialen Medizin und der sozialen Hygiene. Von Dr. med. Alfred Grotjahn, Berlin. Berlin: August Hirschwald, 1912. Pp. xi-691.

Our textbooks of special pathology and therapeutics are written in a more or less traditional way as to diseases and their etiology, symptomatology, diagnosis, prognosis, prophylaxis, therapeutics, etc. This schematic form answers well the purpose of instruction, but leaves out entirely the social aspects. Our author has added this very important chapter to our subject, speaking of social pathology that is the relation of disease to the social question as to its etiology, pathology, and prophylaxis. He thus discusses typhoid fever, cholera, grippe, malaria, tuberculosis, gonorrhea, leprosy, etc., to mention only a few maladies.

The book is divided into a special and a general part. Under the first heading there are treated acute and chronic general infection, sexual diseases, diseases of the skin, of circulation and respiration, of digestion and metabolism, of industrial poison, rheumatism, dental diseases, diseases of women (including obstetrics), of infants, nervous, and surgical diseases, eye, throat, and ear diseases, and cancer. Part two gives the relation of the diseases to social conditions, the importance of social hygiene and medicine, etc.

The work is the first of its kind, and Grotjahn had to follow his own researches, doing pioneer work. The number of pages the book contains shows the thoroughness of the author. It contains a great deal of valuable statistical information. It should receive the support it deserves.

NEW PUBLICATIONS

Wallace, J. Sim.—The Prevention of Dental Caries. Second Edition. London: The Dental Record, 1912. Pp. viii-70.

Lewis, Thomas.—Clinical Disorders of the Heart Beat. A Handbook for Practitioners and Students. London: Shaw & Sons, 1912. Pp. xii-104.

Schultz, W. H.—Physiological Studies in Anaphylaxis. Reaction of Smooth Muscle from Various Organs of Different Animals to Proteins. Including Reaction of Muscle from Nonsensitized, Sensitized, Tolerant, and Immunizing Guineapigs. Hygienic Laboratory Bulletin No. 80. Washington: Government Printing Office, 1912. Pp. 60.

Hoffmann, August.—Diät-Therapie bei Herzkrankheiten. Halle a.S.: Carl Marhold, 1912. Pp. 52.

Porter, Eugene H.—Progress in Medical Education. An Address Delivered at the Inauguration of Lemuel Her-

bert Martin, L. H. D., LL. D., as President of the Boston University. Albany: State Department of Health, 1912. Pp. 8.

Faulhaber, M.—Die Röntgendiagnostik der Magenkrankheiten. Mit 28 Abbildungen im Text. Halle a.S.: Carl Marhold, 1912. Pp. 72.

Miscellany.

Surgeons in the Navy; Our Query Answered.—In *Harper's Weekly* for May 4th, Walter Scott Meriwether has an article on The Surgeons of the Fleet, in which Surgeon General Charles F. Stokes is freely quoted. Toward the close of the article the writer says: "The attention of Surgeon General Stokes was called to an editorial note in a recent issue of a medical publication which expressed surprise that any vacancies could exist in the medical corps of the navy." Our editorial article is then quoted in full (See NEW YORK MEDICAL JOURNAL for September 16, 1911, page 593), and the writer continues: "'Doctors are not shunning the naval service,' the surgeon general explained. 'There are a few vacancies, but the reason for that is the close selection that we insist upon. The medical corps is the only branch of the naval service which may select its own personnel. Not only must a candidate be a graduate in medicine, but he is required to have served at least one year in a great civil hospital and present a diploma as a guarantee of the character of this service before he is eligible to examination for a commission as assistant surgeon. An examining board then passes on his physical and professional qualifications, and, if he meets the requirements, he is commissioned and enters the naval medical school, after which he is assigned to ships of the navy.'"

Meetings of Local Medical Societies.

MONDAY, *May 13th.*—New York Academy of Medicine (Section in Neurology and Psychiatry); Society of Medical Jurisprudence, New York; New York Ophthalmological Society; Williamsburg Medical Society, Brooklyn; New Rochelle Medical Society; Corning Medical Association; Waterbury, Conn., Medical Association.

TUESDAY, *May 14th.*—New York Academy of Medicine (Section in Public Health); New York Obstetrical Society; Newburgh Bay Medical Society; Medical Society of the County of Schenectady; Medical Society of the County of Rensselaer; Buffalo Academy of Medicine (Section in Medicine); Jamestown Medical Society; Rome Medical Society; Practitioners' Club of Jersey City, N. J.

WEDNESDAY, *May 15th.*—New York Academy of Medicine (Section in Genitourinary Diseases); Woman's Medical Association of New York City (Academy of Medicine); Medicolegal Society, New York; Northwestern Medical and Surgical Society of New York; Buffalo Medical Club (annual); New Jersey Academy of Medicine (Jersey City); New Haven, Conn., Medical Association.

THURSDAY, *May 16th.*—New York Academy of Medicine; German Medical Society, Brooklyn; Æsculapian Club of Buffalo; Newark, N. J., Medical and Surgical Society.

FRIDAY, *May 17th.*—New York Academy of Medicine (Section in Orthopedic Surgery); Clinical Society of the New York Postgraduate Medical School and Hospital; New York Microscopical Society; Brooklyn Medical Society; Saratoga Springs Medical Society (annual).

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending May 3, 1912:

CHOLERA—FOREIGN: [illegible] Feb. 1-March 30, 31 cases, 18 deaths.

YELLOW FEVER—FOREIGN: [illegible] Feb. 16-March 15, 2 deaths.

PLAGUE—FOREIGN: *Arabia* (Aden), March 5-25, 2 cases, 1 death; *Brazil*, April 1-6, 2 cases, 2 deaths; *Egypt*, March 4-April 4, 67 cases, 39 deaths; (Alexandria), March 22, 1 case; *India*, Feb. 1-March 30, 310 cases, 493 deaths; *Java*, March 10-16, 6 cases, 5 deaths; *Trinidad*, April 26, 1 case.

SMALLPOX—UNITED STATES: *Alabama* (Montgomery), April 10-17, 2 cases; *Illinois*, March 1-31, 236 cases; *Indiana*, March 1-31, 214 cases, 3 deaths; *Louisiana* (New Orleans), April 14-20, 10 cases; *Michigan*, March 1-31, 90 cases; *Minnesota*, Feb. 27-April 1, 226 cases; *Missouri* (Kansas City), Feb. 1-March 31, 22 cases; (St. Louis), April 14-20, 3 cases; *North Carolina*, March 1-31, 280 cases; *Tennessee* (Knoxville), April 14-20, 2 cases; *Texas*, Feb. 1-29, 44 cases, 11 deaths.

SMALLPOX—FOREIGN: *Arabia* (Aden), March 19-25, 1 case, 1 death; *Austria-Hungary* (Gallicia), March 25-30, 14 cases; (Vienna), March 25-30, 1 case; *Brazil*, Feb. 16-April 6, 11 cases, 97 deaths; *Canada*, April 1-20, 16 cases; *Egypt* (Cairo), *March* 12-25, 5 cases; *France* (Marseilles), March 1-31, 1 death; (Paris), April 1-6, 3 cases; *Germany*, April 1-7, 12 cases; (Hamburg), April 1-6, 2 cases; *Great Britain* (Liverpool), April 7-17, 1 case, 1 death; *India*, Feb 1-March 30, 142 cases, 39 deaths; *Italy*, April 1-13, 20 cases, 5 deaths; *Java*, March 1-16, 3 cases; *Mexico*, April 7-13, 2 cases, 2 deaths; (Mexico City), Feb. 18-March 2, 32 cases, 12 deaths; *Portugal* (Lisbon), April 1-13, 3 cases; *Russia* (Moscow), Feb. 17-23, 4 cases, 3 deaths; *Spain*, March 1-April 13, 18 cases, 15 deaths; *Teneriffe*, April 1-6, 1 death; *Turkey* (Beirut), March 24-30, 50 cases; (Constantinople), April 1-7, 13 deaths.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending May 1, 1912:

Clark, T., Surgeon. Directed to proceed to St. Paul and other places in the State of Minnesota, for conference with the health authorities, and for the investigation of the prevalence of trachoma on Indian reservations. **Collins,** G. L., Passed Assistant Surgeon. Relieved from temporary duty at the Marine Hospital, Boston, Mass., and directed to report to the Chief Medical Officer, Ellis Island, N. Y., for duty. **Earle,** B. H., Passed Assistant Surgeon. Relieved from duty at the quarantine station Port Townsend, Wash., and directed to report to the medical officer in command, Marine Hospital, New Orleans, La., for duty and assignment to quarters. **Gammon,** W. H., Acting Assistant Surgeon. Granted thirty days' leave of absence from May 15, 1912. **Gassaway,** J. M., Surgeon. Granted one month's leave of absence, from April 16, 1912, on account of sickness. **Glover,** M. W., Passed Assistant Surgeon. Detailed to represent the Service at the meeting of the State Medical Society and Conference of the State Board of Health at Del Monte, Cal., April 16, 17, and 18, 1912. **Guiteras,** G. M., Surgeon. Detailed to attend the meeting of the State Medical Association of Texas, at Waco, Texas, May 7, 8, and 9, 1912. **McCoy,** G. W., Passed Assistant Surgeon. Directed to proceed to the Island of Hawaii at such times as may be necessary for the purpose of making epidemiological and laboratory investigations of leprosy on that island and to examine into the prevalence of plague. **Smith,** F. C., Passed Assistant Surgeon. Directed to proceed to Carrizozo, N. M., to represent the interests of the Service at the meeting of the Adjudicating Court on May 6, 1912, in the matter of the water supply at the Fort Stanton Sanatorium.

Boards Convened.

Boards of medical officers convened to meet at 10 o'clock a. m., May 6, 1912, for the physical examination of candidates for appointment as cadet engineers in the Revenue Cutter Service as follows:

Boston, Mass., Surgeon L. L. Williams, chairman; Acting Assistant Surgeon J. F. Bresnahan, recorder.

New York, N. Y., Surgeon H. W. Austin, chairman; Passed Assistant Surgeon W. A. Korn, recorder.

Philadelphia, Pa., Surgeon W. C. Stimpson, chairman; Acting Assistant Surgeon H. Horning, recorder.

Detroit, Mich., Passed Assistant Surgeon M. J. White, chairman.

Port Townsend, Wash., Passed Assistant Surgeon Carl Ramus, chairman; Acting Assistant Surgeon P. 1. Carter, recorder.

Board of medical officers convened to meet at the Bureau, upon the call of the chairman, for the purpose of preparing questions for the examination of Assistant Surgeon A. J. Lanza, at Fort Stanton, N. Mex., to determine his fitness for promotion to the grade of Passed Assistant Surgeon: Detail for the board: Assistant Surgeon General W. J. Pettus, chairman; Assistant Surgeon General L. E. Cofer; Assistant Surgeon General W. C. Rucker, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending May 4, 1912:

Chilton, Frank N., Lieutenant. Ordered to proceed to the Walter Reed General Hospital, Takoma Park, D. C., for temporary duty with the Field Hospital No. 3, during the time that hospital is encamped at the International Red Cross Conference in Washington, D. C. **Conzelmann,** Fred J., First Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Mott, N. J., to take effect about June 1, 1912, and will proceed to his home; upon the expiration of four months' leave of absence, which has been granted him, stands relieved from active duty in the Medical Reserve Corps. **Eastman,** William R., Major, Medical Corps. Promoted to the rank of major, from April 12, 1912. **Fauntleroy,** P. C., Major, Medical Corps. Orders revoked which directed him to proceed to officers' camp of instruction, Wisconsin National Guard, to be held at Camp Douglas, Wisconsin. **Foucar,** F. H., Lieutenant, Medical Corps. Ordered to proceed to the Walter Reed General Hospital, Takoma Park, D. C., for temporary duty with Field Hospital No. 3, during the time that hospital is encamped at the International Red Cross Conference in Washington, D. C. **Goyer,** Perry L., Captain, Medical Corps. Granted fifteen days' leave of absence. **Hall,** James F., Major, Medical Corps. Promoted to rank as major, from April 13, 1912. **Herbert,** William, First Lieutenant, Medical Reserve Corps. Ordered to active service and assigned to duty at Fort Jay, N. Y. **Koyle,** Fred T., First Lieutenant, Medical Reserve Corps. Relieved from duty at the Fort H. G. Wright, N. Y., and ordered to Fort Terry, N. Y., for duty. **Lyster,** William J. L., Major, Medical Corps. Ordered to camp of instruction, infantry officers, Kentucky Militia, at Frankfort, Ky., May 20 to 25, 1912. **McBrayer,** Charles E., Lieutenant, Medical Corps. Granted twenty days' leave of absence. **Phillips,** John L., Colonel, Medical Corps. Promoted to rank as colonel from April 13, 1912. **Shaw,** Henry A., Lieutenant Colonel, Medical Corps. Promoted to rank as lieutenant colonel from April 12, 1912. **Stephenson,** William, Colonel, Medical Corps. Promoted to rank as colonel from April 12, 1912. **Walker,** T. C., First Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Terry, N. Y., and ordered to Fort H. G. Wright, N. Y., for duty. **Whitney,** Walter, First Lieutenant, Medical Reserve Corps. Left Fort McPherson, Ga., with troops en route to target range at Waco, Ga. **Winter,** Francis A., Lieutenant Colonel, Medical Corps. Promoted to rank of lieutenant colonel, from April 13, 1912.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending May 4, 1912:

Angeny, G. L., Surgeon. Detached from the receiving ship at Philadelphia, Pa., and ordered to the *Delaware.* **Bass,** J. A., Assistant Surgeon. Detached from the Naval Hospital, Olongapo, P. I., and ordered to the *Villalobos.* **Carpenter,** D. N., Surgeon. Detached from the *Kansas* and ordered to the *Tennessee.* **Chambers,** W. H., Passed Assistant Surgeon. Ordered to the receiving ship at Norfolk, Va. **Hoyt,** R. E., Surgeon. Detached from the receiving ship at Norfolk, Va., and ordered to the *Michigan.* **Jones,** E. L., Passed Assistant Surgeon. Detached from the Naval Hospital, Canacao, P. I., and ordered to the Naval Station, Olongapo, P. I. (Order issued by commander-in-chief of the Asiatic Fleet.) **Kennedy,** J. T., Surgeon. Detached from the *Louisiana* and ordered to the receiving ship at New York, N. Y. **McCullough,** F. E., Surgeon. Detached from the *Delaware* and ordered to the Bureau of Medicine and Surgery, Navy Department, Washington, D. C. **Rennie,** W. H., Passed Assistant Surgeon. Orders of April 18th revoked; detached from the *Ohio* and ordered to the *Tennessee.* **Riggs,** C. E., Surgeon. Detached from the receiving ship at New York, N. Y., and ordered to the *Louisiana.* **Snyder,** J. J., Surgeon, Detached from the *Michigan* and ordered home to await orders. **Stibbens,** F. H., Passed Assistant Surgeon. Detached from the *Intrepid* and ordered to the *Annapolis.* **Tolfree,** H. M., Surgeon. Detached from the Naval Hospital, Norfolk, Va., and ordered to the *Kansas.* **Woodland,** E. E., Assistant Surgeon. Detached from the *New Jersey* and ordered to the *Panther.*

Births, Marriages, and Deaths.

Married.

Buermann—Morris.—In Bordentown, N. J., on Wednesday, April 24th, Dr. Robert Buermann, of Newark, and Miss Jessie Elliott Morris. **Burke—Greer.**—In Philadelphia, on Tuesday, April 23d, Dr. William J. Burke and Miss Gwendolyn Greer. **Francine—Ehret.**—In Philadelphia, on Saturday, April 27th, Dr. Albert Philip Francine and Miss Emilie Davis Ehret. **Henry—Ermentrout.**—In Reading, Pa., on Tuesday, April 23d, Dr. Charles P. Henry, of Basking Ridge, N. J., and Miss Adelaide Louise Ermentrout. **Lykins—McGuffin.**—In Stanton, Va., on Wednesday, April 24th, Dr. B. F. Lykins, of Concho, W. Va., and Miss S. McGuffin. **Porter—Deering.**—In Santa Cruz, Cal., on Saturday, April 20th, Dr. William S. Porter, of Oakland, and Mrs. D. K. Deering, of Philadelphia, Pa. **Roop—Baldwin.**—In New York, on Tuesday, April 30th, Dr. H. B. Roop, of Columbia, Pa., and Miss Martha T. Baldwin, of Huntingdon, Pa. **Wright—Stanchfield.**—In New York, on Saturday, April 27th, Dr. Arthur Mullin Wright and Miss Alice Stanchfield.

Died.

Anderson.—In Cleveland, Ohio, on Friday, April 26th, Dr. Carl A. H. Anderson. **Bacon.**—In Baltimore, Md., on Saturday, April 27th, Dr. James Bacon, aged sixty-five years. **Carroll.**—In Ingersoll, Ontario, Canada, on Thursday, April 25th, Dr. D. W. Carroll, aged seventy-five years. **Clowe.**—In Schenectady, N. Y., on Monday, April 29th, Dr. Charles Francis Clowe, aged forty-six years. **Dold.**—In Roanoke, Va., on Friday, April 26th, Dr. Samuel Hendron Dold, aged sixty-six years. **Finley.**—In Collison, Ill., on Sunday, April 28th, Dr. James L. Finley, aged forty-five years. **Horton.**—In Avoca, N. Y., on Monday, April 22d, Dr. Levi E. Horton, aged sixty-seven years. **Johns.**—In Seaford, Del., on Wednesday, May 1st, Dr. Joseph N. Johns, aged sixty-eight years. **Kline.**—In Reamstown, Pa., on Thursday, April 25th, Dr. U. B. Kline, aged eighty-seven years. **Lead.**—In Minneapolis, on Monday, April 22d, Dr. Milo M. Lead, aged eighty-five years. **MacMurchy.**—In Toronto, Canada, on Saturday, April 27th, Dr. Archibald MacMurchy, aged eighty years. **Mood.**—In Summerton, S. C., on Sunday, April 21st, Dr. William R. Mood. **Muse.**—In Lexington, Tenn., on Friday, April 26th, Dr. John Robert Muse, aged sixty-six years. **Prittie.**—In Los Angeles, Cal., on Sunday, April 21st, Dr. W. H. Prittie. **Reeder.**—In Millersville, Pa., on Wednesday, April 24th, Dr. Milton T. Reeder, aged sixty-five years. **Rogers.**—In Brooklyn, N. Y., on Monday, April 29th, Dr. Herbert Cooper Rogers, aged fifty-five years. **Smith.**—In Mt. Carmel, Ill., on Saturday, April 20th, Dr. J. E. Smith, aged seventy-three years. **Stewart.**—In Salem, Ohio, on Monday, April 22d, Dr. Thomas Harris Stewart, aged seventy-four years. **Welker.**—In Mattoon, Ill., on Tuesday, April 23d, Dr. J. Wesley Welker, aged fifty-nine years. **Wenz.**—In Lancaster, N. Y., on Thursday, April 25th, Dr. Julius Wenz, aged sixty-eight years. **Whiteford.**—In Schenevus, N. Y., on Friday, April 19th, Dr. William J. Whiteford, aged fifty-five years.

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Original Communications.

THE TREATMENT OF PROLAPSUS OF THE UTERUS WITH ATTENDANT CYSTOCELE AND RECTOCELE.*

BY J. RIDDLE GOFFE, M. D.,

New York,

Professor of Gynecology at the New York Polyclinic School and Hospital; Attending Surgeon to the Woman's Hospital and St. Elizabeth's Hospital; Consulting Gynecologist to the New York City Hospital, the Lawrence Hospital at Bronxville, St. Joseph's Hospital at Yonkers, and the Mt. Vernon Hospital.

The part assigned to me in this discussion is the condition known as prolapsus or procidentia and its attendant complications of rectocele and cystocele. It is the extreme stage of displacement of the pelvic organs, and follows, as a rule, the orderly procession of retroversion and descensus due to relaxation of the uterine ligaments and injury to the pelvic floor. The degrees of prolapsus or procidentia vary from the slight appearance of the cervix at the introitus vaginæ, with the base of the bladder pouting above it and rectum below, to the extreme degree of complete inversion of the vagina, carrying with it the uterus, rectum, and bladder, and its elongation to an extent that permits of the uterus hanging down almost to the knees, with large inflamed patches of denuded mucous membrane on cervix and vagina from chafing between the thighs.

We are more or less familiar with these conditions, and they have been the *bête noire* of the general surgeon and the gynecologist, not because they were not amenable to operation, but because the operations were not based upon correct dynamic principles. The results, therefore, have not been permanent, a few months or years having sufficed in many instances to reproduce the old condition.

Heretofore the perineum or the floor of the pelvis has been regarded as the sole support of the pelvic organs, and all the ingenuity and inventive genius of the gynecologists have been concentrated upon it in devising means of making it do the work supposedly assigned to it. Now we know better. We have lifted our vision from the floor of the pelvis and discovered that the support of the pelvic organs conforms to Nature's general plan of holding organs in place, which is by suspension from above by means of ligaments. This general scheme or Nature's plan of holding organs in place by suspension from above, instead of by props from below, we all recognize as illustrated by the heart, the lungs, the liver, the spleen, the kidney, and the intestines, but immediately abandon it in considering the support of the pelvic organs. Weight for weight, however, the uterus has more ligaments than any other organ in the human body. These supports are strong, the round ligaments alone by actual test being able to sustain a weight of from eight to eleven pounds. In addition to these, the uterus is supported by the uterosacral, the uterovesical, and the cardinal ligaments at the base of the broad ligaments. That these ligaments do support the uterus becomes strikingly apparent in cases of complete laceration of the perineum, in which support from below is practically destroyed. In these cases the rule is that the uterus remains in place.

The great anatomists, i. e., all the great authorities on general anatomy, teach us that the bladder is likewise supported by its ligaments, not one of them mentioning the perineum as a support. Gray says: "The bladder is retained in its place by ligaments. Of these there are five, two uterovesical ligaments, reaching from the posterior face of the os pubis to the uterus, composed of connective tissue and containing muscular fibres. The third and fourth are the lateral ligaments, one on either side, known as the rectovesical fascia, arising from the pelvic wall and laterally inserted into the fascia at the base of the bladder. The fifth is the urachus, a fibromuscular cord extending from the anterior superior face of the bladder to the umbilicus."

In addition to these supports we have the peritoneal attachments, between the uterus and the bladder, the lateral reflections, at the physiological hinges along the side, and the fold of peritoneum as it follows the urachus at its origin from the bladder up onto the abdominal wall.

The function of the perineum or floor of the pelvis (and by this I mean the levator muscle and its fascia) becomes restricted to supporting the rectum and assisting in parturition and defecation by lifting the perineum over the head of the child in parturition, and over the fecal matter in defecation. Undoubtedly in the act of making great effort, such as lifting heavy weights, or straining at stool, the intraabdominal pressure may bear the uterus and also the bladder down onto the floor of the pelvis, where it may receive temporary support, being lifted back again by their attachments above into normal position, thus restoring the intraabdominal and pelvic equilibrium. A rectocele is formed in cases of only *incomplete* tears of the perineum. The supporting and the lifting influence of the leva-

*Read in a Discussion on Perineorrhaphy before the New York County Medical Society, February 26, 1912.

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tor ani is here destroyed, and the rectocele becomes a pulling force, constantly tending to drag the uterus down. It becomes, therefore, the primary factor in the production of prolapsus or procidentia. The rectocele coming first, then the uterus, then the bladder.

My contention is that normally the ligaments are

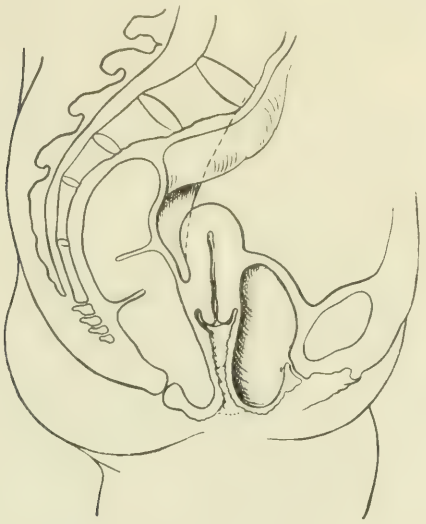


Fig. 1.—Cystocele and rectocele with retroversion and prolapse of the uterus, elongated uterosacral ligament.

the supports of the uterus and bladder under normal conditions, being supplemented by the pelvic floor only when subjected to excessive but temporary intraabdominal pressure. In resisting this pressure these ligaments by their reciprocal and interdependent action tilt the uterus and its broad ligaments in such a way as to deflect intraabdominal pressure, and thus avoid its direct line of action. A nice balance exists between the muscular action of the abdominal walls, which increase intraabdominal pressure, and the musculature of the pelvic floor, together with the ligaments of the uterus, which receive, deflect, and distribute this force in such a way as to direct the resultant into the line of expulsion (i. e., the pelvic outlet), and at the same time tend to preserve visceral support and equilibrium. Sturmdorf puts it clearly when he says: "An intrapelvic and an extrapelvic deflecting mechanism, exercising harmonious and reciprocally balancing influences, maintains the topographic stability of the pelvic contents. The intrapelvic mechanism is represented by the uterus with its ligamentous extensions, the extrapelvic deflector composing the muscular and fascial elements of the pelvic floor." "These muscular and ligamentous elements serve to support the pelvic contents, *not* by their virtue of their textural resistance, but by deflecting the displacing force of intraabdominal pressure."

In the operation which I have devised for the relief of procidentia with rectocele and cystocele, my design has been to shift some of the responsibility for success in these operations from the floor of the pelvis to the ligaments of the uterus and bladder, thereby invoking Nature's plan of holding organs in place by suspension. The responsibility for supporting the rectum and assisting in its function of evacuation still rests with the levator ani muscle and its fascia while the support of the uterus and bladder is shifted to their ligaments.

In the repair of the floor of the pelvis I have always laid stress upon restoration of the levator ani muscle, as the essential factor in restoring function to the floor of the pelvis and permanency of results. More recently I have been convinced that these objects can be best obtained by actual exposure and direct union of the two limbs of the levator muscle, stitching them together by buried sutures in front of the rectum, i. e., between the rectum and vagina, in accordance with the method described and practised by Doctor Sturmdorf.

So much for the dynamics of the pelvis and the restoration of the pelvic floor. We now come to the treatment of procidentia and cystocele. From the operative standpoint these cases can be divided into two classes, first, those in women during the childbearing period; and, second, cases in patients at the time of menopause or beyond. In the first class the condition as a rule is not extreme and the uterus must be preserved. It becomes necessary, therefore, to restore the uterus to its normal position and retain it there by some operation that will insure its permanency. As the ligaments are the normal supports of the uterus, they are the logical tissue to use in these operations. My custom is to shorten the round ligaments and the uterosacrals by doubling them on themselves and stitching them with silk or Pagenstecher linen, curettage and trachelorrhaphy, or amputation of the cervix, according to indications, having preceded it.

It must not be forgotten in dealing with the cystocele, that the uterus as the point of origin of the supporting ligaments and fascia of the bladder becomes an important factor in bearing its weight.

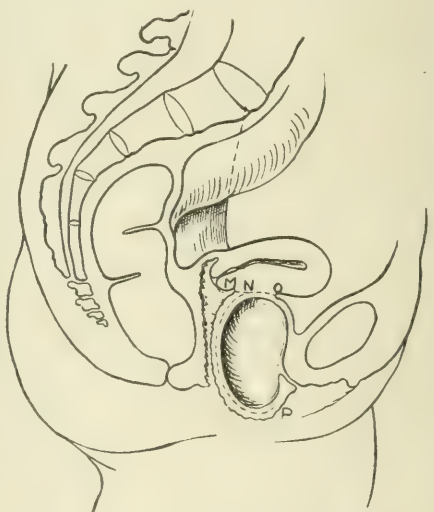


Fig. 2.—Transverse incision in vaginal section reduced from *M* to *N*. The bladder is then dissected from the uterus from *N* to *O*. A longitudinal incision is then made through the mucous membrane and fascia from *N* to *P*, and the bladder is dissected from the vagina as shown in Fig. 3.

Dickenson has pointed out that in these cases of cystocele there is a slipping of the different planes of tissue upon each other in the anterior vaginal wall, and any selected points in the base of the bladder can be seen to have slid down to a lower level. This is due to the hernia, for, in addition to the

descensus of the entire organ, there is a hernia of the bladder through the vaginal fascia.

THE OPERATION.

First the uterus is curetted, and trachelorrhaphy or amputation of the cervix performed. A transverse incision through the vaginal wall is now made in front of the cervix, and through this the

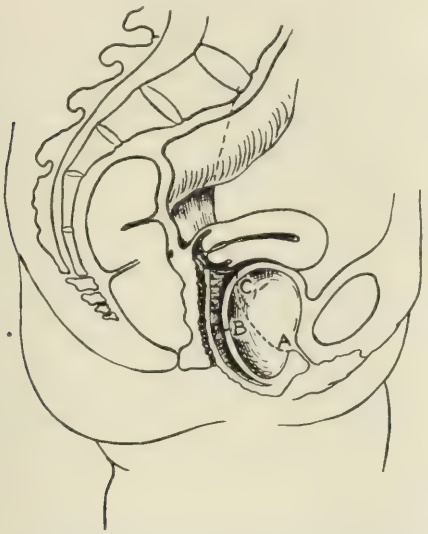


FIG. 3.—The vagina has been dissected from the bladder at either side of the longitudinal incision and the vesicouterine peritoneum torn through. Point *B* is selected, which when carried to *C*, will lift the curve *A B* to a straight line *A C*, where it is secured by suture.

bladder is dissected from the uterus up to the peritoneal reflection. The peritoneal cavity is then entered and the peritoneum at the line of reflection is torn across widely from side to side out onto the broad ligaments. The next step consists in dissecting the bladder from the vaginal wall. This is speedily and easily done by means of a dull dissector or the end of a blunt pointed scissors, the dissection extending to the urethra and reaching out to the limits of the bladder on either side, the bladder is thus set entirely free from all its inferior attachments. An incision is then made through the vaginal wall throughout its entire length from the middle of the transverse incision up to the urethra. With an anterior retractor the bladder and the vaginal flaps are lifted up behind the symphasis, and the fundus uteri turned down into the vagina. This brings the appendages into view and within reach where they can be treated surgically if necessary. The round ligaments are then shortened by doubling them on themselves and the loop made fast to the uterus at the anterior origin of the round ligaments. Three chromicized catgut ligatures, No. 2, are now passed, one through the anterior wall of the uterus at its middle point and the other two through the anterior walls of the broad ligaments, just outside the lateral margins of the uterus. These are left long and protrude through the vulva. A point is now selected in the base of the bladder, at such a distance from the urethra as when carried up to the point of insertion of the first of these three ligatures, will cause the base of the bladder to make a straight line from the urethra to the uterus. Through this the suture is passed, catching up in its course the bladder attachment of the peritoneum, where it was torn from the uterus. Two points in the base of the bladder are now selected, at either side of the first selected point and distant from an inch to an inch and a half. Through these points the lateral sutures are passed respectively. The three are then tied, beginning with the middle one. The first one takes up all the slack in the line from the uterus to the urethra, but makes a ridge in the interior of the bladder with a sulcus on either side. By tying the lateral sutures, however, these sulci are obliterated, and the base of the bladder is spread out upon the anterior face of the uterus and broad ligaments.

The overstretched fascia and wall in the anterior vagina is now cut away to such a degree on either side of the median line as when stitched together will make it fit snugly under the base of the bladder. This relieves the hernia and restores the support which the bladder receives from the fascia lata on either side. The vagina is then stitched to the uterus at points that will smooth out the anterior vaginal wall, but will not shorten it to a degree that will cause it to pull on the cervix. The transverse incision in the vagina is closed with a running suture. The floor of the pelvis is reconstructed in accordance with the method described by Doctor Sturmdorf. The vagina is loosely packed with gauze and the operation thus completed.

The cases of the second class are found in elderly women who have borne many children. These are the severest and most unmanageable cases. In the treatment of them we have the most complicated problems and the greatest mechanical difficulties. The principles of the operation are the same here as in minor cases, but their application is slightly different. Not only have the tissues in the pelvis

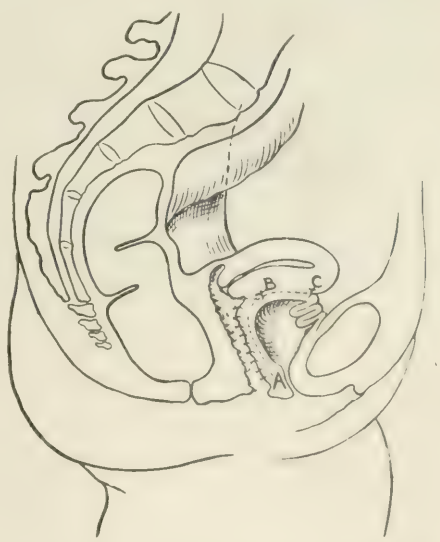


FIG. 4.—Point *C* in Fig. 3 is carried to *C* Fig. 4 and *B* to *B*. The vaginal membrane and fascia have been trimmed to fit and suture applied. The transverse incision is also closed

lost their tone, but they are atrophic, thin, friable, and therefore useless as supports. In these cases my rule is to remove the uterus by vaginal hysterectomy. In order to provide a support for the bladder and also a surface to act as a deflector of

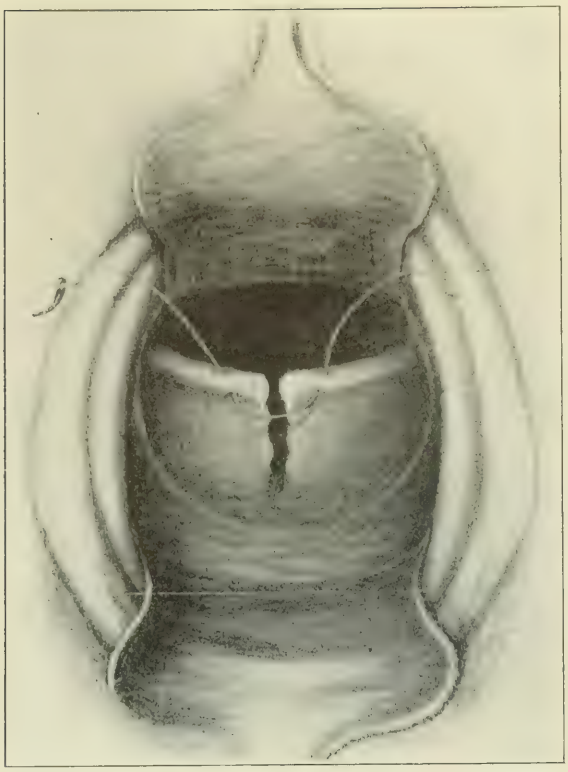


Fig. 5.—The uterus has been removed. *B B*, broad ligaments. *R R*, round ligaments. A suture of silk or linen is passed through the round ligaments at a sufficient distance from the ends to make them draw taut when the suture is tied. The suture is then continued down the entire width of the broad ligament, turning all the raw surfaces posteriorly and forming a bridge of tissue upon which the bladder is spread out and supported.

intraabdominal pressure, I stitch together the broad ligaments from the round ligaments down to their bases, taking in sufficient slack to make them draw taut across the pelvis. Upon this plane of tissue I then proceed to spread out and make fast the base of the bladder, following the same technique as in the previous cases. The anterior wall of the vagina is cut away as before, its edges are stitched together, and the upper end is fastened to the broad ligaments. In addition to the restoration of the levator ani muscle, in dealing with the floor of the pelvis in cases of extreme rectocele, I have inaugurated the plan of plicating the rectum upon itself by inserting a line of buried sutures across the anterior wall, passing the stitches parallel to the longitudinal axis of the rectum. In some instances I have passed two or three lines of such sutures, going up onto the peritoneal covering. This naturally necessitates extensive denudation of the rectum. The floor of the pelvis is then restored and colporrhaphy done throughout the entire length of the posterior vaginal wall.

RESULTS.

I have been doing these operations during the past nine years. In two instances, before I began the plication of the rectum, a high rectocele came down over the perineum and presented at the vulva. This led to my practice of plication. In no instance has the uterus or bladder failed to remain in satisfactory position. In not one of these cases has there been any infection to mar the permanent healing of the tissues. In two or three of the earlier cases there was unexpected oozing from the raw surfaces, and an accumulation of blood between the anterior vaginal wall and the base of the bladder. This condition was a source of pain and interference with the function of the bladder. It was promptly relieved by removing a stitch or two in the vaginal wall. To prevent the occurrence of this complication, it is my custom now to insert a small gauze drain between the bladder and the vaginal wall in cases that present undue hemorrhage from the raw surfaces. The drain is removed in two or three days.

In regard to interference with the function of the bladder, I must say that I know of no organ in the human body, except possibly the stomach, that permits of so much rough usage as the bladder. It is dragged and pulled about, pinched and compressed by fibroid tumors of the uterus, as well as in pregnancy and inflammatory conditions in the pelvis. It is also lifted from its normal position and landed on the back of the uterus in the operation of interposition of that organ, and yet it rarely goes on a strike, or is put out of commission.

When I began these operations I was fearful

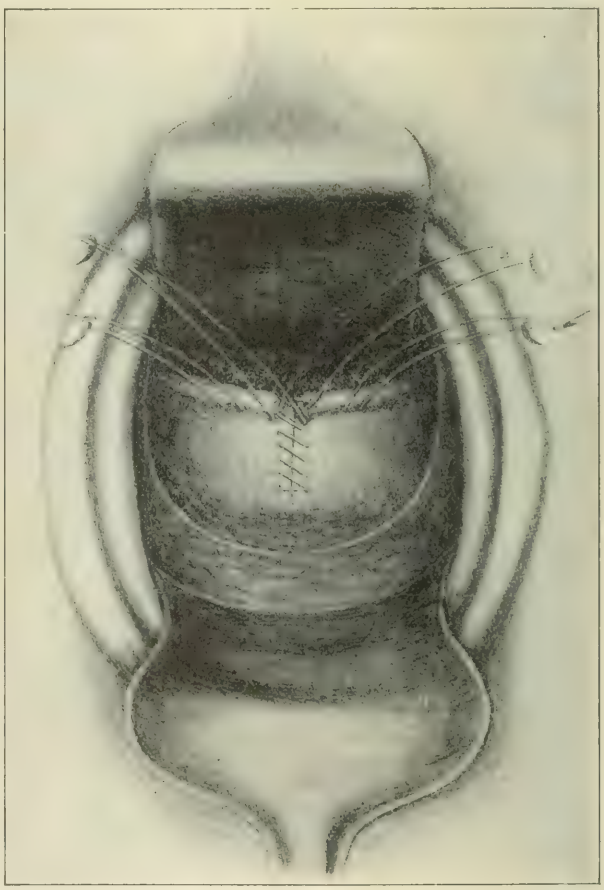


Fig. 6.—The round and broad ligaments have been sutured as previously described. Four sutures of chromic gut No. 2 are then passed and left long until all are in position. Suture *A* is then passed through the tissue in the base of the bladder at its middle point (*B* Fig. 3) and then in succession *C* is similarly passed one inch to the right of *B* (Fig. 3) and *B* one inch to the left of the same point, these sutures are then tied in succession from side to side. Suture *D* (after the longitudinal incision in the vagina has been closed) is passed through the upper end of the vagina and tied, thus securing it to the broad ligaments.

lest the bladder give a great deal of annoyance in the early stages of convalescence. In this I have been happily disappointed. Catheterization is not necessarily prolonged beyond the period required in the simpler gynecological operations. If any tendency in that direction threatens, I do not hesitate to get the patient out of bed to use the commode any time after the third day.

This operation at the present time comes into competition more especially with the operation of interposition of the uterus between the bladder and the vaginal wall. In the early stages of prolapsus, in which the cervix has not yet protruded at the vulva, that operation seems to serve very well. I have used it and found it satisfactory. The principle involved in the support of the organs in this operation is founded upon the retaining power of the uterine ligaments and the support of the perineum. If the uterine ligaments are sufficiently short to be drawn taut when the uterus is inverted into this position, then they keep the uterus within the vulva and therefore hold up the bladder which is on its back. If the uterine ligaments are sufficiently elongated to allow the uterus to protrude beyond the vulva, then, naturally, they can exert no supporting influence, and the uterus becomes simply a pad and is beneficial only on account of its bulk. It must therefore rest upon the perineum and depend exclusively upon it for support, with the exception of the supporting power of the vaginal fascia. Observation and experience have demonstrated that any foreign body, and that is what the uterus becomes when so utilized, resting directly upon the floor of the pelvis, sooner or later thins out the perineum, and robs it of its sustaining power. This is true of the use of pessaries of all kinds, especially large rubber rings or ball supports, either solid or inflated, which were at one time in vogue for the palliation of prolapsus. Dr. George B. Somers, of San Francisco, in a paper read at the last meeting of the American Medical Association, seemed to think that the uterus was in itself a support. This is not true, except as it acts as a foreign body. We must look beyond that and ask, what supports the uterus? He forgets that the uterus is itself the original offender, and the cystocele is largely the result of its prolapse. Now, as a matter of fact, in some of these cases of interposition the ligaments have not been short enough to retain the uterus, and the whole mass, uterus, bladder, and rectum, has been extruded through the vulva, and the question arises, what is the best method of shortening these ligaments? By shortening them first and then turning the uterus down? Is it not far better and simpler to take the uterus out and reconstruct a new support?

At a recent operation for interposition of the uterus, of which I was a witness, after the uterus had been turned down, the constant tendency was for the fundus to slip out through the vulva, and the operator had the greatest difficulty to keep it in while he stitched together the vaginal wall in front. Question: Did the uterus hold up the vaginal wall, or the vaginal wall the uterus? Moreover, I myself, in my series of interposition operations, have had two cases in elderly women in whom the uterus was hanging at the vulva, in both of whom the whole mass of uterus, bladder, and vagina was forced out through the vulva, inside two years after the operation. I relieved them by resorting to my own operation and secured permanent results in both instances.

The only objection that has thus far been offered in criticism of my operation, is that it is complicated and difficult. To this I submit the response, that to a skilled gynecologist nothing that promises such assured results as this operation does, should be too difficult. Of what sort of stuff is a man made who will throw up his hands in the face of an approved surgical procedure in his own specialty and say "I cannot do it, it is too difficult?"

616 MADISON AVENUE.

APOPHYSITIS OF THE OS CALCIS.

By JAMES WARREN SEVER, M. D.,
Boston,
Junior Assistant Surgeon, Children's Hospital, Boston.

There is a painful condition of the heel often called to one's attention, which always occurs in children, generally those who are over weight for their years, are physically active, and have strong muscles.

The picture is somewhat as follows: The child is usually seen on account of a slight persistent limp, with a marked disinclination to complete the



FIG. 1.—Child, aged five years; normal, no centre of ossification.

full step in walking. There is also tenderness complained of about the posterior aspect of the heel, low down, which has persisted for several weeks, or months without change. The child has usually worn a low shoe or sandal, with either a spring heel or none. There may or may not be a history of injury, but the child is generally well over weight for its years, has been very active, and is strong physically. There also may be a slight amount of pronation of the foot. That the conditions may also be secondary to undue shoe pressure on the heel from a tight or too close fitting counter I believe has not been determined.

An examination shows a moderately tender area on pressure over the posterior portion of the os calcis, deeply situated, and localized in front of the



FIG. 2.—Boy, aged six years; normal, no centre of ossification.

tendo Achillis on either side. There is invariably moderate porky thickening about the whole posterior portion of the os calcis, with some tenderness, and with partial obliteration of the hollows on either side of the tendo Achillis. The motions of the foot are all slightly limited, especially in full dorsal flexion, and any movement which tends to put a strain on the tendo Achillis causes pain. There is pain and tenderness on weight bearing when the heel is put on to the floor, but less so when walking on the toes with the heel elevated.

The disease resembles somewhat the condition known as achillobursitis, an inflammation of the bursa between the tendo Achillis and the os calcis, but is much more extensive and deep seated. There is also to be considered before making a diagnosis the condition of tenosynovitis of the tendo Achillis, and calcaneal spurs on the under surface of the os calcis. These spurs, however, rarely if ever appear so early in life. Tenosynovitis is easily distinguished by the presence of the tendon crepitus and pain referred to the tendon itself. There is also the condition where the bursa between



FIG. 3.—Small child, aged six and a half years; centre of ossification just beginning to develop.

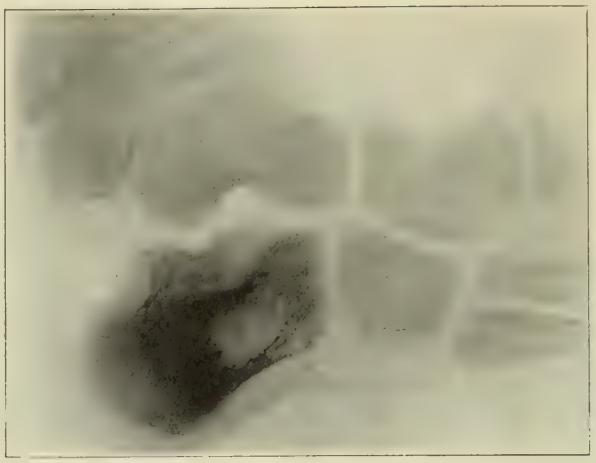


FIG. 4.—Boy with rickets, aged seven years; no centre of ossification.

the tendo Achillis and the skin of the heel is irritated from shoe pressure, which has to be differentiated. The x ray will usually clear up the question at once, but even without this the condition is fairly characteristic.

The x ray findings are of interest, and are practically constant whenever the ossification of the epiphysis is sufficiently developed to show the characteristic changes. Of course when the centre of ossification is small or not present the changes as shown in Figs. 6 and 13 cannot be seen, as may be noted by contrasting these with Figs. 9 and 2. The

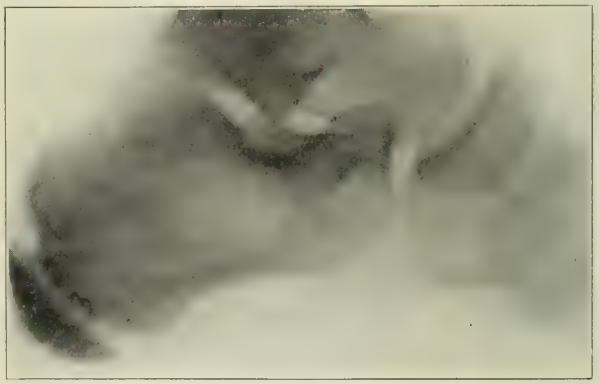


FIG. 5.—Girl, aged seven years; weight, 80 pounds; large centre of ossification; normal for this case.



FIG. 6.—Same girl as represented in Fig. 5; left foot, large, irritated epiphysis, with marked symptoms.

epiphysis is of course always present, but when cartilaginous in early life does not appear in an x ray picture. Injury to it, however, may cause the usual



Fig. 7.—Girl, eight years of age, normal size. Note large amount of normal ossification and the two centres.

characteristic symptoms. See Case V, Fig. 11. There is always to be seen in comparing the plates of the two feet an enlargement of the epiphysis itself on the affected side, both in thickness in the anteroposterior plane and also in length from top to bottom. There is also considerable cloudiness along the epiphyseal line between the epiphysis and the os calcis, suggesting a deposit of new bone, and often with a partial obliteration of this epiphyseal line. These findings are typical and constant, and never occur in any other condition. Often the condition suggests a slipping of the epiphysis, with the customary inflammatory reaction following such a condition, or epiphysitis. Similar conditions existing in the tibial tubercle have been spoken of as Schlatter's disease.[1]



Fig. 8.—A girl, nine years of age, usual size; note large centre of ossification, normal.

[1]Blencke, *Münchener medizinische Wochenschrift*, xxvii, p. 388, 1910; Haglund, *Zeitschrift für orthopädische Chirurgie*, xxvii, 4, p. 475; R. Romme, *Presse médicale*, No. 34, 1907; Schlatter, *Beiträge zur klinischen Chirurgie*, lix, p. 518.

In differentiating this condition from tuberculosis it must be remembered that tuberculosis generally attacks the anterior portion of the os calcis does not lead to bony atrophy, and is usually unilateral.

DEVELOPMENT OF THE EPIPHYSIS OF THE OS CALCIS.

The epiphysis of the os calcis may develop by one or two centres.[2] It is stated that the centres of ossification appear in the epiphysis at the ninth year on the average, and that the epiphysis is united to the os calcis either before puberty or soon after. I think that the epiphyseal ossification usually begins well before the ninth year, for in all the cases I have seen the x ray shows it developed by seven years. When the epiphysis develops by two centres of ossification, care must be taken in interpreting the x ray not to confuse the condition with that of a fracture of the epiphyseal cartilage, as may well be done (see Fig. 15).

It must be remembered, however, that children large for their age will always show greater and

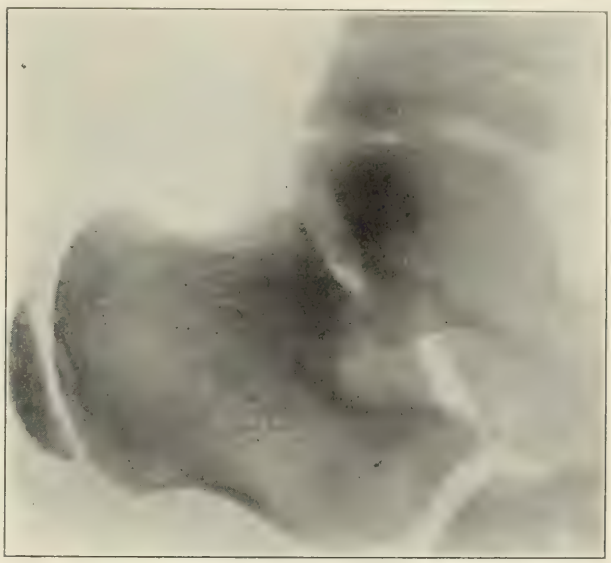


Fig. 9.—A boy, ten years of age; small centre of ossification, marked symptoms, history of trauma; note spurs on back of os calcis.

earlier epiphyseal development than underdeveloped children, or even normal sized children of the same age.

In order to show a characteristic series of the development of the epiphysis of the os calcis I had a number of x ray photographs taken of children of about the usual size for their years, with normal feet. These x ray pictures may be studied in the cuts accompanying this article. The epiphysis showing the inflammatory reaction may also be seen and compared with the normal ones of the opposite foot of the same child, taken at the same time (see Figs. 1 to 16 inclusive).

CASES.

Case I. Girl, aged seven years, weight seventy-two pounds. Had had trouble with both heels for six months. No cause known. Pain in heels and disinclination to walk, especially on first getting up in morning. Heels, tender and limp. Some swelling about posterior portion of os calcis. Child well over weight for years and very active. She was relieved of this condition for a year by

[2]Roteh, *Röntgen Ray in Pediatrics*, 1909.



Fig. 10.—Boy, ten years of age, usual size; note large centre of ossification, normal.

raising the heels of her shoes, removing the counters from them, and giving her an inside pad of sponge rubber. A year later, after a period of considerable activity, the left heel began to trouble her. At this time the examination showed considerable thickening about the region of the epiphysis of the os calcis, and the epiphysitis was demonstrated by an x ray picture (see Fig. 6, compare with Fig. 5). Weight then eighty pounds.

The treatment at this time was as follows: A Thomas heel was applied with the whole heel of the shoe raised. Hot and cold soaking was ordered for a week, and later the heel was strapped with adhesive plaster, and rubber heels were ordered for the shoes. The recovery was then rapid under this protective régime.

Case II. Girl, aged twelve years, large for age and very active. Used to wearing rubber soled "sneakers" with no heels, and low pumps with low heels. Complained of pain in left heel on walking. Very much worse after active use. Examination showed moderate thickening about epiphysis of os calcis on left. X ray pictures were taken of both feet. Compare Fig. 13, which shows epiphyseal enlargement, and Fig. 14, which shows normal foot. Foot was moved slightly in taking the x ray picture, so that the outlines are slightly indistinct.

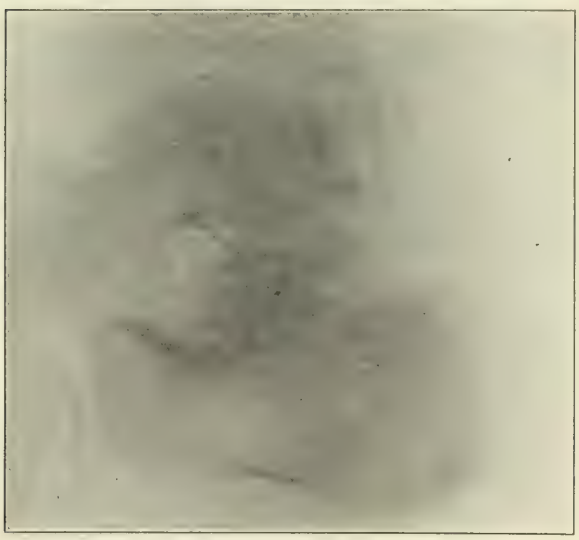


Fig. 11.—Girl, eleven years of age, atrophy of bone from plaster bandage; normal size of child; note epiphyses almost united.



Fig. 12.—A boy, twelve years of age; note normal epiphysis having developed by two centres of ossification.

This case was treated as follows: The counters were taken out of her shoes, the heels were raised, and she was made to wear a pad of sponge rubber inside the heel of the shoe. Under this treatment she was well in about six months.

Case III. Girl, aged twelve years. Duration three

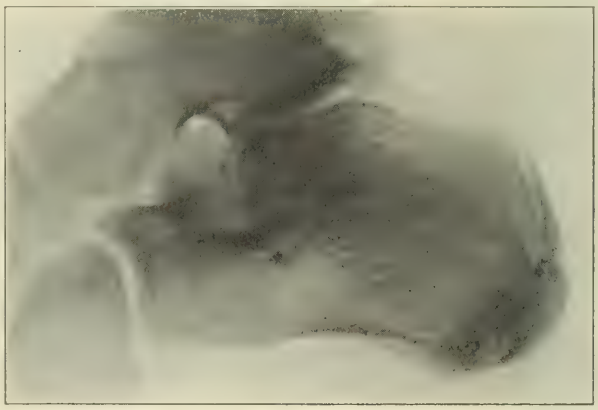


Fig. 13.—A girl, twelve years of age, large for her age; note large epiphysis; compare with Fig. 14, same case.

years. Tenderness and thickening about posterior portion of os calcis. No limp. X ray picture shows a practically normal epiphysis, which has developed by two centres of ossification (see Fig. 15).

Case IV. Boy, aged ten years, normal size for age. History of injury to heel. Right heel considerably thick-



Fig. 14.—Normal foot of girl, twelve years of age, shown in Fig. 13.

ened about region of os calcis. Motion limited in dorsal flexion. Walks with limp. Fig. 9 shows a very small centre of ossification, without the usual characteristic signs, as evidently the centre of ossification had not developed sufficiently. The heel was strapped, which gave relief.

CASE V. Boy, aged six years, usual size. History of



FIG. 15.—Girl, twelve years of age; normal development by two centres of ossification, not a fracture.

injury to heel five weeks before coming to hospital. Right foot showed a thickened and swollen condition about posterior portion of os calcis. X ray picture showed no centre of ossification of epiphysis. See Fig. 2. These symptoms were relieved by strapping the heel, and by raising the heel of the shoe and removing the counter.

There are other similar cases which could be detailed, but the foregoing ones show sufficiently the symptoms, signs and treatment at different ages.

TREATMENT.

The treatment is usually simple, easily applied, and carried out. There are two indications to be met, namely, to relieve the strain on the tendo Achillis, and to prevent undue weight bearing on the heel.

For the purposes of relieving the tendo Achillis,



FIG. 16.—Girl, twelve and a half years of age, ossification complete.

which is attached in part to the epiphysis, the heel of the shoe is raised one quarter to one half inch, and the stiff counter of the shoe is removed to prevent any pressure. Strapping the heel with several vertical strips of narrow adhesive plaster, extending around the heel and well up the leg on either side gives great relief and support. If there is much element of pronation present an eighth inch lift is put on the inner edge of the heel to tip the foot out slightly.

To prevent pounding of the heel in walking, a rubber heel is fitted to the shoe, and a pad of sponge rubber is put inside the heel of the shoe to make a soft elastic pad on which the heel may strike. In connection with these procedures hot and cold douches applied daily, electric light baking, and rest are of great additional help.

PROGNOSIS.

The duration of the condition varies greatly. There may be a complete cure in a few weeks, but more often the condition persists for several months and may recur at a later period of growth before puberty, following overuse or injury under unfavorable circumstances. Ultimately, however, the condition is cured by the fusion of the epiphysis with the os calcis.

CONCLUSIONS.

1. Apophysitis of the os calcis is not an unusual condition.
2. It may occur from muscle strain in rapidly growing children.
3. It may occur less frequently from direct trauma, but presents then the same clinical picture.
4. It never occurs after puberty.
5. The treatment is rest and protection.
6. The cure in all cases may be arrived at eventually.

234 MARLBOROUGH STREET.

EYE TRAINING FOR THE CURE OF FUNCTIONAL MYOPIA.*

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In functional myopia the eye is adjusted for near vision without permanent elongation of the optic axis, as is found in true myopia. The defective vision is usually improved by concave glasses. The diagnosis has been made with the aid of the ophthalmoscope. By the direct method the details of the fundus were seen momentarily with clearness by the normal eye. Many cases have been recognized by retinoscopy. The local and prolonged use of sulphate of atropine has not always relieved functional myopia.

Occurrence. Functional myopia occurs universally. Newborn children are afflicted. It was found in varying degrees in more than ten thousand school children, and was responsible for nearly all the eye pain, asthenopia, headaches, defective vision, irritability, not only of the children, but of the teachers as well. It was found frequently among

*Read before the Medical Association of the Greater City of New York, January 15, 1912.

farmers, day laborers, sailors, mechanics, and professional men and women. The oldest treated was aged seventy-six.

Most persons with normal eyes when they regard large objects at a distance are unconsciously functionally myopic. The eye is habitually focused for a near point, and the continuous muscular effort is often injurious. But when regarding small or large distant objects clearly or when reading the XX line of the Snellen test card at twenty feet, the normal eye was adjusted accurately for distant vision and was at rest. Simultaneous retinoscopy demonstrated the facts.

Children, when entering school, usually have normal vision. In a short time, a few weeks, they acquire functional myopia. The discomforts which school children suffer from functional myopia can be appreciated only by teachers and others who have had practical experience with these unfortunates.



Fig. 1.—A boy with normal eyes reading the X line of the Snellen test card at ten feet. Note the expression of the eyes with the focus completely relaxed.



Fig. 2.—The same as Fig. 1, regarding a picture at twenty feet. Simultaneous retinoscopy indicated compound myopic astigmatism. He was *unconscious* of the fact that his eyes were focused for a near point. Note the manifestation of effort by staring.



Fig. 3.—Functional myopia produced voluntarily by partly closing the eyelids and making an effort to read the Snellen test card at ten feet.

In one class room of forty pupils, first year children, six to eight years old, the teacher noted that at the opening of school in the Fall, all the children could see the writing or letters on the blackboard; but, before school closed in the following Spring, all, without exception, complained that they could not see the writing or letters on the blackboard from their seats, when distant more than ten feet. This had been her experience each year for fifteen years. The eyes of her pupils were first examined in the Spring of 1903; result, all had difficulty in reading the Snellen test card. Thirty were relieved almost immediately, in less than five minutes, when their eyes were tested, by showing them with the aid of the same test card how to regard distant objects without an accommodative effort. Relapses were prevented, and the remaining ten defectives cured by the teacher by exercises in distant vision with the aid of the Snellen card. This teacher afterward used the card continuously for eight years, and stated that as a result no more children in her room acquired defective vision. Her success in relieving or preventing functional myopia was also achieved by more than fifty other teachers. Numerous other benefits were observed, less headache, fatigue, and irritability. The teachers themselves found relief from eyestrain by the use of the card. The exercises in distant vision required less than half a minute daily and were not objectionable in any way, to my knowledge. A Snellen test card was placed permanently in each class room where all the children could see it from their seats, with the directions: Read daily the smallest letters you can see with each eye at more than ten feet.

Most persons with functional myopia were unconscious of the effort made to see distant objects. (See Figs. 1, 2, 4, 5.) They were benefited after they became conscious that an effort lowered the vision. (See Figs. 3, 6, 7.) One method: They were directed to regard the smallest letters they could see on the Snellen card at more than ten feet and to note their clearness. By partly closing their eyelids, by staring or otherwise making a voluntary strain, they observed that the letters became blurred. It was then suggested that they regard the card without effort. The alternate strain and relaxation were repeated until the patient was convinced that an effort to see distant objects lowered the acuity of vision; while, regarding the card without effort made the vision better. The exaggeration of the unconscious effort was usually followed by a greater relaxation of the effort to see distant objects. The simultaneous use of the retinoscope indicated improvement, less functional myopia, and the vision improved. A large amount of compound myopic astigmatism, 4.D., has been observed with the retin-

oscope in a normal eye during the time the patient made an effort to read the Snellen card with the eyelids partly closed. With each suceeding effort the myopia became less until it disappeared, and the patient no longer produced myopia by partly



FIG. 4.—Regarding the Snellen test card at ten feet with normal vision. This patient had incipient cataract. When she made an effort, unsuccessful, to read at six inches, simultaneous retinoscopy indicated +2.00 D. S., combined with +2.00 D. C. 180°.



FIG. 5.—Regarding a picture at twenty feet and making an effort to see it more clearly, simultaneous retinoscopy, compound myopic astigmatism.

closing the eyelids and making an effort to see the distant card.

Patients with functional myopia were instructed in excentric fixation: When the normal eye read one letter of the line marked XX on the card at twenty feet, the eye was directed straight to the letter. When the eye was directed to a point less than six inches to one side of the letter it became indistinct. In fact, the area of maximum vision at twenty feet is less than one inch in diameter. Looking straight at a small letter, central fixation is necessary for the best vision. Regarding an object with the eye directed to one side of it, excentric fixation, always lowers the vision. In functional myopia, excentric fixation was frequently found, either in one eye or both. Such cases were not benefited until after it was corrected. In order to teach the patient how to regard objects by central fixation he was first shown how to exaggerate it. For example, he regarded the large letter of the card with one eye, the other being covered. He was then directed to look at a point three feet to one side of the card and to note that the large letter now became less distinct. The fixation point was gradually brought nearer to the letter until he could recognize that an excentric fixation of only a few inches lowered the vision. The patient then tested the effect of excentric fixation on the clearness of the smallest letters he could see. This simple demonstration proved to the patient the necessity of central fixation in securing the best vision and was successful in relieving many cases promptly. The functional myopia was benefited.

CASE. A girl, aged fourteen years, right vision, fingers counted at four feet, excentric fixation of 45°, amblyopia ex anopsia, convergent squint, and functional myopia. The left eye was normal. She was treated in February, 1903. The excentric fixation was corrected in the right eye after she learned with the aid of the other and normal eye that perfect vision was only possible by central fixation. Eye training, with the aid of the Snellen card, was followed by daily improvement in the functional myopia until the vision became normal. She obtained binocular single vision and was cured in two weeks. The good result was permanent after eight years.

Twitching of the muscles of the eyelids occurred frequently in functional myopia. It was so pronounced in some cases that it was readily seen. In other cases it was felt by light pressure on the closed eyelids with the tip of the finger. After the patient was told of its presence and encouraged to rest the closed eyes until it had ceased, the vision improved. When the twitching returned the vision became less. After some days the twitching usually ceased and the vision remained good.

Near use of the eyes. By retinoscopy it was discovered that an effort to read by a dim light at thirteen inches or less benefited functional myopia. While the eye was reading without difficulty diamond type at thirteen inches the refraction by retinoscopy was corrected by a concave thirteen inch or 3.00 D. glass; but, when an effort was made, or the effort was unsuccessful in reading the type, simultaneous retinoscopy indicated that the focus was less and was corrected by concave 2.50 D., 2.00 D., 1.00 D., or by a weak convex glass (usually at 180° only)—in some cases of functional myopia one or more meridians became normal. When tested with the distant Snellen card immediately afterward, the vision was improved. Repeated efforts to read by a dim light, at thirteen inches or less, fine print, Jaeger No. 1, was a great benefit.

Mrs. X. visited the eye clinic of the Amity Dispensary one day last summer. Her object was to investigate the cause of myopia in school children. She was first shown the use of the retinoscope. A boy, aged ten years, was sent by a school inspector to obtain glasses. He had a vision of one fourth the normal. With a concave 2.00 D. S., his vision





FIG. 6.—A man, aged thirty-six years, 1902, wearing glasses for the correction of functional myopia. Homatropine did not relax the focus. Note the appearance of effort in his eyes. He was relieved in 1904 by exercises in distant vision and obtained normal sight without glasses.

FIG. 7.—The same in 1909. No relapse.

was normal. Mrs. X. used the retinoscope while the patient was trying to read the Snellen card at ten feet, and found him myopic. The patient was urged to try to see better at the distance, to read the smaller letters of the test card, and he did make

very evident efforts to see better by wrinkling the skin of the forehead, by partly closing the eyelids, by staring, and by looking sidewise at the card, excentric fixation. He became convinced that with all his efforts he not only did not improve his sight but he made it much worse. He was then told that he would see better if he looked at the card without making an effort. After a little encouragement he obtained normal vision. While he was reading the card with normal vision, Mrs. X. used the retinoscope, which now indicated no myopia. The time required to relieve this boy of functional myopia was less than fifteen minutes. To prevent a relapse the patient was given a Snellen card with directions to read the small letters at more than ten feet with each eye daily. Mrs. X. observed other and similar cases relieved.

We had a talk, the substance of which was that I should cure functional myopia in school children after some well known and competent physicians had made the diagnosis. She emphasized the importance of this plan to test the facts I claimed.

Mrs. X. was wearing glasses, concave 1.00 D. nearly, with astigmatism, prescribed by a competent ophthalmologist who had used a cycloplegic to relax the accommodation. Her vision with the glasses was nearly normal. Without glasses her vision was about one third. She had myopia apparently with the retinoscope, but spasm of the accommodation or functional myopia by the direct method with the ophthalmoscope. She was told that a cure without concave or other glasses was possible.

"How long will it take?" she asked.

"About five minutes," was my reply. She was asked to read the Snellen card at ten feet and to note her ability to see. Then she was directed to read it by making an effort and shown how to make an effort by partly closing the eyelids, by staring, etc., in short, to imitate the efforts of the children she saw treated. She was convinced that the effort materially lowered the vision. It was explained to her that her poor vision was caused by a continuous effort which was unconscious. The suggestion was then made that she read the letters on the distant card without trying so hard. The vision improved immediately and became normal in a short time. Her sight was now better without glasses than it had been before with glasses. She was quite excited over the prompt relief.

A number of physicians have visited the same clinic, diagnosticated functional myopia with the aid of the retinoscope, and observed its prompt relief by eye training with the aid of the Snellen card.

The maximum amount of functional myopia under atropine cured by eye training without glasses was 2.50 D.

CONCLUSIONS.

1. Functional myopia occurs frequently.
2. All normal eyes acquire functional myopia by improper efforts to see distant objects.
3. School teachers, physicians, and others have relieved functional myopia by eye training or education.
4. The Snellen test card is found to be the best distant object for training the eye for the cure of functional myopia.

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THE MECHANOTHERAPEUTICS OF MUSCULAR TORTICOLLIS.

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For general purposes of classification, two main varieties of torticollis may be distinguished, the muscular and the spasmodic. By muscular torticollis is meant the deformity due to actual shortening of one or more of the muscles of the neck on one side of the body; it is probable that in the great majority of cases the sternomastoid is the first muscle to be affected, secondary shortening occurring later on in other muscles, such as the trapezius, short lateral flexors, etc. By spasmodic torticollis is meant a condition of chronic or tonic spasm of some of the muscles of the neck, due in most instances to some lesion of the nerve cells supplying the muscle; the sternomastoid is almost always involved, generally unilaterally, but occasionally bilaterally.

This paper is intended to deal specifically with the subject of chronic muscular torticollis; none the less, the principles laid down and the conclusions deduced are largely applicable to the spasmodic variety.

In muscular torticollis the pathological condition results from one muscle or group of muscles being stronger than their antagonists, this increase in strength being absolute as well as relative; this is accompanied by increase in the tonus[1] of the stronger muscle or muscles.

Whether the condition is caused primarily by one muscle becoming absolutely stronger, or by the opponent becoming absolutely weaker, is a point of interest, but, as far as the ultimate result is concerned, is immaterial.

Desequilibrium of muscular antagonism is established; and in every case the object of mechanotherapy is to restore the equilibrium, whether such treatment be prescribed either as a cure without operation, or as a preoperative or postoperative measure.

On consulting different standard textbooks of surgery, it will be found that the directions given for the application of mechanotherapy in the cases referred to are various and contradictory, and in many cases quite vague. A comparison of the following extracts will make this very evident:

Hoffa, A., *Lehrbuch der Orthopädischen Chirurgie*, 1898, p. 205, advocates massage of the affected side and manual correction of the deformity. After operation, massage of the neck muscles and correction.

Pick, T. P., *Surgery*, 1899, p. 1106 "It may be possible to correct the deformity by manipulation, massage, and some form of elastic apparatus."

Keetley, *Orthopedic Surgery*, 1900, p. 217. "When after birth, a child is found to be suffering from an injured sternomastoid, the muscle should be frequently and gently rubbed by the nurse . . . and every day the head should be, for a few minutes, slowly and gently bent away from the shoulder of the side affected, while the face is turned towards the same side."

Cheyne and Burghard, *Manual of Surgical Treatment*, Part VI, Section i, 1902, p. 130. After the operation "in

[1] Bienfait is one of the few who has laid stress on this point in his article on torticollis, *Allgemeine Wiener medizinische Zeitung*, liii, 152-153, 1908.

ten days the stitches may be taken out and the wound will be healed, and manipulations, massage, and voluntary movements of the muscles can be recommended."

Gould and Warren, *International Textbook of Surgery*, 1902, Vol. II, p. 119. "In the slightest form of the malady and in its earliest stages, particularly when it has resulted from inflammation beneath the sternomastoid, careful friction of the side of the neck (massage) and active and passive movements of the head will be sufficient."

Von Bergmann and von Bruns, *A System of Practical Surgery*, Vol. II, 1904, p. 32. "Treatment . . . consists of light massage of the affected side of the neck and correcting motions that are intended to bring the head little by little toward the healthy shoulder."

Bradford and Lovett, *Treatise on Orthopedic Surgery*, 1905, p. 400. "Massage and passive manipulation are of value in mild cases in connection with mechanical treatment" (i. e. appliances).

Koenig, F., *Lehrbuch der speziellen Chirurgie*, 1904, p. 569, admits that systematic stretching of the head to the mid position can do good.

Ashby and Wright, *The Diseases of Children*, 1905, p. 782. "In slight cases in quite young children regular daily stretching and manipulation of the rigid muscles may suffice. . . . In all cases of wry neck steady and regular attempts should be made to remedy the distortion; friction and steady stretching of the neck with the hand should be tried, and the child made to practise, before a looking glass, trying to hold the head straight."

Walsham and Spencer, *Surgery, Its Theory and Practice*, 1906, p. 735. The exercises for torticollis are stated as consisting of passive and active movements in direction opposite to the deformity.

Young, *Manual and Atlas of Orthopedic Surgery*, 1906, p. 697. The postoperative treatment involves "massage of all the muscles of the neck and the gradual but forcible manipulation of the head in such a manner as to stretch the formerly shortened muscles and to strengthen the weaker muscles." Other exercises are described for posterior torticollis with rotation of the head to the right; "in small children the patient may be placed between the knees of the surgeon and the head may be gently but firmly corrected from behind."

Corner and Pinches, *Operations of General Practice*, 1907, p. 91. "Division of the sternomastoid is insufficient for success; the operation having to be followed by a course of exercises and massage, to render the divided muscle strong and useful."

Whitman, *Treatise on Orthopedic Surgery*, 1907, p. 654. "Congenital torticollis, if of a moderate degree, can be overcome in early infancy by methodical stretching of the contracted parts. One person fixes the arm and another draws the head gently but firmly in the direction opposed to the contraction, over and over again, meanwhile massaging the tissues of the neck."

Hochenegg, *Lehrbuch der speziellen Chirurgie*, 1907, p. 433, recommends passive correction of the deformity, followed by active overcorrection of the deformity.

Thomson and Miles, *Manual of Surgery*, 1907, p. 240. "When the condition is recognized early, it may be possible to correct the deformity by forcibly stretching the muscle under anesthesia and fixing the neck in a rigid apparatus. Prolonged treatment by massage, exercises, and electricity is necessary."

Park, *Principles and Practice of Modern Surgery*, 1908, p. 458. "Those forms of wry neck which are due to contraction of muscles infiltrated from the presence of neighboring phlegmons, will usually subside with massage and semiforcible stretching under an anesthetic."

Keen, *Surgery, Its Principles and Practice*, Vol. III, 1908, p. 288. "Nonoperative treatment is not to be condemned as useless, although it commonly fails to cure. . . . The value of orthopedic appliances and of manual correction is chiefly as an adjunct to operative treatment."

Rose and Carless, *Manual of Surgery*, 1908, p. 430. "When torticollis is due to congenital or tonic contraction of the muscle or its tendon, massage and manipulation may be first tried, or even some form of mechanical apparatus."

Bryant and Buck, *American Practice of Surgery*, Vol. IV, 1908, p. 773. In the case of rupture at birth "turn the face towards the opposite side—that is in the direction which will put on stretch the contracted muscle. This should be repeated several times daily, massage of the stretched muscle being employed at the same time." Later on, when the deformity is well established "attempts at stretching, either by manipulation or by extension . . . are absolutely useless."

Haubold, *Preparatory and After Treatment in Operative Cases*, 1910, p. 374, recommends "massage and passive motion destined to overcome the malposition of the cervical vertebræ," and gives the illustration in von Bergmann's textbook (referred to above).

Spencer and Gask, *Practice of Surgery*, 1910, p. 515. "Treatment: Manipulation in infants; the mother should flex the head laterally to the sound side, and turn the chin towards the diseased side several times a day."

From the foregoing it can be seen that for torticollis are recommended all varieties of massage pure and simple, various active and passive manipulations, purely active and resisted exercises; and by some they are prescribed for the contracted muscles, by others for the weakened ones, and again by others for both sets. This is in itself sufficiently confusing; and matters are still further complicated by the fact that hardly any author gives details as to the actual execution of the movements referred to.

The question now arises, what is the physiologically correct method of restoring the muscular equilibrium? The reply is: Increasing the power of the weakened antagonists until they are as strong as the contracted opponents (or if osseous change have taken place, until they are even stronger, i. e., overcorrection of the muscles). And the best of all the mechanotherapeutic methods that can be used to achieve this end is, in my opinion, the Swedish manual treatment.

The movement cure in its modern aspect dates back to the days of the Swede, P. H. Ling (1776-1839) who founded the Royal Central Gymnastic Institute, in Stockholm, in 1813. The curative treatment of various deformities by means of medical gymnastics has been steadily practised in Sweden for the last century, and torticollis has been one of the deformities that was considered amenable to it. Thus it is mentioned in Branting's yearly report for 1840 (*Efterlemnade Skrifter*, 1882, heft II, p. 157 [case 232]); Neumann's *Die Heilgymnastik*, 1852, pp. 120, 151; Sätherberg's yearly reports from the Gymnastic Orthopedic Institute, for 1859 and 1868; Ulrich's yearly report for 1857, p. 26, and *Beiträg zur Therapie der Rückgratsverkrümmungen*, 1860, p. 69.

P. H. Ling's original system has in the course of time undergone a certain amount of modification and improvement; the names that stand out most prominently in connection with these further developments are Ling, Junior (1820-1886), L. G. Branting (1799-1881), and H. Kellgren (born 1837). The detailed description given below is on the lines of the method laid down by H. Kellgren, and as far as I know no such description has appeared in this connection in print before. I should here state that apart from a list of gymnastic exercises applied to Branting's case, but very few actual details of technique on the mechanotherapeutics of torticollis can be found either in the Swedish works just referred to or indeed in any treatise on massage or medical gymnastics. It is therefore very difficult to state exactly how far the methods of H. Kellgren differ from those of other practitioners; but it can safely be said that whereas his method

of applying resisted exercises is essentially the same as that advocated by Branting, his nerve treatment is to all intents and purposes an elaboration of his own.

As regards local treatment the following are the chief exercises, active and passive, that can be employed:

1. Resisted exercises for the weakened muscles.
2. Manual stimulation for their nerves of supply.
3. Purely active movements for the weakened muscles.
4. Pétrissage, friction, etc., of the weakened muscles.
5. Passive stretching of the contracted muscles.

Into general (constitutional) treatment I need not enter here.

1. *Resisted exercises.* In order to give the weakened muscle the best chance of contracting, it has to be elongated as much as possible within the physiological limit, for the greater the absolute length of a muscle within this limit the greater will be its absolute power. Not only this, but also the elongation of the weakened muscle will diminish the tonus of the contracted muscle directly through absolute shortening, as well as reflexly, owing to the physiological principle that activity in a muscle inhibits the tonus of its antagonist. Now the way to elongate the weakened muscle is simply *passively* to increase the deformity. Let it be presumed that it is required to deal with a case of torticollis where no apparent gross lesion is present to irritate the sternomastoid, but where the latter muscle on the left side is in a state of contraction, the corresponding muscle on the right side being weaker, and let it be assumed further that no other muscles are affected. The effect of this contraction will be to flex the patient's head to the left, extend it backward, and rotate it to the right so that the face looks upward and to the right. The operator then proceeds to increase the tension in the right muscle by passively increasing the deformity; this is achieved in the case supposed by the operator flexing the head still more to the left, extending it still further backward and rotating it still more to the right at the same time lifting the head away from the trunk in the direction of the component of the three movements mentioned. This having been done to the maximum extent within the physiological limit, the head is then in such a position that the right sternomastoid (the weakened one) is passively elongated to its maximum, the left one (the stronger one) being passively shortened to its greatest extent. Then the patient is directed to turn the head in the reverse direction to the one in which the deformity was passively increased, i. e., he must flex the head to the right, flex it forward and rotate it to the left; by this means he will put into action the right (weakened) sternomastoid. During the patient's efforts the operator applies just so much resistance that it can be overcome by the former's efforts. The patient continues the movement until at last the contraction of the right muscle is equal to the pull of the left; by this time the resistance from the operator, which has gradually diminished, has been reduced to nil. Further continuation of the movement is, however, rendered possible by the operator passively stretching the left sternomastoid while the patient tries to contract the right muscle still further, i. e., the final stage of the movement is done with assistance. The aim of this assistance is, first, to obtain the maximum amount of active shortening in the weakened muscle, and, second, because, though the muscle could not, unaided, contract to assume that position, yet, when placed in it, can offer considerable resistance to an opposing force. This fact is made use of in the second stage of the exercise, i. e., the reverse movement, back to the original position, which is then performed by the operator, the patient resisting meanwhile. The muscles involved are identical with those involved in the first half of the movement.

The effects of the foregoing exercise are as follows:

A. The weakened (right) muscle will have its circulation (arterial, venous, and lymphatic) promoted; its growth, tonus, and absolute relative power will be increased; its nervous supply will be educated to more rapid and improved action.

B. The contracted (left) muscle will have its relative power diminished; its tonus will be lessened directly and reflexly, and it will be submitted to an ever increasing stretching force as the right one increases in strength.

To sum up: The right muscle increases in strength relatively and absolutely; the left muscle decreases relatively and absolutely. In other words, the tendency is for muscular equilibrium to be restored.

With regard to infants, it is of course impossible to get them to perform voluntary contraction against resistance of say one sternomastoid; but such a contraction can be brought about by applying irritative manipulations to that muscle in the shape of sharp friction or rapid deep pétrissage, or even tickling over it. Passively increasing the deformity, if done a little jerkily, is sometimes sufficient in itself to cause the weakened muscles to contract in consequence of their being suddenly stretched.

For the sake of illustration I have in the preceding description assumed that the contraction is only in one sternomastoid. Whether this is actually the case, or whether other varieties of contraction have to be considered, the fundamental principle for the treatment by resisted exercises is the same, i. e., first passively increase the deformity, then apply resisted exercises for the muscles that perform the reverse movement. Thus, if contraction of the left lateral flexors is present, passively flex the head still more to the left and induce the patient, against resistance from the operator, to use the muscles that flex it to the right. If contraction of the left trapezius is present, passively bend the head still further back and to the left, and then get the patient, against resistance from the operator, to use the muscles that flex the head forward and to the right.

In the accompanying four illustrations, the patient is depicted as being in a sitting position; but, if necessary, other initial positions may be adopted, and various movements can be executed on the same muscles instead of only the one type detailed. Every physician skilled in mechanotherapy will

readily be able to work out the exact sequence advisable for himself.

From the foregoing it can be seen that to apply resisted movements to the *contracted* sternomastoid is exactly what should not be done, inasmuch



FIG. 1 shows the position of operator and patient in the resisted exercise for the weakened right sternomastoid.

as it will further increase the power of the contracted muscle, further increase the disorder of antagonism between it and the opposing muscle, and further increase the deformity.

2. *Manual stimulation for the nerves of supply of the weakened muscles.* This is applied in order to stimulate the motor nerves that supply the muscles that are weakened. The method adopted is that of "nerve friction." The method is briefly as



FIG. 2 shows the position for the final stage of the resisted exercise for weakened left flexors of the head.

follows: The nerve to be treated is first located exactly by means of topographical anatomy, aided, when feasible, by the sense of touch; any muscles, etc., overlying the nerve must be uncontracted and relaxed. The finger tips are then placed on one side of the nerve, as much as possible at right angles to its long axis, and then (the intervening structures moving as one with the finger tips) the latter are drawn sharply across the nerve, the amount of pressure being increased meanwhile. This is repeated several times, and each time the nerve in question is set into vibration and mechanically stimulated.[2] Thus, in the case of contraction of one sternomastoid, such frictions are applied over the



FIG. 3 shows the position at the commencement of the resisted exercise for the muscles that rotate the head to the right.

spinal acessory nerve after it has passed through the muscle on its posterior border.

Frictions on the sensory nerves over the muscles



FIG. 4 shows the grip of the patient's head (of Figs. 1 and 3) from the lateral aspect.

can also be employed reflexly to increase the tonus of the underlying muscles.

3. *Purely active movements.* By these are meant voluntary efforts of the patient himself, without

[2]Further details on how to apply friction to nerves can be found in NEW YORK MEDICAL JOURNAL, [illegible], and *Post-Graduate Clinics*, 1912.

external aid or resistance. These may be carried out in various positions, in order to correct the deformity; but they should not be practised unless in conjunction with resisted exercises, because by themselves they accomplish but very little. In such a case as the one assumed (i. e., contraction of the left sternomastoid), let it be supposed that the patient, standing in front of a looking glass, endeavors by his own unaided efforts to correct the deformity. In order to do this, the right sternomastoid must be put into action. However, it will do very little genuine work until it encounters a resisting force, and the only one it will encounter is the opposing force of the left sternomastoid.

In other words, the exercising of the right muscle is only done simultaneously with the exercising of the left one, because the latter will tend to contract as soon as the tension from the pull from the former becomes too great. With resisted exercises, applied to the right muscle, the case is essentially different. From the very commencement of the movement, the right muscle contracts against the maximum resistance within the physiological limit, the left muscle, however, remaining slack and inactive. If desired, the operator may limit the actual excursion of the movement that takes place, so that the left muscle never even gets sufficiently stretched to be inclined to contract. Then the right muscle is powerfully exercised, while the left one is kept passive and in a state of absolute inactivity.

4. *Pétrissage, frictions, etc., of the weakened muscle.* As stated above, these manipulations may sometimes be employed with infants in order to induce contraction of the muscle. Otherwise, if employed at all, they are to be applied shortly and sharply, and for only the space of a few seconds. To apply superficial massage with the use of petrolatum or similar agent is to be condemned, inasmuch as this results in massage of the skin, leaving the underlying muscles practically untouched. The beneficial physiological effect induced by them is so small compared with that obtained by resisted movements, that the latter should, as a rule, entirely replace them. They may, however, be employed in order to induce a preliminary stimulation before attempting the resisted movements.

In connection with this it must be pointed out that massage and similar manipulations of one muscle or set of muscles reflexly inhibits the tone of their antagonists (Sherrington).

To apply such manipulations to the *contracted* muscles would be almost as great a mistake as applying resisted exercises to them, inasmuch as this would strengthen the contracted muscles and increase the deformity. An exception to this rule must be made when we are dealing with an extravasation, etc., which is to be dispersed.

5. *Passive stretching of the contracted muscles.* This may be applied in order to break down adhesions, etc., but otherwise should be employed only during the actual performance of resisted exercises for the weakened antagonists, or as a preliminary to the latter. It should not be employed alone to the exclusion of the latter, as either the effect will be a detrimental one or will be nil, depending upon the way in which the stretching is performed, as can be seen from the following:

A. Very carefully and gently, so that no contraction of the muscle takes place during its extension. The effect of this is that the muscle will almost immediately after the stretching return to its original length; the condition will be unchanged.

B. With rather more energy, but relaxing the stretching force if the muscle commences to contract. The result is either a return to the original state (see A), or a slight intensification of the deformity through repeated contractions of the sternomastoid, which latter, however, is only slightly strengthened, inasmuch as it does not contract against resistance.

C. With force, so as to overcome the contractions that arise in the sternomastoid. If this is done, there is set up a condition in which that muscle is working to its fullest extent. This is in accordance with the physiological principle that the greater the force opposed to a muscle, the more will the muscle contract in order to overcome that force. Therefore such forcible stretching of the contracted muscles of torticollis is the surest and most efficacious method of strengthening such muscles and thereby still further increasing the disturbance in muscular antagonism.

I have entered at considerable length into the mechanotherapeutics of torticollis in order to try and remedy the somewhat confused condition of ideas concerning it, and if what I have said has in any way aided to clear up the point, I feel I shall not have written in vain.

4 Craven Hill, Lancaster Gate, W.

FRAGMENT OF GLASS IRRIGATING NOZZLE REMOVED FROM THE BLADDER WITHOUT OPEN OPERATION.

By Victor C. Pedersen, A. M., M. D.,
New York.

The following case may be of interest in illustrating the risk of using glass irrigating nozzles for connection with metal instruments about the cavities of the body.

A colleague in a suburban town telephoned me that he had broken off, in a cystoscope, the tip of the glass irrigating nozzle, and washed it into the bladder of a man during ordinary preparation of the bladder for cystoscopy. Upon my inquiry, he stated that he had seen the fragment with the cystoscope, and had, by filling the bladder, endeavored to have it washed out spontaneously. There had been no bleeding following the accident.

I requested him to bring the patient into town at once without further intervention, but prepared to enter a hospital for operation, if simpler means failed to extract the offending fragment.

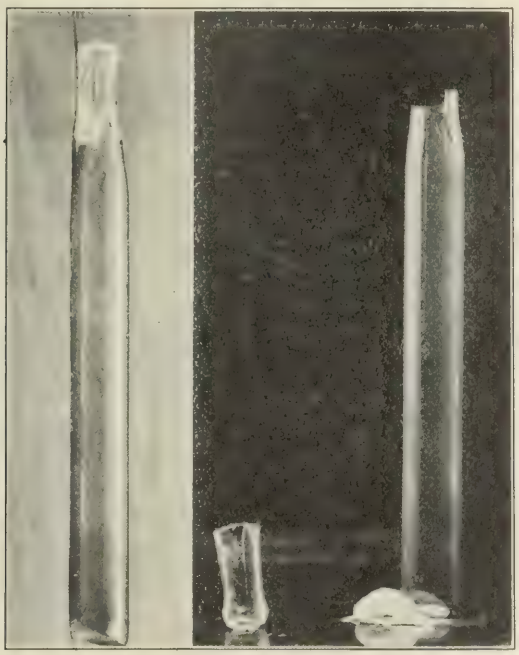
Upon arrival I verified his previous statements, and concluded that, in as much as we were dealing with a more or less sharp fragment, as indicated by the large piece of the tip which he had brought, it was wiser not to subject the bladder to another cystoscopy for fear of stirring up various reflex renal phenomena, too well known to need mention.

The calibre of the urethra was 30 F. I therefore took the 28 F. size of Chismore's evacuating

instrument, filled the bladder to the utmost capacity without pain, attached the suction bulb and began to pump. To my delight, the fragment was felt to fall into the receiving bottle with the third suction.

The bladder was then washed and filled again to the full limit with warm boric acid, which the patient evacuated, thus cleansing the bladder and urethra completely. No unfortunate results of any kind showed immediately or remotely, in fact it is now eight or nine months since the incident occurred, and the physician has informed me that the patient is in every way well.

The photographs show the tip and the fragment assembled and separated. The happy outcome of the case through management so simple, seems to excuse its publication. It is hoped that



Fragment of glass irrigating nozzle, found in bladder, connected and separated.

this little experience will be of service, first, in indicating the danger of endeavoring to use glass for connecting with metal instruments; second, in suggesting the great usefulness of an instrument like Chismore's evacuator in recovering small foreign bodies from the bladder.

45 West Ninth Street.

NOTES ON CONDITIONS RESULTING FROM RITUAL CIRCUMCISION.

By Frederic Bierhoff, M. D.,
New York.

Although the rite of circumcision is supposed to be performed by experts in this line of work, accidents and infections are not uncommon. In quite a number of cases the conditions resulting from these accidents have come to my notice in the adult. One of the commonest consists in the amputation of a small slice of tissue at the tip of the glans penis, and results from the omission to employ a shield at the time of the operation. It is a custom of a large number of the *mohels,* who perform this rite, to grasp the prepuce between the fingers of the left hand and at the same time press back the glans penis. The cutting is then done with one sweep of a large, very sharp circumcision knife, under the fingers. Thus, not infrequently, a bit of the glans is amputated along with the prepuce.

Of late years an increasing number of these *mohels* are making use of the circumcision shield, and that is, perhaps, the reason why, when we now meet this condition, it is usually in adults. The only result is a cicatricial contraction of the meatus, and this is usually easily remedied by a simple meatotomy. It stands to reason that the simplest measure of prevention is the general use of the circumcision shield. The careless performance of this rite may, however, lead to more serious injury, as in the following case—the only one of its kind of which I have any knowledge:

At the time of the ritual circumcision upon the patient in question, during his early infancy, the *mohel* had, in performing the operation, passed his knife about the body of the penis, a short distance behind the sulcus coronarius, completely severing the corpus spongiosum and the urethra, and cutting partly through the corpora cavernosa. At the time that I saw the patient, he was an adult, and the conditions presented were as follows:

The scar of the circumcision was at a point one half to three quarters of an inch behind the sulcus, and there had been no union of the divided ends of the urethra. It was necessary for the patient, when urinating, to grasp the glans penis and bend it out of the way of the urinary stream. Copulation was not interfered with, and, at the time that I saw the patient, it was to treat him for a gonorrhea. The infection was present in the anterior, or divided section of the urethra, and, also, in the posterior section, and had extended to the prostate. Treatment consisted of irrigations and injections, and massage of the prostate, the patient injecting himself through the anterior section, and, after this, injecting into the posterior section, in which the solution was then held.

A peculiar condition was noticed during treatment—the application of the solution of the same strength to the two divisions of the urethra, was followed by a very severe reaction in the anterior half, the posterior reacting normally. Severe edema in the anterior half of the glans, accompanied by a severe dermatitis, was noticed, requiring the application of cooling and astringent lotions. Otherwise the progress of the case was normal. The patient has since married and become a father.

Another condition not infrequently met with is the persistence and organization of preputial adhesions. These are met with in the form of single or multiple bands of tissue, connecting the prepuce and glans. They are the result of carelessness of the *mohels* in omitting to search for and break up, at the time of the circumcision, the delicate adhesions so frequently met with in infants. They may vary in extent from narrow bands of tissue to broad

strips from one half inch to one inch in width. I have almost invariably found them on the dorsal surface of the organ, and seldom laterally. They do not interfere in any way with erection or copulation, and their greatest significance is that they may harbor collections of smegma and become the starting point of inflammatory processes. Their removal is generally a simple matter, although, where adhesions have broad insertions upon the glans, the hemorrhage may not be inconsiderable. The procedure which I have employed in removing them, is to pass a grooved director through the passage which usually persists at the sulcus coronarius, and to first divide the adhesion upon this, or, if the canal be too small to permit of the passage of a director, then to substitute for this a probe of the size which will pass. After the adhesion band has been divided the surface of the organ lying under the adhesion is again cleansed. The anterior flap is divided from the glans by an incision which passes as close to the surface of the glans as possible, and which keeps, as nearly as possible, in the plane of the surface of the glans. The posterior flap is amputated at its junction with the remains of the prepuce, and the wound closed by sutures. It is my custom to amputate the preputial, or posterior flap, before proceeding with the anterior, since the bleeding from the anterior flap is apt to be considerably greater than that from the preputial. This hemorrhage may usually be controlled by pressure. The subsequent treatment consists of the application of the usual sterile dry dressing, or an aristol or glutol dressing is applied.

10 West Sixty-first Street.

TREATMENT OF CHRONIC DISEASES AT SPAS. PARTICULARLY WITH REFERENCE TO THE MODERN CONCEPTION OF RADIUM EMANATION.*

By G. A. Persson, M. D.,
Mount Clemens, Mich.

It is with no little pleasure I express my appreciation for this opportunity of being your guest, and I will attempt to discharge my responsibility by calling attention to a subject somewhat apart from the medical topics which are daily before you and freely discussed at your meetings.

In choosing material for this address I have been led by the presumption that you would prefer, in this instance, something regarding the treatment of patients at mineral springs, which is a part of therapeutics that the physician very rarely hears anything about. Yet it is of great importance, which will be realized if it is taken into consideration that more than half a million people avail themselves annually of such treatment in this country.

The aid of the home physician in selecting a health resort for patients.—When a patient suffering from tuberculosis seeks aid from the family medical adviser in selecting a place where climate might be of benefit, the doctor has in mind many localities or sanatoriums that can be suggested, some of which have well known specific advantages over the others; in such instances it is therefore not difficult to decide upon the most suitable place for the patient in question. It is different when a rheumatic patient, who has resisted faithful and long extended treatment, calls for instruction where to go or what to do for his condition. The attending physician finds himself then quite at loss for an answer. True, he has heard the names of Hot Springs, Mudlavia, Mt. Clemens, and other resorts frequented by this class of patients, but what treatment will there be administered or the physiological effects such treatment would have upon the particular patient now in question, are circumstances with which the doctor has had little opportunity to become familiar.

For these reasons it can readily be explained why many strangers arrive at our resorts without the guidance of the family physician, which is very unfortunate.

Patients who anticipate visiting mineral springs for the purpose of taking baths should first consult their physician at home; he, in turn, if not already familiar with the action of mineral waters, should apply for information to some physician located at the resort considered.

Patients who cannot receive benefit from treatment at spas are frequent visitors.—There come daily under our observation, patients who cannot hope to be benefited by any application of the waters. This fact would have been told the patient by the physician at home had he been familiar with the therapeutic effects of the mineral baths, and a saving of both the inconvenience and expense of a long journey would in such instances frequently be accomplished.

What are the conditions that govern patients in their patronages of health resorts? Doctor Osler says that much of the humbuggery of the medical profession still lingers about mineral springs. It is indeed a humiliating acknowledgment, one however that is true when applied to this country, that the treatment at health resorts, particularly mineral springs, is largely recommended much in the same fashion as patent medicine.

The commercial managements of bathing establishments cater principally to the laity and for the gain of patronage there is little hesitancy on their part to display advertising matter containing claims that can rarely be fulfilled. This is a deplorable state of affairs, one which causes much regret, and there are two good reasons for just such condition; first, the fact that, notwithstanding the circumstance that mineral waters have for centuries been used in treating certain diseases, the pharmacological effects of such waters have never been scientifically understood; second, practising physicians have never taken the time or trouble to learn the few facts that are known about treatments at spas.

Past and future practice of balneology. Gloomy as the past records of balneology may seem when we look back, I believe it is entirely within the limits of conservatism to predict a much brighter future for this important branch of medicine.

*Read, by invitation, before the Ashtabula Medical Society, at Ashtabula, Ohio, December 5, 1911

We can even to-day with gratification and real pleasure direct our attention to the brilliant work along this line that has been done in Germany, England, and France during the last four years.

Up to that time the method of treatment even at the famous spas of Carlsbad, Baden-Baden, Nauheim and other resorts consisted in the mere routine procedure of giving all patients a bath in these "priceless" waters, but with the bath went many a tale of wonderful cures that had been effected.

In the way of real explanation of how the waters acted, it was only found necessary to say that the "minerals in the water were absorbed by the skin, thus gaining entrance into the body, bringing about all desired results." It appears truly remarkable when we stop and consider that such extensive and prosperous enterprises as are found at these famous resorts could be built upon the mythical foundation that constituted the explanation of their *Kur*.

Competition, I believe, occupies about the same position in business as strychnine does in medicine. It is a powerful stimulant, which has produced many good results. Thus we find that while Carlsbad and some of the places mentioned above, were fondly contemplating their own glory and carefully guarding an enviable reputation which had spread to the four corners of the earth, investigators were busy in France, England and Germany. As a result of their labors very unexpected scientific facts were brought to light, which had a most vital influence upon the prevailing theory of physiological effects of mineral waters, and incidently on the method of their application. The ancient mythical spirit of the springs fled when the new light of science became visible, and the veil of mystery which had always been carefully draped about these so called "waters of life" was rudely torn away by our modern men of medicine.

What first prompted man to use natural mineral water as a curative agent in disease? Looking over the statistics on health resorts, particularly mineral springs, we are impressed by the number of patients who make their pilgrimage with unusual regularity in search of something that seemingly cannot be obtained elsewhere. In our reflection upon this phase of human nature we are led to ask, what primary reason prompted first the use of natural mineral waters for the relief from pain or when did man first seek aid at mineral springs to restore normal functions, when physiology had gone wrong? These questions cannot be answered, but we note the mention of mineral springs as far back as the early Biblical era. Hippocrates demonstrated the curative effects of waters, apart from the supposed power of the presiding deity or spirit and Rome left abundant proof of the balneological practice of her people.

The checkered development of medical science has been marked by changing therapeutic methods, when remedial agents were accepted and again discarded, their popularity depending upon the fluctuating wave of fashions and contemporary medical opinions. Spa treatment has, however, remained the same, a constant therapeutic agent and physicians of modern times as well as savants of old made use of the curative properties which long experience has demonstrated.

It would be difficult to make a fair estimate of what has actually been accomplished in relieving painful and unpleasant symptoms, or effecting a permanent cure in many diseases which have been treated by natural mineral waters. The fact that spa treatment has stood the test of centuries, and, even with crude methods of application, has created the enviable reputation it enjoys to-day, particularly with the laity is in itself sufficient proof of its efficacy.

Radioactivity the curative power of natural mineral waters. The renown of any natural mineral water is directly due to its therapeutic effects and the present conception of its curative powers is that of *radioactivity*. The discovery of radium by French scientists furnished a light by the aid of which the whole scientific world was ushered to the borderline of vast and unexplored domains in which medical men promptly filed application for homestead. Full of hope and enthusiasm, the pioneers stood there, peering into the realms of the unknown where they fancied lay buried the priceless treasures long looked for by ancient and modern investigators in medicine.

Having here in a very superficial manner refreshed our memories with past and present conditions at mineral springs, we are prepared to consider what influence the discovery of radium will have on the treatment of chronic diseases by the aid of mineral waters. It has been suggested by German, French, and Danish scientists that many mineral waters contain radium emanation and to this property has been attributed their therapeutic value. Space will not here permit me to even mention the interesting work and experiments by Professors Maché, Saubermann, Lowenthal, and others, but it will be sufficient to say that these men have demonstrated among other things that radioactive waters, in the form of baths and local applications, or administered internally by mouth or rectum, produce physiological results different from the same waters rendered nonradioactive.

A few words calling attention to some physical properties of radium would not come amiss, but as physicians our interest in this element is confined to the emanation it constantly gives off in form of a gas, and we may sum up by saying that the therapeutic value of radium is due to this emanation.

As stated above, natural mineral waters are radioactive, i. e., they contain emanation of radium that has been suspended or dissolved in the water when it passes over rocks and through strata containing uranium, which is the parent of radium. The radioactive capacity of any given mineral water depends, therefore, upon the amount of this element contained in the strata through which it has to pass before reaching the surface.

To have at our disposal a radioactive water, one which possesses therapeutic value when used in the form of baths, is to have in hand a potent weapon. The extent of its usefulness depends, however, in large measure upon our knowledge of how to control and direct its application, and it is in this regard we must first learn how to measure the emanation and, second, determine the proper dose to be administered. This is as essential as to understand the therapeutic dose of a remedy which we prescribe.

because it will be borne in mind that radium emanation is no indifferent agent, but one that may under certain conditions cause injurious effects.

Measurement of emanation. Several different instruments, called electroscopes, have been designed for the purpose of estimating the electrostatic force of the emanation. For the work on mineral waters an instrument named fontectoscope was first constructed by Maché, and has been adopted for this class of work. It can readily be understood that to obtain uniform results, it is necessary to use the same kind of apparatus for measurements. A description of these instruments would here be tiresome by its length and I will merely mention that the results of emanation measurement are figured out in units of which the Maché unit is generally referred to. One Maché unit corresponds to 100 volts loss of potential.

The fontectoscope is, therefore, the instrument by which the potency of the emanation is determined.

Mode of administration. The method of administration may be either externally in form of baths, or by local applications, or internally in form of drinking radioactive water, and by means of enemas. It may also here be mentioned that the emanation has been used to no little extent in the form of inhalations.

When used in the form of the well known mineral baths, the emanation is taken up to a small extent through the skin but the patient, during the course of the administration of the bath, inhales large quantities of the emanation which is readily given off from the warm mineral water. This fact led some of the German investigators to use the inhalation in place of the baths, a method which theoretically is very plausible, but it must be borne in mind that the emanation in form of a gas behaves like all gases and is readily and rapidly expelled from the body, the principal avenues of excretion being the lungs. Temporary results are the best that can be expected from this mode of administration.

When applied locally in concentrated form, much benefit has been observed in inflammatory conditions. In this particular respect I have, in my own work, used the emanation dissolved in an oil.[1] It has been our experience that oil will take up a large quantity of the emanation and dissolved in the oil it is also given off less rapidly than from a solution in water, thus producing a prolonged effect.

The administration of radioactive water by mouth is a method that has for various reasons gained much popularity, first, because the dose can be regulated entirely satisfactorily; second, because the emanation taken into the stomach is gradually absorbed from the intestines which serve as a reservoir, as it were, from which the absorption continues for several hours after each dose. It has been demonstrated by several investigators that the emanation is taken up in the small intestines and carried by the blood to the lungs, where it is expelled through the expired air.

The dose of the emanation. No attempts have been made to regulate the quantity of the emanation in a bath for reasons mentioned above, but with regard to the emanations taken internally it has been found necessary to measure the dose with the utmost care. For the purpose of producing a uniform radioactive solution in water, engineer Neumann, of Bad Kreuzenach, has designed an instrument called an *Aktivator* by which distilled water is rendered radioactive to a known and constant degree. By the aid of a small model of this apparatus one litre of water can be activated in twenty-four hours up to a capacity of 10,000 Maché units. The dose which is from 100 to 1,000 units daily can thus conveniently be measured off.

Physiological action of the emanation. This brings us to a point where we are prepared to administer this remedy to our patients, but before so doing it is obviously necessary to have at least a slight conception of its physiological action. First in importance may be mentioned the pronounced stimulation of the physiological functions of the body ferments, and under this head may be included the whole group of autolytic ferments as well as the ferments of metabolism. Second, the reactive infiltration of leucocytes in the animal organism is largely prevented by its influence, which can therefore be said to be antiinflammatory. Third, it has a marked solvent effect upon uric acid in the body, which has made it an agent particularly indicated in gout.

I will, with your permission, confine myself in this paper to these properties of the emanation as applied in the treatment of this condition. When I speak of gout, the line of distinction has not here been drawn strictly according to our classical teachings on this subject, but some cases which may perhaps more properly come under chronic rheumatism, primarily of bacterial origin, have also been included.

Responsible factors for the condition called gout. The disturbance in gout depends upon the retardation of the purin body metabolism, and not only is the formation and breaking down of the uric acid slowed, but the mutual relation of the two processes is altered and the excretion is extended over a much longer time and is not complete.

This very brief summary of the etiology of gout could be enlarged upon to an indefinite degree, but it is necessary that we should hold our attention only to facts directly concerned. Recent investigations have demonstrated that certain body cells contain an intercellular enzyme termed nuclease, which has the power of liberating the purin bases from their combination as a component part of the tissue nucleoproteids. These liberated nuclein bases are, by deamidizing enzymes, through a series of decompositions, converted into uric acid. A proper relationship between the purin bases to be acted upon, and the various ferments, is necessary for these enzymes to perform their functions. We may here mention as an example that if the purin bodies be in excess their oxidation is not complete and an intermediate oxidation of allantoin is produced, which is

[1]Since this article was written I had the pleasure of spending a short time in Rutherford's old laboratory at McGill University, which is now in charge of Professor Eve and Doctor Boyle. The latter has done some interesting work on absorption of emanation by various substances and particularly oil. It was very pleasing to me to find that my own work in this regard corresponded with that of Doctor Boyle.

manifested by the presence in the urine of this substance.

Regarding gout, there is one point upon which all observers have had no difficulty in agreeing, and that is the excess of uric acid in the blood. We find it to be present in the gouty patient in the form of monourates of sodium, which may exist in two isomeric forms, lactamurate very soluble and therefore unstable, slowly changing into a more constant form of lactimurate. This process causes an oversaturated solution of uric acid in the blood which results in precipitation and deposits of monourates of sodium in tissues which increase affinity for it, such as the bones, joints, and cartilages. The origin of the excess of uric acid in the blood of gouty patients is, by present medical writers, attributed to a diminished destruction or oxidation which is due to a disturbed function or equilibrium of specific body ferments, and as an example we may here mention a deficiency of the oxidase which normally converts uric acid into urea and other products. In the light of the facts outlined above we are justified in forming the conclusion that if gout is caused by inactivity of these ferments, and if radium emanation can produce marked stimulation of such ferments, its use is indicated in this disease.

Pioneer work in this field. We are indebted to the German scientists for our small but very important knowledge on this subject. Such men as Professor His, of Berlin, Saubermann and Engelmann, of Kreuzenbach and Dautwitz in charge of the Neusser's clinics, and many others have succeeded in bringing the attention of medical men in general to a focus on radium emanation as a powerful agent in therapeutics. Extensive investigations are to-day carried out in Germany and France at large hospitals and institutions to determine its field of usefulness, and it may be mentioned that the German government has given substantial aid in this work. Regarding the emanation treatment in gout, Professor His published recently a report of one hundred cases which had been under observation in the clinics in Berlin. Out of the one hundred cases over sixty were cured or benefited sufficiently to be called cured. It is pointed out in this report that gout is a condition which has been influenced very little by treatment, owing to the fact that no remedy has ever been known to have solvent effects upon uric acid in the body. Radium emanation, both experimentally and clinically, has been demonstrated to possess this property; experimentally by Doctor Fofanow, who produced artificially typical gouty deposits or tophi by introducing urates under the skin of rabbits and dogs, and then caused complete absorption by the administration of radium emanation; clinically by the results obtained by Professor His and other investigators.

Conclusions. Summing up the opinions of men who have had a large experience with radium emanation, we can say that it is generally conceded that we have in this form of treatment great therapeutic possibilities, not alone in gout and chronic rheumatism, but in many other pathological conditions. While at present, we cannot make any accurate estimate of the therapeutic value of this agent, it is with no little pleasure that we can point out the fact that certain pathological conditions which have always been regarded by medical men as impossible to alter, are by the aid of this discovery placed under our control. This becomes particularly significant when we take into consideration that the condition for which the emanation has proved valuable is present in a large class of cases.

Anticipations. Many new and important discoveries have during recent years been given to the practising physician in form of valuable aid in the battle with death. We are here reminded of the antitoxines against diseases we used to fear, such as diphtheria which we now, however, are prepared to meet confident of victory; and we can proudly mention antisera for tetanus, spinal meningitis, hydrophobia, etc. Our store of therapeutic agents has been greatly increased by many useful products, the results of Sir Almworth Wright's discoveries of opsonins. These vaccines have enabled us to treat successfully many bacterial infections that formerly resisted our efforts.

What results may be obtained by cultivating bacteria in the presence of radium emanation is to-day only an infant in our hopes of the future, and we will not disturb it. That this emanation has an influence upon the life and development of microorganisms we have had the pleasure to demonstrate, and some conditions brought about by its influence are truly remarkable, which may be found of value in producing more potent bacterial vaccines. Some of the German biologists are pointing out a fact for which significance is asserted; it is the discovery that cellular life may be destroyed or altered by certain rays contained in the emanation. In this respect it has a similar action to the sun's rays. We have long since learned to recognize the sunlight as a protection against bacterial infection, due to its devitalizing effects upon microorganisms, and when the western horizon closes to our view the radiant light of day, we know that this protective mantle has been removed. In the twilight of uncertainty, Nature's highest forms of creation become passive while the minute inhabitants of a vast world, the portals of which are opened to us through the microscope, renew an activity that in the presence of light was held in check, and we are left exposed to the virulent forces of contagion. With these thoughts in mind we welcome any protecting influence that may come to us, and hope the ingenuity of man may complete the work of our safe keeping, which seemingly has been left unfinished.

We may at all times be hopeful but never optimistic and, in this eleventh hour when the old year is about to close accounts with us, we are justified in including in our inventory a radiant hope for the future of radium emanation therapy.

Preliminary report of nine cases treated with radium emanation. Up till the present time I have had nine cases, of the character outlined above, under observation and receiving treatment of radium emanation. One thousand Maché units were given each patient daily for a period of forty-five to 130 days.

In two of the nine cases cardiac symptoms developed, which compelled us to discontinue the treatment, and I may say here that by so doing these symptoms disappeared.

Four out of the nine patients had albumin in the urine after treatment of from twenty-four to seventy days. This condition also disappeared in from two to five days after treatment was discontinued.

It was observed in two patients with arteriosclerosis, where a high blood pressure had been a constant factor for several weeks prior to the administration of the emanation, that the blood pressure was lowered to a marked degree. All these patients were on a selected, purin free diet which was started several days before the emanation was commenced.

Examination of blood and urine was made every ten days and the record which is here presented is typical of this series of cases.

It may be pointed out that the blood shows an increase in hemoglobin and the red blood cells, also in the polymorphonuclear neutrophiles, while there is a decrease in the small lymphocytes.

Uric acid was found in all of these cases at the beginning of the treatment. In five of the patients this test was found negative in twenty to forty days; in one instance it was negative after ninety days; in three cases uric acid was present after ninety-five days' treatment. In six of the patients there was marked improvement in clinical symptoms.

From this small number of cases and the short time of observation I have no desire to draw any conclusions, but wish to call your attention to the facts here outlined, which correspond to the results obtained by several of the investigators in England and Germany.

It has been very difficult to obtain a satisfactory radioactive solution for administration, which accounts for the small number of cases treated, and it is in hopes of better opportunities in the future that we are now trying to forget our past difficulties.

THE CAUSES OF PAIN IN THE UPPER RIGHT QUADRANT OF THE ABDOMEN AS DETERMINED BY MEANS OF THE ROENTGEN RAYS.*

By George E. Pfahler, M. D.,
Philadelphia.

Every practitioner knows how commonly the symptom of pain in the right upper quadrant of the abdomen occurs, and how difficult it is to determine its cause. Any definite aid, therefore, will be appreciated by every one.

In Röntgen diagnosis, as by any other method, one should have clearly in mind the varying possible causes of this symptom. The more thoroughly a case is studied by other means, and the more nearly the diagnosis is narrowed to one or two causes the less Röntgen work will have to be done. Careful fluoroscopic examinations and good plates must be made, and each case will require probably from six to a dozen plates. Gradually the diagnosis is worked out. It is seldom that all the required evidence will be obtained in a single examination. The laity still expect one to see through the patient as one would observe a landscape through a window.

Thoracic causes. Irritation extending along the course of the intercostal nerves such as may be produced by pleurisy, pleuritic adhesions, abscess, or other inflammatory conditions of the lungs, may be demonstrated by means of the rays to the most accurate degree. Irritation at the roots of the intercostal nerves may be reflected into this section of the abdomen. When this irritation is produced by some pathological condition which affects the vertebræ, such as neoplasms, osteoarthritis, or tuberculosis, the cause can be most definitely demonstrated by a careful röntgenological examination. These causes which exist above the diaphragm, are of course the least common, and I will not go into further detail, but I have seen and demonstrated röntgenologically each of these causes of pain in the region under discussion. I will confine my more detailed descriptions to the pathological conditions which exist below the diaphragm and in the order of their topographical distribution as one moves downward, and will omit from my consideration any reference to the associated clinical symptoms, since that phase has been ably presented by Doctor Daland; but I would not have any one think that I do not consider most carefully all other evidence in each case.

Subdiaphragmatic abscess. In this condition the right side of the diaphragm is distinctly higher than the left. It preserves its curve, remains fixed and immobile, and the total width of the shadow from the upper surface of the diaphragm to the lower border of the liver is increased.

Biliary calculi. The presence of biliary calculi is perhaps most often thought of as a cause of pain in this region, and yet because of some peculiar distribution of the pains, such investigation may be left until the last.

In many instances biliary calculi can be demonstrated by means of the rays, but when not found one cannot conclude that there is none present. For their demonstration, most depends upon the degree of density of the stones as compared with the surrounding tissues. At best a most careful technique is required, and this I have described elsewhere.[1] In each instance one must prove that they are not in the kidney, by projecting their shadow outside of the kidney shadow, and by making a preliminary kidney examination.

In many instances one can arrive at the diagnosis of biliary calculi by eliminating other causes of the pain, even though the stones cannot be directly demonstrated.

Duodenal, gastric, colonic, and hepatic adhesions Adhesions in the gallbladder region, I believe, are more often the cause of pain in this section than the presence of gallstones. These adhesions may be secondary to any inflammation, traumatism, or new growth in this region. I have demonstrated the effect of these adhesions in about seventy-five different patients. In most instances they have not yet been operated upon, but in each instance, so far, the operations have confirmed my findings.

Gastric adhesions are associated with a change in outline and position of the stomach, and an interference with the normal peristaltic waves. The stomach is drawn upward and to the right as a rule.[2] In interrupting this position, however, one must bear in mind that in stout subjects (and many of this class of patients are stout) the stomach is always higher than in the slim or normal subject.

*Presented with forty-nine lantern slides in a Symposium on The Diagnosis and Treatment of Pain in the Upper Right Quadrant of the Abdomen, before the Philadelphia County Medical Society, February 14, 1912.

[1] *American Quarterly of Röntgenology*, April 1911.
[2] *Journal of the American Medical Association*, June 17, 1911.

Duodenal adhesions draw a portion of the duodenum higher than normal. Then the descent of the duodenum is more abrupt, and at times it may pass downward to the left of the pylorus instead of to the right, as is normal. One can readily understand the nagging, aching pain in these cases, which occurs especially where there is some associated inflammation of the gallbladder, duodenum, or stomach and which occurs especially several hours after a meal, for it is at this time that the angle formed by the adhesions is most acute, and the peristaltic waves are strongest in order to carry the food up over the highest point. Each time that these waves or the food contents pass, there is a pulling on the surrounding structure, which causes the pain. This explains, too, the intermitting character of these pains, for peristalsis in the stomach is not constant as one might suppose. It is excited by various factors, and at times is strong and at others weak. Then, too, the pain is more marked when inflammation is present.

Adhesions of the hepatic flexure and first portion of the transverse colon to the under surface of the liver and gallbladder region are least common, but by no means infrequent. They are usually combined with duodenal adhesions. When present, it can be readily understood that any movement of the semisolid or gaseous contents of the bowel will add to these pains.

Gastric ulcer. The pains of gastric ulcer are generally not confined to the right upper quadrant of the abdomen, but may radiate to this region or be primarily there. The ulcer itself can be definitely demonstrated only when it is of the perforating type. Its associated effects, however, can often be demonstrated, and these are spasmodic contractions, or an interference with the peristaltic wave. The spasmodic contractions due to ulcer most often present themselves at about the middle of the greater curvature, but they may also be seen at times at the pyloric end. These are demonstrated only by a careful fluoroscopic examination.

Duodenal ulcer may give pain in the right upper quadrant, near the median line. At times spasmodic contractions of the duodenum may be demonstrated, as associated with this condition, by a careful fluoroscopic examination.

Gastric carcinoma. The pain of gastric carcinoma, especially of the pyloric region, may be present in the right upper quadrant of the abdomen. This can be demonstrated, usually most clearly, and, I believe, far earlier than by any other means excepting an exploratory operation. It produces a change in the outline, lumen, position, and peristaltic waves of the stomach.[3]

Renal calculus. Renal calculus as a cause of pain in the right upper quadrant of the abdomen should be thought of early and eliminated. In a number of cases the appendix had been removed, and at times a gallbladder operation performed when the real cause of the pain was found to be a renal calculus. The pain associated with renal calculus is usually felt rather posteriorly, but it may be vague and at times felt rather anteriorly. A ureteral calculus may give the same character of pain.

In the hands of competent men, urinary calculi are shown in at least ninety-eight per cent. of the cases. Therefore, when this examination has been carefully made and the findings are negative it can be practically dismissed from consideration.

Renal abscess. This condition, because of its destructive effect, will enlarge the pelvis of the kidney, or make an abnormal cavity in some portion of the kidney. It will often force the kidney shadow outward from the spinal column. This latter condition can at times be demonstrated by an ordinary x ray examination. The size and position of the pelvis of the kidney can be demonstrated by a combined cystoscopic and x ray examination, in which the ureters are injected by collargol or cargentas and at the same time a number of röntgenograms are made.

Perinephric abscess. This condition can at times be demonstrated, but more often by exclusion than by direct examination. For instance, if a tumor mass or swelling is felt in the right upper quadrant of the abdomen, as I have experienced, in order to prove that it is a perinephric abscess, one will have to show that it is not connected with the liver. This can be done by proving that the tumor does not move with the liver. Then the stomach and duodenum would have to be clearly separated from the tumor and show that any interference with the lumen of the stomach or the passage of the duodenal contents is due only to pressure. Then the bowel would have to be clearly separated from the tumor. In all such work, careful, combined palpation and fluoroscopic examination are necessary. Such procedures are always a danger to the operator.

Colonic kinks or constrictions. I find, not uncommonly, kink or reduplication in the first portion of the transverse colon associated with pain in the upper right quadrant of the abdomen. In order to arrive at such a conclusion one should follow a meal through the colon, and then after this kink or constriction has been demonstrated by the shape and interference with the passage of the colonic contents, one should cleanse the bowel, and then inject per rectum. The mixture will be obstructed and prove again that the constriction is a true one.

This brief review of the conditions causing pain in the right upper quadrant of the abdomen, which can be demonstrated by the Röntgen rays, is intended only as a guide to the line of investigation that should be pursued. I have omitted reference to technique. Investigations of these obscure conditions test the ingenuity of the most skillful röntgenologists. The technique for each line of investigation has been fully described in the literature of röntgenology, and to include it here it would have to be either incomplete or entirely too voluminous.

CONCLUSIONS.

1. Practically all pathological conditions in the chest which may cause pain in the right upper quadrant of the abdomen can be demonstrated by the Röntgen rays.

2. *Subdiaphragmatic abscess* can usually be demonstrated.

3. *Biliary calculi* can be shown in some cases.

4. *Duodenal, gastric,* and *colonic adhesions* can

[3] *Medical Record,* March 25, 1911.

practically always be demonstrated by their effects on the position and movements of these organs.

5. *Gastric ulcer* can be shown only when it has perforated, and can be suspected by spasmodic contractions, which may be present in the stomach.

6. *Duodenal ulcer* may be suspected if spasmodic constrictions are present in the duodenum.

7. *Gastric carcinoma,* I believe, can be almost always demonstrated.

8. *Renal calculus* can be demonstrated in at least ninety-eight per cent. with good technique.

9. *Renal abscess* can often be demonstrated by combined cystoscopic and röntgenoscopic examinations.

10. *Perinephric abscess* can be demonstrated when it is large enough to produce a palpable tumor, or when it displaces neighboring organs.

11. *Colonic kinks* and *constrictions* can be demonstrated.

12. Each of the foregoing conditions requires careful technique and careful study in the sequence of the various steps during the examination, and usually requires not only a fluoroscopic examination, but a number of plates.

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CATCHING COLD.

By William Brady, M. D.,
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Sunlight, the best germicide known to medicine, costs nothing. Cold fresh air, the best tonic in the world, is free to all. Only the housed up mollycoddles need blood purifiers in the spring. No one ever caught coryza or pneumonia out in the open. These are house infections. No more domesticated germ exists than the pneumococcus.

Netter found virulent pneumococci in the mouths of twenty per cent. of healthy persons; Osler believes the pneumococcus is a normal inhabitant of the mouth. The pneumococcus has been found guilty in coryza, quinsy, pneumonia, empyema, pericarditis, endocarditis, meningitis, arthritis, appendicitis, peritonitis, *foudroyant* pulmonary edema, and general septichemia. Diphtheria bacilli are commonly found in pharynx or nares apparently normal; and a certain number of supposedly simple coryzas are in reality nasal diphtheria. Influenza bacilli cause a small number of simple coryzas.

Coryza probably costs the community more from an economic standpoint that pneumonia, influenza, and diphtheria combined, yet we take no precautions whatever to prevent its spread. Osler recognizes the epidemic nature of coryza. Others dodge draughts. We all know it is a bacterial infection, but we are not all agreed on the predisposing factors. The same may be said of most other infections, but the difference of opinion regarding contributing influences does not prevent vigorous measures to limit their spread through the community.

The New York State Department of Health requires physicians to report all cases of pneumonia, and every practitioner to-day knows the necessity of disinfecting the sputum of the pneumonia patient. The specificity and virulence of the pneumococcus is beyond question. Yet not one physician in a thousand instructs coryza patients to disinfect the nasal discharge, although it may be swarming with virulent pneumococci. The reasons for this are, first, that it is "simple" coryza, and secondly, that it is only a "cold." Every practitioner urges disinfection of the discharges from a diphtheritic throat; yet a dipthheritic rhinitis may go undetected, and the child roams about spreading pestilence through the community, because no one bothers to disinfect the handkerchiefs used in an attack of simple coryza.

The universal indoor plague—simple coryza—is a disabling, frequently mutilating, sometimes fatal infectious disease, prevailing epidemically, and characterized by a marked tendency to accessory sinus, middle ear, and cerebral sequelæ. The treatment is hygienic, medicinal, dietetic, biological, and surgical. The prognosis is recovery, chronicity, permanent deafness, operation, or death. It is most commonly observed in individuals least exposed to cold air and rough weather; and it is never observed in the arctic zone. It may be caused by, 1, *Micrococcus catarrhalis,* 2, *Pneumococcus,* 3, *Bacillus influenzæ,* 4, *Bacillus diphtheriæ,* or, 5, various concomitant pyogenic cocci. The predisposing factors are, 1, overheated apartments, 2, unhygienic dress, 3, insufficient ventilation, and, 4, overeating. The medium of infection is usually dust, but direct infection undoubtedly occurs in children intimately associated *indoors* with *coryza carriers.* The ideal place to catch coryza is in the average schoolroom, where medical inspection is conspicuously wanting.

The medical profession aids and abets the propagation and spread of coryza in two ways, both negative: first, by passively encouraging the catching cold phobia; and secondly, by failing to isolate simple coryza and disinfect the nasal discharge. The economic waste chargeable to this fault is beyond computation; the irremediable deafness, the unnecessary operations on accessory sinuses, mastoids, and middle ear, the preventable deaths from cerebral lesions directly due to simple coryza, are appalling. All because a few superannuated sanitary engineers and family doctors of authentic vintage insist that there is such a thing as "catching cold."

A very worldly reception was accorded the views of Semmelweis and Oliver Wendell Holmes when they dared to intimate that puerperal fever was due to something more than damp sheets and change of linen. The "authorities" laughed the idea to scorn, but the youths of the profession whose mental plaster of Paris was not hopelessly set gave the evidence thoughtful consideration. To-day Semmelweis, in marble, stands on his monument at Budapest, fresh flowers at his feet, happy children playing about him, and a young mother with her babe at her breast gazing up at her deliverer. Holmes has a monument in every American mother's heart. Yet there are still isolated instances in which a woman "takes cold," after childbirth, by and with the consent of her medical attendant, and has "a bad run of fever." To this crime we, as a profession, are accessory before the fact, since we cling to the catching cold delusion. We aid and abet the obstetrician with the dirty

hands. We lend encouragement to the surgeon with the dirty instruments. We assist the abortionist in his dirty work. We are afraid to laugh at the delusion—afraid our patients will disagree with our views—afraid the authorities will frown.

The fact is, we are not yet prepared to surrender the handiest little tool in the diagnostic kit. "A cold" obviates the need of a diagnosis—whether it be in the head, in the pelvis, or in a wounded extremity. Draughts furnish the motive power for many a flashy roadster whose chauffeur would otherwise walk. Draughts never fail in a diagnostic pinch. And you may rest secure in the knowledge that your near diagnosis will be duly corroborated by Father, Mother, Grandma, and Aunt Jane, to say nothing of Mrs. Grundy.

Draughts are inevitable as the rising sun or the falling rain or the changing weather. No sanitarian has yet offered, or ever will offer a means of ventilating a room without a draught. A draught that causes no discomfort—physical, not psychical discomfort—can do no harm. A clean draught of cold fresh air is an unmitigated blessing—unmitigated by a window board or other curious contrivance to make the draught crooked. The draught will do the most good when we take it straight. The draught dodger is pretty certain to be a coryza carrier. The best disposal we can make of window boards is to send them to an old ladies' home—to be used for kindlings.

Exposure to the weather—rain, shine, snow, or blow—increases the resistance against infectious diseases, not alone respiratory but every infectious disease we recognize. Even tetanus is rendered less virulent by cold air. Crane proved (*St. Louis Medical Review*, July 7, 1906) that guineapigs infected with tetanus may not show development of the disease at all in cold air, while controls kept in warm rooms quickly succumb. Trudeau's classical experiments with tuberculous animals gave unmistakable evidence of the curative effect of cold air. Our present outdoor treatment of pneumonia is the strongest possible proof of the value of cold air. Malaria improves in cold weather and relapses on return of warm weather or when the patient journeys to a warm climate. All the world plagues, not excepting typhoid, are warm weather diseases. Pneumonia itself is a disease of civilized peoples living in overheated houses. Coryza never develops primarily in the open air. Exposure to rain, hail, wind, and snow is tonic so long as it is comfortable—physically comfortable.

Wet feet are of no consequence unless they become uncomfortably cold; and cold feet are not a cause, but a sign of defective circulation. Plunging the feet in cold water does good, not harm, provided the reaction is obtained. Cold bathing likewise, whether in health or in illness, is wholly a matter of vasomotor reaction.

Any child from one year up who does not know enough to come in out of the cold when the cold is uncomfortable, is mentally defective. The natural instinct of self preservation directs us safely in this; no advice from house bred sanitarians is needed. So long as a child is comfortable, though he stands in a puddle all day, the effect is tonic; so soon as the reaction fails and the circulation loses its equilibrium, the child becomes too uncomfortable to enjoy himself and, if he is not an imbecile, he goes in to get warm. I know, for I have tested my own children. I am giving not advice, but facts.

Identical principles are involved in the exposure of the body, clothed or unclothed, to cold air. If the invalid suffers actual physical discomfort therefrom, it is doing harm; on the other hand, if he enjoys an airing—rain, hail, or shine—as ninety-nine in a hundred do, it is better than any tonic in the pharmacopeia for him. When harm is done by such exposure the equilibrium of the circulation fails, and it is debatable, though by no means proved, that infection with pathogenic bacteria might more readily occur. The catching cold exponents say that the surface blanching occurring with such chilling of the body means congestion of some internal organ and that invites infection. We can readily believe that congestion would aggravate a preexisting lesion of the organ, but how it favors infection has not as yet been explained. Bier's researches would seem to favor the opposite view.

The chill or chilliness that announces the onset of pneumonia or coryza is obviously a symptom of infection already accomplished. The older writers attributed to this chilliness etiological rather than symptomatic significance, and in that misconception we have one of the strongest props of the catching cold delusion. Ordinary observers do not distinguish the febrile chill, which is Nature's effort to mobilize the blood soldiers on the field of battle in response to an overwhelming dose of toxines, from the mere chilly sensation caused by contact of cold air with the skin. This mechanical chilliness is never due to breathing cold air.

The best possible environment for a coryza or pneumonia patient, between one year and a century old, is outdoors in cold air. A porch with southern exposure is ideal. The bed in either case should be made as follows:

1. A firm hair or felt mattress on woven wire springs.

2. A rubber sheet and a woolen blanket under the mattress and pinned up about both sides and the foot of the bed to keep out cold air.

3. Plenty of warm blankets and hot bottles as needed to keep the patient comfortably warm at all times.

4. Flannel nightdress, woolen stockings, and when very cold, mittens, cap, and shawl, or other protection for head and arms. The patient should be perspiring much of the time.

Any one who has seen a pneumonia victim indoors, grunting, anxious, wincing with pain, pulse bounding and rapid, temperature high, mind dull or wandering—and then observed the same patient two or three hours after his exodus to the side porch, smiling, breathing easily, free from pain, mind clear, laughing his family's fears to scorn—any reasonable man, I say, who has observed such a picture in practice will not deny the sovereign remedial value of cold air. It is understood that the bed may be rolled into a warmed room, when a bath or a change of linen is needed, or when a complete physical examination must be made.

If the venomous tetanus bacillus is embarrassed by cold air, the tender pneumococcus and the hothouse *Micrococcus catarrhalis* are utterly routed by one touch of Nature To me, the thought of a pneumonia patient in the heated ward is more terrible than the thought of a puerperal woman in the scarlet fever pavillion, because the woman still has a chance. Outdoors there is fresh air, pure oxygen, condensed ozone, sunlight, life; indoors there is—the fatal oxygen tank, dead air, depressing warmth, organic excrements, darkness, and death.

Mary Baker G. Eddy may have had a "cold" in her head when she penned the central *motif* of the little book: "Disease arises from association calling up the fear that creates the image of disease and its consequent manifestation in the body." From the very instant of our arrival in this vale of fears, the cold bogy is held up before us. Grandma, the inexorable, stands waiting for her cue to receive us in a warm flannel blanket; and nurse souses us in a hot tub before the roaring fire. In childhood, mother, imbued with the teachings of the health editor, fondly coddles us against what she has learned to call undue exposure. In our youth we are guarded and protected against weather and draughts. We may prevail upon mother to let us try the open window stunt just one night, but she is sure to come creeping in, along toward one o'clock, to close that window and put on an extra blanket.

> A woman forced to change her will
> May yet resort to codicil.

And father is quite as bad, or rather worse. Father agrees heartily with all our fine young ideas about fresh air and germs and things; father is a progressive, he says. But when we try him out at last, one cold November night, by permitting a gentle zephyr to fan his bald spot as he sits with slippers and pipe poring over the political potpourri, doesn't he yell like a Comanche Indian?

"Suffering cats!" He unconsciously claps a hand to the bald spot. "Shut the door!"

"But, father," we argue, in a way young folks have nowadays, "you surely know you can't catch——"

"Shut the door, I tell you!" he shouts even louder than before. "Don't talk germs to me! There were colds a plenty long before germs——"

"Why, pa! There isn't a germ in the house! The vacuum cleaners just finish——"

"Will you shut that door! Germs or no germs, by Jingoes, I'm not going to heat all outdoors with coal seven dollars a ton!"

We shut the door with a bang, like dutiful children, and take ourselves sadly away, for nothing short of an axe will impress father's mind of adamant, because

> The man convinced against his will
> Holds to the same opinion still.

With all his progressiveness, father sticks to his chest protector, having what grandma calls common sense. To paraphrase the popular ditty, "Everybody thinks at our house, but my old man."

When the present generation of open air schoolgirls will have married, multiplied, and retired to the chimney corner, we may hope to witness the delightful spectacle of a grandmother, unparalyzed and undemented, sitting knitting in a draught. The present day type frequently fractures her femur dodging draughts.

We may trace the origin of the "catching cold" idea through the obscuring mists of medical antiquity back to the time of Bombastus Paracelsus, a noted sixteenth century barber surgeon, who was a great connoisseur of choice vintages betimes, and therefore a fine doctor in his lucid intervals. Paracelsus did not affect the conventional hirsute drapery of the Vandyke persuasion, and his medical prowess has been questioned by some historians, but you may be sure nothing new was launched in the medical world without his approval. He was the original, simon pure "authority," the classical type of the family; he says so himself, so there can be no doubt about it. Paracelsus O K'd the cold bogy.

It seems that a poor fellow was ailing with some obscure malady which baffled his barber's skill; all the spells, humours, and demons had been removed, scattered, and exorcised, and yet the victim languished on his humble pallet. Threats of a change of barbers brought about a consultation, and one of the consultants at the last moment descried a hole in the patient's jerkin; simultaneously, by one of those uncanny strokes of genius so characteristic of the profession, he recalled a change of weather of the preceding week.

"Why, you poor fools!" he exclaimed, gazing pityingly upon his shamefaced accomplices, "the cold has penetrated the man's carcass, frozen his in'ards and *post hoc et cætera* laid him low!"

The diagnosis was hailed with great acclaim, and the awestruck bystanders quickly brewed a pot of broth from

> Halfe of an eartheworme, tayle of a snayke
> Kill'd in ye darke with a green elm stake,

which must have thawed out the freeze, for the patient hurriedly recovered. But while the doctors were congratulating themselves on the birth of the bogy, a forty-eight foot member of the tænia saginata tribe, disgusted with the treatment employed, incontinently deserted his host and made good his escape. An ignorant old woman ventured the remark that "may be 'twas only worms ailed him, after all," but the doctors frowned down this silly notion just as we would to-day. Worms nothing! The man had "canght cold," which caused a "condensation of humours," and that was all there was to it.

The young bogy was nurtured tenderly by the profession, contributions being made to it from time to time as the exigencies of practice required, until it grew strong and lusty, and you have no idea how useful in a diagnostic way. It was handed on from generation to generation to the present day—a veritable lemon among the fruits of the forefathers' medical lore. Does the patient display an unbecoming curiosity as to the nature of his illness, one need only make some recherché remark about the beastly changeable weather, and pass the fruit, relying implicitly upon the patient's insatiable craving for something tart. The catching cold delusion is a great thought conserver.

The writer would tentatively submit the follow-

ing suggestions, for a campaign against the *universal indoor plague:*

1. Throttle the cold bogy at the bedside without mercy.

2. Isolate all coryza patients until the discharge ceases, preferably in the open air.

3. Disinfect handkerchiefs and all nasal or pharyngeal secretions.

4. Battle relentlessly against carious teeth, suppurating gums and culture tube tonsils.

5. Preach the gospel of cold fresh air and sunlight.

1008 Lake Street.

Correspondence.

LETTER FROM LONDON.

Delayed Chloroform Poisoning.—Researches on Milk.—National Health Week.—Removal of Offices of Examination Hall of the Conjoint Board.

London, England, *May 10, 1912.*

At a meeting of the Medical Society of London, Mr. Edred M. Corner read a paper entitled Some Remarks on Postanesthetic Poisoning. This was almost entirely an affection of children. To begin with there was nothing with regard to the presence of any impurity in the anesthetic to which postanesthetic poisoning could be attributed. Neither could the preparation of the child or the method of administration of the anesthetic be blamed. Similarly, so far as could be ascertained, there was no constant condition of the child which predisposed it to the incidence of postanesthetic poisoning. The nature of the operations performed in such cases varied from the manipulations for the reduction of a congenital dislocation of the hip, or the operation for the removal of tonsils and adenoids, to a long and tedious operation for the removal of tuberculous glands of the neck. Although none of these factors showed any obvious and constant effect in producing the poisoning, it was probable and possible that many of them did have a nonobvious contributory power in its production.

Having thus enunciated many negative propositions he proceeded to state some positive results. There was one salient fact. It had been shown that acetone occurred in the urine in a large percentage of patients admitted to children's hospitals. The inquiries conducted confirmed this, and showed further that an administration of an anesthetic raised the percentage of such developments of acetonuria from about thirty-five to seventy-two. But it had never been shown what relation this common condition of acetonuria had to the very uncommon condition of fatal postanesthetic poisoning. Acetonuria could occur apparently, independently of this. Until this question was answered no great advance could be made in scientific knowledge of the condition of postanesthetic poisoning. Many had assumed that there was a close relationship, but that was a pure assumption. Extreme fatty change in the liver was a constant feature of postanesthetic poisoning. Acetonuria was more frequent after the administration of chloroform than after any other anesthetic. The only factor common to all these cases of poisoning was the administration of a poison to produce anesthesia. Clinical experience suggested a number of precautions to be observed in order to minimize the dangers of this condition.

The routine of the patient's life should be disturbed as little as possible, starvation and purgation being particularly avoided. The preparation for anesthesia should be very gently conducted so as to extend over several days or a fortnight. Glucose should be given over this period to fill the carbohydrate "storehouses" of the liver. A hypodermic injection of morphine and atropine should be given about three quarters of an hour before the administration of the anesthetic. The absorption from septic places, such as tonsils, should be minimized as much as possible because it would seem that foci existing before operation did have a great contributory effect in inducing the occurrence of poisoning, probably by lowering the patient's powers of resistance to the action of the anesthetic. Chloroform was without doubt by far the most dangerous drug in producing poisoning; therefore, the less it was used the better. It must be remembered that postanesthetic poisoning had occurred after ether and even nitrous oxide. After anesthesia every opportunity should be given of excreting the poisonous drug used to induce anesthesia, stomach washing, purgatives, diuretics, warmth, etc. Postanesthetic poisoning was a veritable scourge in a children's hospital, being, especially in its nonfatal manifestations, very much more frequent than was commonly supposed. At the present moment the safest method of inducing anesthesia on children was by the open method of ether administration, preceded by the addition of glucose to the diet for a few days and an injection of morphine and atropine three quarters of an hour before the anesthesia.

Dr. Lane Claypon has made some very interesting researches on milk, and her observations have been published by the Local Government Board under the title The Value of Boiled Milk as a Food for Infants and Young Animals. One outcome of this report is to show that when a young animal is fed exclusively on the milk of a different species of animal, it is immaterial as far as the nutrition of the former is concerned whether the milk is boiled or not. On the other hand, it does make a difference whether the milk on which the young animal is fed is, so to speak, a foreign milk or derived from an animal of the same species. As regards boiling, however, infants who are fed on milk which has been drawn from the breast of a wet nurse and boiled previous to use, appear to thrive just as well as when the same milk is given fresh. The moral that clearly emerges from this report is that since the dangers of boiled milk are so problematical that they may be neglected, and since the danger of infection from unboiled milk is so real it is wisdom to boil all milk before it is given to an infant to consume.

An interesting innovation is announced. This is a movement for the celebration of a National Health Week. Professor Bostock Hill, president of the Society of Medical Officers of Health, is the chairman, and Mr. A. J. Martin, president of the Institute of Sanitary Engineers, is the secretary. The

object is to focus public attention on questions of hygiene and sanitation, personal and domestic, to arouse intelligent interest in health even among the more thoughtless and ignorant members of the community, and to secure increased support for local health authorities and voluntary societies for the promotion of the physical wellbeing of the population. Representatives of the better known of all such societies are on the committee, and the movement has the support of a large number of public authorities, members of the medical profession including medical officers of health, mayors of metropolitan boroughs, and the larger provincial towns. For instance, in the borough of St. Marylebone, popular lectures, accompanied by cinematograph demonstrations, have been arranged. The sermons at the principal churches on Sunday will include hygiene in their purview, special health talks will take place at mothers' meetings, girls clubs, and men's meetings.

It is announced that the offices and examination hall of the conjoint board of the Royal College of Surgeons of England, and the Royal College of Physicians of London, are to be removed from Victoria Embankment to 8-11 Queen Square, Bloomsbury. This removal will interest a large number of practitioners, as many generations of students have varying recollections of their experiences at the old examination hall.

Therapeutical Notes.

Treatment of Affections Involving the Biliary Tract.—Fedeli, in *Quinzaine thérapeutique* for April 10, 1912, gives a review of his experiences with various drugs in the treatment of affections of the gallbladder and bile ducts. In catarrhal jaundice and biliary stasis he has obtained excellent results with a procedure recommended by Huchard, viz., the administration, with meals, of 40 to 50 grammes of a 0.1 per cent. solution of hydrochloric acid. He refers to recent experiments conducted by Grocco, which showed that waters containing a small proportion of sodium chloride tend to cause an abundant flow of bile, while waters containing larger amounts of the salt exert, on the contrary, an inhibitory influence. Fedeli therefore advises the use of weak saline waters in the treatment of cholelithiasis in the interval between attacks of colic.

In certain cases, however, viz., those associated with excessive gastric irritability, hyperchlorhydria, and possibly ulcer, or with catarrh of the colon, or stomach and duodenum, the sodium chloride waters are contraindicated, and should be replaced by waters containing bicarbonate and sulphate of sodium, e. g., Carlsbad water.

Sodium salicylate proved of great use in the author's hands as a biliary antiseptic, fractional doses of 0.4 to 0.6 gramme of this drug having in some cases cut short attacks of "biliary septic fever." Sodium benzoate, in doses twice or thrice as large as the salicylate, was also found advantageous. In cases of cholecystitis associated with fever, Fedeli alternates powders of salicylate and benzoate with the cholagogue drug boldus (leaves of *Peumus boldus*). In all conditions of the gallbladder or ducts, accompanied with tenderness and pain in the right hypochondrium, he applies locally an ointment containing from 6 to 30 per cent. of methyl salicylate, obtaining thereby a distinct analgetic effect.

In the periods of quiescence in cholelithiasis, in catarrhal jaundice, and in subacute angiocholitis, Fedeli has found olive oil to act fairly well as a cholagogue. Its beneficial effects seemed to be particularly marked in cases with hypersensitiveness and irritability. Where there is a tendency to nocturnal attacks of colic he administers boldus in the daytime and a dose of olive oil late at night. Where the stomach proves intolerant, the taking of little ether will greatly facilitate the use of the oil.

In cases of hepatic colic massive doses of olive oil have often proved capable, in the author's experience, of diminishing the pain and sometimes even of checking it. He thinks the effect is produced through arrest of secretory activity in the stomach, believing also that hyperchlorhydria is an aggravating factor in biliary colic. In certain intolerant cases glycerin gave fairly good results as a substitute for the oil.

Fedeli emphasizes, in concluding, the need of combating constipation in these cases, and recommends the use of cascara preparations.

Treatment of Chorea.—E. Weill, in *Progrès médical* for January 6, 1912, states that in view of the experiments of Chapuis, who had observed that arsenic incorporated in fats produced little or no toxic effect in animals, he has adopted the plan of administering arsenic trioxide to choreic patients in the form of "arsenical butter." In the preparation of this he takes approximately that amount of arsenic which will be required during the entire course of the affection, say 0.18 gramme, and adds to it 3.6 grammes of sodium chloride or milk sugar. A mixture is thus obtained which is more easily weighed out than the arsenic alone, and each 0.1 gramme of which contains about 0.005 of arsenic trioxide. Of it he administers on the first day 0.1 gramme, on the second, 0.2 gramme, then 0.3, 0.4, and 0.5 gramme, after which the dose is gradually reduced again. Each dose is given triturated in ten grammes of butter, which is spread on bread and taken with the principal meal of the day. The effects obtained by administering arsenic trioxide in this way are the same as when it is given otherwise, but toxic effects are entirely avoided. Rest in bed and milk diet, moreover, are quite unnecessary with it. Sodium arsenate or potassium arsenite should not be substituted for the trioxide in the arsenical butter, as the latter is then not so well borne.

Care of the Mouth.—Hermann Prinz, in the *Interstate Medical Journal* for January, 1912, states that authorities differ widely as regards the ideal oral antiseptic. A mild, antiseptic effect is obtained from physiological salt solution heated to body temperature. To sterilize the oral cavity completely is both impossible and inadvisable, powerful antiseptics tending to injure the tissues. Experience and research have shown that a solution of alcohol,

hydrogen dioxide, resorcinol, and zinc chloride in carefully adjusted proportions, with the necessary flavoring agents, not only produces the desired results, but conforms to the taste of most patients, consequently insuring continuous use:

℞ Resorcinol, ...3i;
Zinc chloride, ...gr. x;
Menthol, ...gr. xx;
Thymol, ...gr. xv;
Oil of wintergreen, synthetic, ...mxv
Alcohol, ...ʒii;
Hydrogen dioxide solution, ...ʒiii;
Water, enough to make .....ʒviii.
M. fiat mistura.

One teaspoonful of this is to be added to half a tumblerful of warm water, and the resulting solution used as a mouth wash and gargle. Each mouthful taken should be gargled with for one half to one minute, and the fluid also forced back and forth between the teeth.

In conjunction with the wash, a suitable tooth powder should be employed, e. g., the following:

℞ Precipitated calcium carbonate, ...ʒii;
Powdered castile soap, ...ʒi;
Oil of peppermint, ...mxx.
M. fiat pulvis.

The mechanical application of the brush, toothpick, floss silk, etc., is also important. The gums should receive additional attention by light massage with the wet finger tips, a rotary movement being employed.

Treatment of Retarded Growth in Children.—Raoul Dupuy, in a communication to the French Academy of Sciences (*Bulletin médical*, January 31, 1912), laid stress on the fact that not all conditions of developmental backwardness or arrest in children should be attributed to a deficient thyroid function. In some backward subjects already past the age of puberty, the administration of thyroid preparations alone may yield little or no benefit. For the last three years Dupuy has been giving, after a preliminary course of treatment based on an examination of the blood and urine, and consisting of the administration of bone marrow, phosphates, salts of iron and calcium, etc., a mixed opotherapeutic treatment, i. e., a combination of preparations of several of the ductless glands. Thus, after treating congenital syphilis, when its existence is suspected, or removing adenoid growths, where present, he prescribes for a month daily doses of 0.02 to 0.05 of thyroid substance, together with either pituitary or suprarenal preparations, according to the deficiencies of function recognized. In cases associated with gigantism and general asthenia, he gives orchitic extract (interstitial portion) in daily doses of 0.05 to 0.10 gramme, and in cases with mental irritability and instability, corpus luteum extract in the same dose. These preparations are continued for six to ten months, as the effects are otherwise but temporary. To assist growth, where required, a diet rich in carbohydrates and mineral salts is given.

In thus practising "polyopotherapy" the author reports having obtained the following results: 1. More rapid growth than by administration of thyroid preparations alone; arrest of growth in patients with gigantism. 2. Diminished loss of weight as compared with thyroid alone; marked tendency to regain the original weight when the latter had been reduced by thyroid used singly. 3. Increased arterial tension and improved power of assimilation. 4. Disappearance of morbid phenomena under dependence of the sympathetic system, which thyroid treatment alone often will not relieve, viz., acroasphyxia, also disordered vision, and visceral ptoses, etc. 5. Marked improvement of the general physique, with increased muscular strength, lessened nervous irritability, and establishment of the sexual functions. 6. Intellectual and moral development.

Treatment of Aural Disturbances in Hereditary Syphilis.—I. W. Voorhees, in *American Journal of Dermatology* for April, 1912, referring to this subject, states that the best results obtained with salvarsan are seen in congenital lues. If mercury is used, inunction is probably the best method of introduction, but the benefit may be only temporary, the condition becoming as bad as ever after a few days. Hydrargyrum tannicum may be given internally. For administration of mercury by the injection method, the salicylate is probably best:

℞ Hydrargyri salicylici, ... 2 grammes;
Petrolati liquidi, ...20 grammes.
M. fiat solutio.

One half c.c. of this may be injected every fourth day into alternate quadrants of the buttocks.

Injections of pilocarpine hydrochloride are also very useful in hereditary syphilis.

Treatment of Acute Rheumatism. — John Laird in *The Practitioner* for February, 1912, dwells upon the necessity of using decalcifying agents in the treatment of rheumatism. The fibrous tissues, chiefly involved, contain a relatively large amount of calcium salts, and these one should endeavor to remove when in excess. The author points out that the remedies in vogue in rheumatism, viz., lemon juice, alkalies, and citrates, as well as sodium salicylate, all tend to act in this manner.

In treating an acute attack Laird orders rest in bed, clears out the bowels with a small dose of calomel followed by a saline (keeping them thereafter gently open each day), and gives the following mixture every three or four hours:

℞ Potassii bicarbonatis, ...3ii;
Tincturæ aconiti, ...mviii;
Tincturæ aurantii, ...fʒi;
Aquæ chloroformi, q. s. ad .....fʒviii.
M. Sig.: Add two tablespoonfuls to the same quantity of water in a tumbler, then add one tablespoonful of fresh lemon juice, and drink while effervescing.

The aconite should be discontinued after the first twenty-four or forty-eight hours. Between successive doses of the mixture the author gives pure sodium salicylate in sufficient amount to relieve the joint pains; but he relies chiefly on the effervescing preparation to "eradicate the poison."

Fluids should be given freely; barley water acidulated with lemon juice is acceptable as a drink. In addition to the use of decalcifying agents, calcium salts should be withheld. Hard water is therefore to be avoided, and milk should be omitted from the diet. Under this plan of treatment Laird avers that there is less likelihood of cardiac or other complications arising. In chronic forms of rheumatism, he administers the effervescing mixture three times a day before meals.

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GASTRIC DISORDERS AND SMALL HEART.

A connection between a special set of gastric symptoms and a congenitally small heart would seem to afford a fit subject for skepticism; but the orthodiascope, which enables the x ray operator to study the human heart and its relative size while in action, and the electrocardiograph, which makes it possible to obtain records of venous, arterial, and cardiac pulsations, have placed such a pathogenic relationship on a sound foundation. A fixed normal standard of the dimensions of the heart having been established—the tables of Groedel, based on tracings in the upright position,—it became possible to identify as small, any heart which fell below the minimum measurements adopted as normal for the corresponding size and sex. We are not dealing with a new question as far as the existence of microcardia is concerned, the founder of modern medicine, Laennec, and long after him Virchow, Wilhelm Müller, His, and many other authorities having given it careful attention. But all their work was done either on the hearts of animals or on the human heart only after death. The orthodiascope, on the other hand, has not only made it possible to study the morphological features of the question in living man, but also to identify the clinical phenomena which the presence of a small heart entails. Adler and Kriedel (*Archives of Internal Medicine*, March, 1912) have recently discussed in this connection a type of microcardia in which the congenitally small heart is associated with gastric symptoms.

The syndrome occurs in both sexes, though females are more predisposed to it than males. The symptoms oftenest complained of are dependent upon irregularities either of the peripheral nervous system or of the psychical sphere or both. Usually gastric disorder is complained of, which the history shows to have existed as long as the patient can remember. All those disturbances commonly attributed to hyperacidity and gas formation, which pass under the name of gastritis, intestinal fermentation, etc., are present. Examination of the stomach contents commonly shows more or less hyperchlorhydria, but no sign of any organic lesion. These patients are frequently subjected to stomach washings, intestinal irrigations, medications, and diets of all sorts for years with but little result. Psychically they are usually much depressed and subject to attacks of hypochondria. They are in no sense hysterical. A distinguishing feature of the syndrome is that it is congenital, while all other forms of hyperacidity and hypochondriasis are acquired. The blood pressure is, as a rule, slightly below the normal. There is occasionally a certain degree of anemia. The small hearts present in these cases are somewhat more easily fatigued than normal hearts, but signs of myocarditis are never found. In many instances all the orthodiagraphic measurements of the heart are below normal; in others, only the transverse diameter. The authors do not consider the small heart in any way the cause of, or even a factor predisposing to other symptoms; it is simply one symptom in the entirety of the clinical picture.

The treatment in these cases involves merely the persistent use of a simple, easily digestible, but highly nutritious diet, directed against both the hyperacidity and flatulence. Magnesia preparations, physostigma, etc., may prove useful. But the main treatment should be a moral one. The confidence of the patient must be gained and a right way of living with self discipline in combating the mental depression insisted upon. Life in the open and hydrotherapy, while not curative, may at least lead to a considerable amelioration. We would add to these graded, active, out of door exercises, especially mountain climbing, which in the young and to a certain extent in the adult, are known to increase the amplitude of diastole. Even without treatment, most of these patients quiet down with advancing years, the irritability of the peripheral nerves, the psychical depression, etc., gradually lessening, though nervousness and inability to bear great exertion or emotional strain will always persist.

THE ACTUAL VALUE OF ANTITYPHOID VACCINATIONS.

I.

The results of antityphoid vaccinations are reported so indefinitely that it is not yet possible to determine how much immunity has been conferred nor how long it lasts. Doubtless there is some protection in the majority of cases, but the advocates have given an unfortunate impression that they exaggerate the benefits, while their opponents seem unduly impressed by the failures. Major Paul Straub states (*Military Surgeon,* December, 1911) that ninety-three per cent. acquire immunity, but does not give the evidence on which that conclusion is based. The statistics of the British army show that one third as many cases of typhoid developed in the inoculated as in the unprotected, which seems to indicate that sixty-six per cent. become immune. Some of the later infections are interpreted as meaning that the immunity fades, and now it is stated that reinoculation is imperative every thirty months. The rapid fading of the blood's agglutinative power rather points to fading in less than thirty months of what immunity is acquired.

The earliest statistics were evidently deceptive, as they were based on the results in volunteers, for these careful men have less sickness from all causes. Later reports from India by Lieutenant Colonel R. H. Firth, the sanitary director of the army (*Journal of the Royal Army Medical Corps,* June, 1911), are not so favorable, though the article was written by an advocate to show the good done. It was thought that a special advantage was the lessened mortality if infection was acquired, but Firth now reports a ten per cent. death rate, whereas the rate in the Spanish was only seven.

The main conclusion to be drawn from Firth's statistics and Leishman's (*Journal of Tropical Medicine,* July 1, 1910) is that the other factors cause so much fluctuation that we must be very careful in the interpretation of such figures. Sambon says (*Ibidem,* October 1, 1911): "Not long ago it was not permissible to young army surgeons to suggest the existence of enteric fever in India, because superior officers held that it was unknown in the Gangetic valley." This was followed by a period when it was considered proper to name every continued fever typhoid if malarial organisms were not found and quinine was ineffective, so the cases reported were unduly numerous. With better ways of differentiating other fevers, fewer typhoids were reported. The pendulum has now swung the other way, and no diagnosis of typhoid is accepted unless it is proved. It is also hinted that mild cases, which are receiving much attention in civil life, are not reported if the physician is too busy to spend the time on a minute laboratory diagnosis with the subsequent trouble during convalescence.

The chief factor in the phenomenal reduction of typhoid in India in 1909, following widespread inoculation, seems to have been the strenuous sanitary campaign then organized. The wet system of closets was established to prevent fly infection, incineration was more common, new arrivals were segregated, convalescents isolated a long period, and thirty-one carriers were discovered. There was also a lack of correspondence between the number of any organization inoculated and the number of typhoids, and, in 1910, the organization in which all were inoculated had the most cases, while the two with the least percentage inoculated had no typhoid at all.

There seems to be a general disposition the world over to credit sanitation alone with the prevention of typhoid. The Indian sanitarians are naturally proud of the reduction of their cases from 1,095 to 350 and the deaths from 224 to forty-seven, and seem to resent giving the credit to the laboratory workers. The reduction of the death rate from twenty to thirteen per cent. is in favor of inoculation, but therapeutic literature would give the impression that it might be due to the better treatment of the last few years. Lieutenant Colonel Melville, professor of hygiene in the British Royal Medical College, does not mention inoculation as a factor at all (*Journal of the Royal Sanitary Institution,* April, 1911), and to prevent any relaxation of the rules, the surgeon general, F. W. Trevor, published a circular to the soldiers to emphasize the fact that it was sanitation which so remarkably reduced sickness, deaths, and invaliding from all diseases as well as typhoid (*British Medical Journal,* June 17, 1910). He also showed that this diminution in the decade before inoculations were tried was greater than since—an improvement which began fifty years ago, when the death rate in India was fifteen times the present. Attention is being called to the magnificent results of sanitation in Germany and the phenomenal work in Yakima county, Washington, of Dr. L. L. Lumsden, of the Public Health and Marine Hospital Service.

Karl Pearson (*Biometrics,* 1910) objected to the way the early statistics were used, and said the conclusions were unwarranted, as the classes compared were not the same. He very keenly pointed out what has since been proved—that those who volunteered would have low rates in any event, as they were careful, thoughtful men.

THE TOXICITY OF CAFFEINE.

The United States Department of Agriculture, Bureau of Chemistry, published on April 4, 1912, *Bulletin No. 148,* which contains a valuable contribution to medicine in an experimental study on different species of animals of the toxicity of caffeine, written by William Salant and J. B. Rieger.

The authors found that the toxicity of caffeine varies with the mode of its administration, being least when given by mouth, and greatest when administered intravenously. Age is likewise a factor, young animals being more resistant than the full grown and older animals. The animals themselves show a great difference in their resisting power. Thus, white or black rabbits were found to be less resistant than gray rabbits; the cat succumbs more easily than the guineapig or rabbit. The minimum fatal dose for dogs was found to be the same by mouth as by subcutaneous injection and is about the same as for the cat. The toxicity varies in the guineapig according to the season of the year, while different diets do not influence the resistance of rabbits and guineapigs, but low protein diet tended to decrease the resistance in dogs. Caffeine was not cumulative in the rabbit or dog, even if administered for a considerable length of time. Some degree of tolerance may be induced in rabbits under certain conditions, but not in dogs, according to these experiments. The toxicity is probably increased under pathological conditions, since comparatively smaller doses were fatal to rabbits, cats, and dogs, when marked lesions, not due to caffeine, were found at the autopsy. Glycosuria was observed in rabbits, guineapigs, and cats when caffeine was given in sufficient amounts.

At the same time that the report appeared, the *Archives of Psychology* published its twenty-second number, which is made up of the voluminous report of Dr. H. L. Hollingworth on the Influence of Caffeine on Mental and Motor Efficiency. The author has made extensive experiments and finds that the effect on motor processes comes on quickly and is transient, while the effect on higher mental processes comes on more slowly and is more persistent. He concludes further, from his experiments, that there is absolute absence of any traces of secondary depression or of any sort of secondary reaction consequent upon the stimulation which is so often present. Although the investigation covered a period of forty days and the effect of single doses was traced for a period of three days, the question of continuous use of the drug could not be considered. The author states, therefore, that we should be justified in assuming that if the constant use of caffeine in moderate amounts proved really deleterious, some indication of such effect would have shown in his experiments. But it must be remembered that the author is a psychologist and that his experiments should be taken only from the psychological point of view.

The whole question of the toxicity of caffeine is apparently one of idiosyncrasy. Some adults are extremely susceptible to the alkaloid, suffering from dyspnea and palpitation after small doses, while others, possibly of more phlegmatic type, remain physically unaffected by cup after cup of a strong decoction of coffee. To some the beverage is, to a slight extent at least, delirifacient, while in luckier habitués it produces a delightful euphoria and increased intellectual ability without obviously detrimental reaction.

NEOSALVARSAN.

It is about two years since Ehrlich gave to the medical profession his new remedy against syphilis. As we said at that time editorially, he had experimented with many arsenic preparations until he thought he had found in the six hundred and sixth combination a remedy which would cure lues. In thousands of cases salvarsan has been tried, giving rise to the general impression that the chemical could be improved upon. This was done by Ehrlich, whose power of working seems to be indefatigable. He gives now to the profession as his nine hundred and fourteenth preparation, neosalvarsan. A short notice of this antiluetic remedy appeared in our editorial pages for March 23rd. According to Ehrlich, "914" is formed through a condensation of the formaldehydesulphoxyl acid sodium with salvarsan.

Schreiber, of Magdeburg, reports his results with neosalvarsan in the *Münchener medizinische Wochenschrift* for April 23, 1912. His first experiments were made with the drug which he prepared himself according to the instructions received from Ehrlich. Later on he used the manufactured combination. He has given about 1,200 injections to 230 patients, partly intramuscularly, partly intravenously. The dose is given as 0.9 gramme for men, 0.75 for women, 0.15 gramme for children, and 0.05 gramme for infants. But this dose is increased in adults in such a way that a strong man would receive in seven days four injections amounting in all to six grammes of neosalvarsan, equivalent to four grammes of salvarsan.

The advantages of neosalvarsan over salvarsan consist in its easier solubility and its absolutely neutral reaction; the patients stand it better, and it can therefore be given in larger doses; the results are equally good; and, finally, it is better adapted for intramuscular injections.

PASTEURIZATION OF MILK.

Among other recommendations, the commission of the New York Milk Committee published in the *Public Health Reports* for May 10, 1912, a resolution passed regarding the temperature of pasteurization. The statement was based upon the fact that destruction of chemical constituents of milk by heat occurs at a higher temperature than that necessary for the destruction of the bacteria of infectious diseases transmissible by milk. Pasteurization of milk should be between the limits of 140° F. and 155° F. At 140° F. the minimum exposure should be twenty minutes. For every degree above 140° F. the time may be reduced by one minute. In no case should the exposure be for less than five minutes. To this recommendation the committee adds that in order to allow a margin of safety under commercial conditions, the minimum temperature during the period of holding should be 145° F. and the holding time twenty minutes. Pasteurization in bulk, the committee explains, when properly carried out has proved satisfactory, but pasteurization in the final container is preferable.

A NEW HYPOPHYSEAL SYNDROME.

Burnier, in the *Annals of Ophthalmology* for April reports a case of dwarfing (nanism) induced by a lesion of the hypophysis in a child. It is almost universally admitted that acromegaly is due to an excessive functional activity of the anterior lobe of the hypophysis, while the diminution of function in the posterior lobe probably gives rise to an adiposogenital degeneration. It is also known that lesions of the hypophysis are not rare in giants, and some authors believe gigantism and acromegaly to be due to one and the same disease; that gigantism is acromegaly during the period of growth, and that acromegaly is gigantism when the growth of the body has ceased. In this case the patient was twenty-six years old, about as tall as a boy of eight, physically and intellectually a child. The juxtoepiphyseal cartilages were still present. He presented all the clinical signs of a tumor of the hypophysis, bilateral atrophy of the optic disc, temporal hemianopsia, headache, vomiting, and enlargement of the sella turcica. The tumor had developed very slowly and dated back to infancy, as proved by the blindness of the right eye, which began at the age of eight years. The patient stated that he ceased growing at the age of ten. Analogous cases are rare in literature, and the relation existing between the infantilism and dwarfing of the patients with the hypophyseal lesion has not before been pointed out. The fact that dwarfing may be caused by a decreased functional activity of the anterior lobe has been proved by experiment, in which the removal of the pituitary body from young animals gave rise to a certain degree of nanism and infantilism.

PROPHYLAXIS OF POLIOMYELITIS.

Netter (*Journal de médecine de Paris* for April 20th), considering that his researches and those of others have proved definitely the contagiousness of poliomyelitis, advises, for prophylaxis, in addition to sequestration of the patients, rigid cleanliness of the nose. Hydrogen peroxide, menthol, and potassium permanganate are useful locally, and hexamethylenamine is advised for internal use, since this substance appears promptly in the cerebrospinal fluid. Hopes are entertained of endorrhachidian use of a serum.

INTERNAL DECORATION IN HOSPITALS.

In painting the walls of the various wards and rooms of a hospital, there are obviously rules to be observed if there is to be due regard of both hygienic and esthetic considerations. Private rooms, or wards, and the operating theatre require different treatment. As Henry A. Gardner, writing in *Drugs, Oils, and Paints* for May, 1912, observes, it is necessary to consider in the wards the eyes of the patients, and to this end sanitary flat wall finishes are demanded, with their nonreflective, matt surfaces. These are to be found in the market, made of lithopone, zinc oxide, sublimed white lead; barytes, silica, and other nonpoisonous pigments ground in a treated oil which dries to a flat, waterproof, and washable surface. In the decoration of operating theatres, on the other hand, and possibly for the general trim of the hospital, satin or gloss finish enamels are to be recommended. The highest grade produced are made from American zinc oxide, ground in a pale, hard drying varnish. This produces a hard, ultrawhite, and very sanitary surface. Both these finishes are not only durable, but elastic and impervious to water and antiseptic solutions, and may be submitted without injury to the fumes of sulphur dioxide or formaldehyde. Even in the most delicate hues they remain unaffected as to polish and color by the lime that may exist in the underlying cement or plaster.

SEPTIC SORE THROAT AND MILK SUPPLY.

In the report of the commission of the New York Milk Committee, published in *Public Health Reports* for May 10, 1912, is a paragraph on septic sore throat. The committee recommends that public health authorities should make septic sore throat a reportable disease, so that the uncertainty as to its etiology may be dispelled. It is stated that in recent years quite a number of outbreaks of this disease have been traced to milk supplies, and the suggestion has been made that the infection of the milk is due to udder infection of the cow; on the other hand, it has been stated that it is due to contact with infected persons. This divergence of opinion cannot be overcome until cases of septic sore throat are regularly reported and tabulated by public health authorities.

Obituary.

WILLIAM S. CHEESEMAN, A. B., M. D.,

of Auburn, N. Y.

Doctor Cheeseman died on May 7th at his home in Auburn, N. Y., aged fifty-nine years. He was born in Brooklyn, February 10, 1853, studied at the Polytechnic Institute of that Borough, and subsequently at Princeton University, where he graduated in 1871. Four years later he received his degree in medicine from the College of Physicians and Surgeons, New York, with high honors, and spent the two following years as interne in Bellevue Hospital. He took up his residence in Auburn in 1881 and married the next year Mary, a daughter of the late Reverend Theodore L. Cuyler, of Brooklyn, who survives him. He was attending surgeon of the City Hospital of Auburn, chairman of the local committee of the State Charities Aid Association, trustee of the Seymour Library Association, and at one time president of the Central New York Medical Association. Doctor Cheeseman was a man of marked literary taste and ability, an excellent German scholar, and a draughtsman of no mean skill. He was a valued contributing editor to the New York Medical Journal.

Special Article.

THE MONTEFIORE HOME.

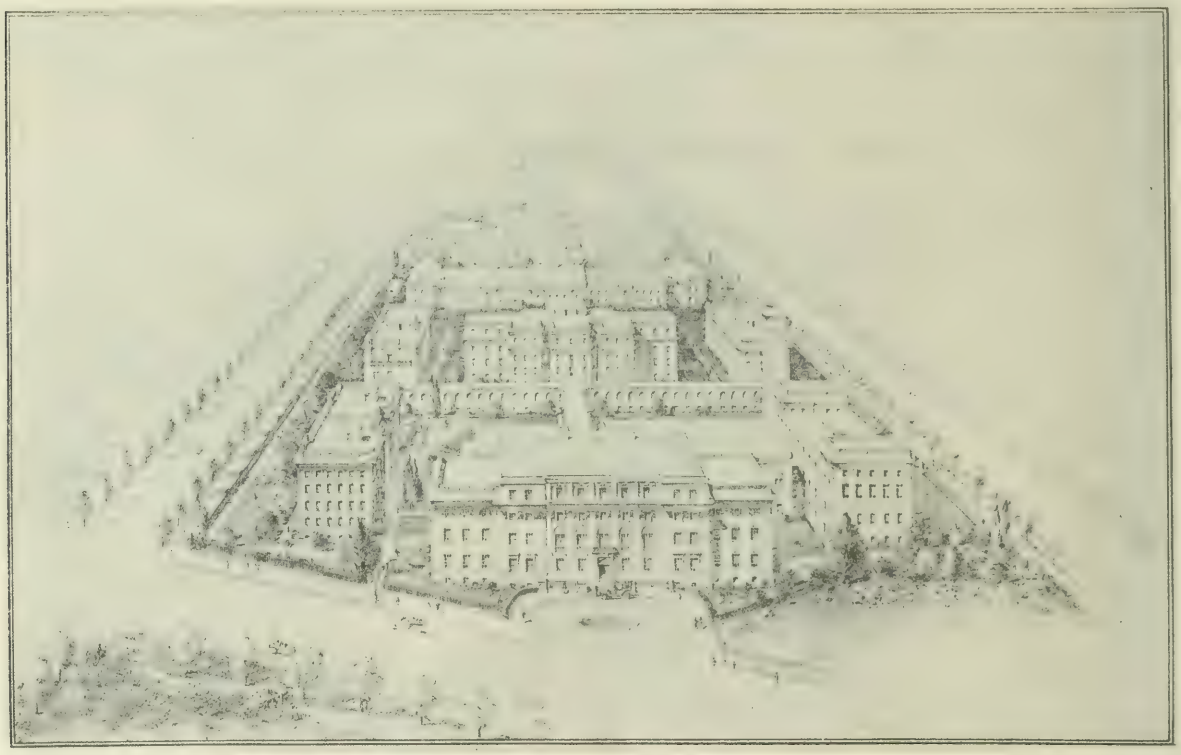
This hospital for chronic invalids, situated at Broadway and 138th Street, which maintains also a country sanitarium for consumptives at Bedford Hills, N. Y., has in course of construction, on Gun Hill Road, between Steuben and Wainwright Avenues, extending south as far as 210th Street, a new series of buildings, constructed on the pavilion plan, all of them, nine in number, being connected by covered corridors.

The unique position of the Montefiore Home places it between a hospital and a shelter, requiring special arrangements to meet the peculiar conditions. The majority of the patients are in a stationary stage of their chronic ailments, but a considerable number are always sufficiently ill to demand hospital treatment, either medical or surgical, as the case may be.

A special pavilion is to be devoted to the treatment of diseases of the lungs.

A most complete equipment for physical treatment will make it possible to give the patients the benefit of all kinds of baths, electrical treatment, and massage, while the gymnasium, through the munificence of a donor, will show a complete set of the well known Zander apparatus.

The scientific work, for which the Montefiore Home offers splendid opportunities, will be done in well equipped laboratories, and the general hospital facilities, operating rooms, and wards will embody all the latest improvements known.



The new Montefiore Home in New York.

The accompanying bird's eye view shows the beautiful, symmetrical, and logical arrangement of the buildings, which will be of reenforced concrete with brick facing and terra cotta ornamentation. The structures will be strictly fireproof.

Artificial flooring has been adopted throughout, excepting in the offices. The northern part of two large city blocks combined will be occupied by the

administration and economic buildings in order to give the patients the southern grounds with the best exposure to sunlight.

The buildings will be heated by the circulating hot water system, and lighted by electricity, which will be generated on the grounds. The kitchen and laundry will be thoroughly modern in their equipment.

One of the greatest advantages of the new institution will be the ample area available for parks and walking and recreation grounds.

Mr. Jacob H. Schiff is president of the Montefiore Home.

Medical Law.

X. THE PHYSICIAN AS WITNESS.

In the case of Campbell v. Hayden, 145 Southwestern Rep. 103, was an action by an administrator to recover $1,114.19 and interest from nephews of decedent, which the nephews assert was given to them by decedent in consideration of their caring for him during his last days.

It appeared that the decedent, an old man over seventy years old, was stricken with paralysis while in Montana. One of the physicians who attended him when first stricken described his affliction as apoplexy, commonly called paralysis. He was at first completely paralyzed, but afterward recovered the use of his limbs on one side, and could say several words. One witness said that he could say "yes" and "no," and when he was angry would swear, but that he could not carry on a connected conversation understandingly. His hearing appeared to have been unimpaired, and persons carried on conversations with him by asking him questions which he could answer by "yes" or "no." The nephews asserted that while in this state, decedent gave them all of his property in consideration of their caring for him during the rest of his life.

Upon the trial of the case, the doctor who had attended decedent stated that while conversations had to be carried on between decedent and other persons by asking decedent questions which could be answered by "yes" or "no," yet that his condition was one in which the mind was unimpaired, but that the way of expression was the impairment. This statement was ordered to be stricken out by the trial judge, but the Supreme Court, in reviewing the case, said, "We think that was error. It was within the province of this physician to state the condition of his patient and the foregoing symptoms, and this sentence quoted should not have been excluded."

In the case of Torreyson v. United Rys. Co. of St. Louis, 145 Southwestern Rep. 106, was an action to recover for personal injuries sustained by the plaintiff, a woman about forty-three years of age, who, by the sudden starting of the car as she alighted, was thrown to the ground, striking the back of her head on the pavement and cutting a gash, which bled profusely.

Although it appears that the plaintiff had been in excellent health previous to the accident, she seems to have been almost completely incapacitated afterward, suffered intense and almost continuous pains in the back, hip, small of the spine, and base of the skull, had no appetite, and could not sleep. At the time of the trial her condition was somewhat improved, but she was still practically helpless. Upon the trial two doctors testified for the plaintiff; one, that she was suffering from traumatic neuritis, and another, that "she is suffering from a nervous condition, due to an injury, bodily injury, which is usually classed as traumatic neurosis." Both of these answers were objected to by the defendant's counsel, on the ground that they were conclusions of the witness within the province of the jury, but Mr. Justice Caulfield, in passing upon the correctness of the ruling of the Trial Court, said:

> The court committed no error in permitting one physician to testify that in his opinion plaintiff suffered from what he should call "a traumatic neuritis," and in permitting another physician to state that in his opinion "she is suffering from a nervous condition due to an injury, bodily injury, which is usually classed as traumatic neurosis." These were nothing more than statements as to the nature and character of plaintiff's ailment, without suggesting the particular cause, and therefore were competent.

XII. MISCELLANEOUS REGULATIONS AND MATTERS.

It would seem that the practice of medicine is, at best, a sufficiently perilous profession for an honorable and well meaning man to engage in, but the local option laws appear to have added a wholly unnecessary peril in certain localities.

In Kentucky, the statute provides that "any person who shall sell, barter, or loan, directly or indirectly, any such liquors," in any territory where the act is in force, shall be punished. In the case of Commonwealth v. Abbott, 145 Southwestern Rep. 373, it appeared from the testimony of Steve Beard that he got a pint of whiskey from the defendant, a practising physician; that he told the defendant he wanted the whiskey for a child who had measles, and that he did not want the whiskey for nothing; that he took the whiskey home. Sometime afterwards, the defendant passed his house and he got a bottle of whiskey and gave it to the defendant. The defendant did not ask him to return it. He felt he did not want the whiskey for nothing. There was some little of the whiskey he got from the defendant in the bottle, and he refilled it. He gave back to the defendant about as much whiskey as he got from him. This was substantially all of the evidence.

It is gratifying to note that the court at the close of the case, instructed the jury peremptorily to find the defendant not guilty. The Commonwealth being dissatisfied with this disposition of the case, took an appeal to the Court of Appeals, where the judgment of the lower court was affirmed. Mr. Justice Hobson, speaking for the court, in commenting upon the law and evidence, said:

> Under the act, to barter or loan the liquor is punishable, no less than to sell it. But the three words, "sell, barter, or loan," as they are used in the act, should each be considered in determining the meaning of the act. What the legislature had in mind was the traffic in such liquors. If only a sale was forbidden, by bartering and loaning the evil the act was intended to prevent might be carried on by persons under a guise; but the statute was not designed to punish the giving of spirituous liquors by one person to another. Beard's evidence simply shows that

the doctor gave him the whiskey for his sick child. There was no agreement that he was to return it, and evidently from his testimony, there was no expectation on the part of the doctor that he should return it. The doctor did not ask its return, and Beard was under no obligations to return it, or pay for it in any way. The statute was not intended to punish a neighborly kindness like this.

While the determination of both courts was a complete vindication of the physician, yet the implication of having been subject to a criminal prosecution, to say nothing of the heavy expenses necessarily entailed, was a severe penalty for doing a "neighborly kindness."

News Items.

Changes of Address.—Dr. J. Landman, to 583 Finchley Road, London, N. W., England.

Dr. I. B. Hamilton, from Tucson, Arizona, to Orosi, California.

Dr. D. Bryson Delavan, from 1 East Thirty-third Street to 40 East Forty-first Street, New York.

The American Society for the Study of Alcohol and Other Narcotics will hold its forty-second annual meeting in the parlors of the Marlborough-Blenheim, Atlantic City, June 5, 1912, at 10 a. m. This is the oldest medical Society in the world for the scientific study of alcohol and the degenerations which follow from it. A warm invitation is extended to all persons interested in this subject to be present on this occasion. For particulars address Dr. T. D. Crothers, secretary, Hartford, Conn.

Chapter Meeting of Alpha Omega Alpha.—Gamma of New York chapter of the honorary medical fraternity, Alpha Omega Alpha, requests the honor of the presence of its friends at its annual public meeting on Tuesday evening, May 21, 1912, at 8:30 o'clock, Assembly Hall, University Block, Syracuse, N. Y. There will be an address by Dr. Richard Mills Pearce, professor of research medicine, University of Pennsylvania, on Chance and the Prepared Mind. Dr. John L. Heffron, counselor. An answer is requested.

Examination for House Physician at the Italian Hospital.—Announcement is made by the superintendent of the Italian Benevolent Institute and Hospital, at 165-173 West Houston Street, that on June 10th, at 10 a. m., a competitive examination will be held for the appointment of three house physicians in the institution. Applications or requests for further information regarding the examination should be made at once to the superintendent, Dr. A. L. Soresi. The Italian Hospital will move into its new building in East Eighty-third Street, on August 1st.

Resolutions on the Death of Doctor Lipshutz.—*Whereas,* Death has suddenly snatched from our midst our coworker, Dr. J. M. Lipshutz,

Resolved, That we, the Medical Board of the Bronx Hospital and Dispensary, hereby express our deep regret at the loss of an earnest, energetic, and promising young physician, and

Resolved, That a copy of these resolutions be sent to his family, and to the New York Medical Journal, *Medical Record, American Medicine,* and the *Critic and Guide.*

William J. Robinson, president; M. Aronson, Alex. Goldman, H. Schumer, Martin Rehling, secretary, committee.

Health Commissionership of Boston.—It is announced that a vacancy will soon exist in the position of chairman of the Board of Health of the City of Boston, and Mayor Fitzgerald has invited applications for the position from physicians, sanitary engineers, or other persons experienced in this field, who are American citizens. The salary is now $4,500 a year, but the mayor has recommended an increase to $5,000, or even more. The appointment is made by the mayor, subject to confirmation by the civil service commission, and the new appointee will serve out two years of an unexpired term, the full term being three years. Applications should be addressed to the Hon. John F. Fitzgerald, Mayor, Boston, Mass.

Gifts and Bequests to Charitable Institutions.—The late Dr. Francis Bacon, of New Haven, Conn., has bequeathed $100,000 to the New Haven Antituberculosis Society, and has made Yale University his residuary legatee, the bequest to be used as a scholarship fund in the college.

Infectious Diseases in New York.—During the week ending April 27, 1912, the following cases of communicable diseases, with the deaths therefrom, were reported to the Department of Health of the City of New York: Pulmonary tuberculosis, 440 cases, 188 deaths; diphtheria and croup, 273 cases, 23 deaths; measles, 1,904 cases, 31 deaths; scarlet fever, 380 cases, 30 deaths; chickenpox, 214 cases, 0 death; typhoid fever, 32 cases, 9 deaths; whooping cough, 54 cases, 3 deaths; cerebrospinal meningitis, 6 cases, 2 deaths, making a total of 3,303 cases and 286 deaths. The total deaths from all causes reported during the week numbered 1,529, corresponding to an annual death rate of 15.42 in a thousand of population.

Conference on Industrial Diseases.—The second National Conference on Industrial Diseases will be held at Atlantic City on June 3d, 4th, and 5th, one session to be held jointly with the American Medical Association. Among the topics selected for discussion are Investigation of Industrial Diseases, Health Problems in Modern Industry, State Promotion of Industrial Hygiene, Industrial Diseases, and Immediate Legislative Programme for the Promotion of Industrial Hygiene. A special feature of the conference will be an industrial hygiene exhibit, for which are being collected illustrations of industrial processes dangerous to health, as well as photographs and charts showing the effects of occupational diseases.

Medical Association of the Greater City of New York.—A stated meeting of this association will be held in Du Bois Hall, New York Academy of Medicine, on Monday evening, May 20th. The programme includes the following papers: X Ray Measurement of the Permanent Teeth Before the Loss of the Temporary Teeth, illustrated with lantern slides, by Dr. Sinclair Tousey; Wheat Bran in Constipation, by Dr. A. Ernest Gallant; The Tissue Density Factor in General Physiology, in General Pathology, in Psychogenesis, Physical Psychology, and Neurology, by Dr. Homer Wakefield. A general discussion will follow, opened by Dr. Edward D. Fisher and Dr. Joseph F. Terriberry. The special meeting in the Borough of the Bronx will be held on June 10th.

Personal.—The distinguished Nestor of American laryngology, Dr. J. Solis-Cohen, of Philadelphia, is to receive the degree of LL. D. from Temple University of Philadelphia on June 6th. Unaware doubtless of that fact, Jefferson Medical College has likewise announced that it will confer the degree of LL. D. on Doctor Cohen, but on June 3d, at its annual commencement.

Professor Ludwig Pick, who is coming to this country to deliver the Cartwright lectures of the Alumni Association of the College of Physicians and Surgeons in November, is prosector to the Friedrichshain Hospital, and pathologist to Professor Landau's clinic in Berlin. He has written many notable articles on such subjects as hydatid mole with metastases and epithelioma chorioectodermale. He has also made contributions of note on cancer in the thyroid of salmon, and ochronosis. He is one of the best known morphologists in Germany.

Dr. David L. Edsall, who resigned from the chair of the practice of medicine at the University of Pennsylvania in February, 1911, and since that time has been professor of preventive medicine at Washington University, St. Louis, has been appointed Jackson professor of clinical medicine at Harvard Medical School, to succeed Dr. Frederick Cheever Shattuck.

Dr. John B. Deaver, of Philadelphia, was the guest of honor at the annual banquet of the Washington, D. C., Medical and Surgical Society, which was held on the evening of May 8th. In the afternoon Doctor Deaver held a clinic at Freedman's Hospital for the members of the society.

Dr. William C. Gorgas, chief sanitary officer of the Panama Canal Zone, will deliver the address at the commencement exercises of Johns Hopkins University on June 11th.

Dr. Ernst J. Lederle, health commissioner of New York City, has been appointed a delegate to the fifteenth international congress on hygiene and demography, to be held in Washington, D. C., September 23d to 28th.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

May 2, 1912.

1. W. W. KEEN: Influence of Antivivisection on Character.
2. HENRY FARNUM STOLL: Dr. Samuel Sheldon Fitch, a New England Consumption Specialist of Seventy-five Years Ago.
3. DAVID G. HALL: Cerebrospinal Meningitis Caused by Acid in Blood.
4. CHARLES GREENE CUMSTON: One Hundred Cases of Vaginal Hysterectomy for Uterine Fibromata.
5. GUSTAF SUNDELIUS: Medical Gymnastic Treatment in Certain Circulatory Disturbances.

3. Cerebrospinal Meningitis Caused by Acid in the Blood.—Hall found the saliva to be acid in a number of patients suffering from cerebrospinal meningitis, and infers from this that the blood in this disease is overcharged with acid. He thinks it would be advisable to prescribe, in addition to the serum inoculations, the free use of some mild alkaline drink to bring the blood back to its normal condition as soon as possible.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

May 4, 1912.

1. M. L. HARRIS: Treatment of Fractures.
2. FREDERICK F. RUSSELL: Antityphoid Vaccination in the Army in 1911, and Its Suitability for Use in Civil Communities.
3. WILBUR A. SAWYER: Typhoid Carrier on Shipboard.
4. EDWARD B. BIGELOW: Widal Reaction in Detection of Typhoid Carriers.
5. F. MCKELVEY BELL: Bismuth Pastes.
6. GEORGE M. NILES: Pellagraphobia: A Word of Caution.
7. E. M. PRINCE: Gas Oxygen Anesthesia.
8. ANTHONY BASSLER: About Ourselves.
9. JOHN B. MURPHY: Surgery of Bones, Joints, and Tendons (*To be continued*).
10. HUGH H. TROUT: Proctoclysis.
11. JAMES FARRAGE: Septichemia with Origin before Onset of Labor.
12. R. M. BENSON and C. S. AUSTIN: Grafting Cornea of Rabbit's Eye for Destructive Ulcerative Cornea.
13. WILLIAM E. SAUER: Tonsil Guillotine with Dull Blade.
14. F. H. VERHOEFF: Improved Carbolfuchsin Solution.

1. Treatment of Fractures.—Harris says that the presence of one to three inches of shortening due to overlapped fragments and the ability to get about no longer satisfy the patients. They exact an x ray picture at the start that they may know that apposition of the fractured ends is correct, and also at the finish, that correct apposition has been maintained throughout the treatment. For these reasons, when a bone has suffered severe fracture, the patient should be made to understand that perfect restoration of the normal is not possible. In the matter of diagnosis the x ray has revealed, not only marked deformities which could not be made out by other methods of examination, but also the presence of fractures which otherwise would have remained undetected. Joint injuries and even those of the long bones, formerly thought to be simple sprains or bruises, are discovered by the x ray to be linear fractures extending along the shaft of the bone or into the neighboring joint. The value of this recognition as bearing upon treatment is self evident. Reduction and fixation are the watchwords of treatment. After the x ray has assured us that the parts are properly adjusted fixation may be accomplished by the use of a plaster of Paris splint or cast. Where reduction is impossible, as in certain fractures of some of the spongy bones, or of the epiphyses of some of the long bones, on account of the impaction existing, the writer advises the open method of treatment and the use of the so called Lane plates under strict antiseptic measures. Silver wire, nails, etc., have also been used, but give the best results when the open method is adopted.

2. Results of Antityphoid Vaccination in the Army in 1911; Suitability for Civil Communities.—Russell gives an epitome of the history of antityphoid vaccination as practised abroad in the foreign wars. He describes the technique of preparing and using the virus and the reaction symptoms. The recent mobilization of troops in Texas, he tells us, afforded an excellent chance to test the efficacy of prophylactic vaccination. The results were flattering, for in an army of nearly 13,000 men, but a single case of typhoid developed in a man who had symptoms of fever before the third dose of vaccine was given. In contrast to this were the statistics of the army assembled at Jacksonville in 1898, which showed 2,693 cases of typhoid with 248 deaths in a body of 10,759 men. The principal cause of the immunity, in the Texas maneuvre, against typhoid was the antityphoid vaccination. Antityphoid vaccination in healthy persons is a harmless procedure, which confers almost absolute immunity against infection, lasting certainly for two and one half years, and probably longer. An appreciable degree of personal discomfort follows its use only in exceptional instances. It is the only known means, at present, by which a person can be protected against typhoid under all conditions, and apparently against the chronic bacillus carrier.

3. Typhoid Carrier on Shipboard.—Sawyer is of the opinion that a bacillus carrier is a dangerous companion, even when not occupied in the preparation or handling of food. He gives the history of one such on the ship *Acime*. Conditions on shipboard may be specially favorable to the transference of infection, as twenty-six cases within three and a half years developed on a ship carrying twenty-one men through contact with this one typhoid carrier. The experiments made in the case showed that negative agglutination tests with the usual dilutions of serum should not be accepted without cultural confirmation, in examination of cultures freshly isolated from materials suspected of containing typhoid bacilli, because of the well known power of such freshly isolated cultures to resist agglutins. Typhoid patients should not be finally discharged, until an examination of their feces and urine shows them to be free from typhoid bacilli.

4. Value of the Widal Reaction in Detection of Typhoid Carriers.—Bigelow states that most carriers of typhoid bacilli have a persistent, positive Widal agglutination reaction, and suggests that in this way we may trace the source and probably anticipate a typhoid epidemic. By this means in Worcester, Mass., in 1910, one carrier was discovered who was responsible for an epidemic of 213 cases of typhoid, and in 1909, the probable source of two smaller epidemics was detected. By the same method two typhoid carriers were discovered in the writer's experience in 1911.

5. Experiments with Bismuth Pastes.—Bell has experimented largely during the past two years in the use of Beck's bismuth paste in a variety of conditions, not only in chronic lesions, but in recent sinuses and sloughing wounds. As a drainage for acute suppurating sinuses, it is painless and efficacious, but does not hasten the case. When a sinus becomes sluggish, the writer adds five per

cent. of iodoform to stimulate granulation (bismuth subnitrate, one ounce; white petroleum, two ounces; iodoform, seventy-two grains). Bismuth paste is safe, painless, and rapidly curative as a packing and drainage for localized abdominal and pelvic sinuses; it prevents the formation of pus pockets, lowers temperature, and to a limited extent prevents postoperative adhesions. In fecal fistulas, it has been used as an aid to diagnosis as well as a means of cure. Where large quantities are required (four or more ounces of paste to a packing) one should watch carefully for symptoms of bismuth or arsenic (impurity) poisoning. A free exit for the paste is a requisite for safety. In a closed sinus bismuth calculi or "stones" may form. Bismuth paste is only useful when the wound discharge is purulent; it retards healing and induces a chronic condition in clean wounds or those discharging seropus.

6. Pellagraphobia.—Niles takes issue with the alarmists in the matter of pellagra. As a strong and consistent zeist, he feels morally certain that the disease is due to "a toxicochemical poison generated in spoiled maize, and becoming active after being ingested in the human body," being neither contagious nor infectious. In the line of prophylaxis he advises the avoidance of corn products (unless known to be sound), abstinence from alcohol of all kinds, reasonable care in eating, and the usual hygienic measures that make for a sound body.

10. Proctoclysis.—Trout credits Lawson with the suggestion of employing tap water in the place of the usual so called normal saline solution in proctoclysis. He makes a comparison of the two methods used alternately in 400 operations, irrespective of the type of case, duration of operation, or any other factor. He found that all patients suffered less irritation from proctolysis if a soapsuds enema preceded the operation. The patients getting water by rectum absorbed nearly 400 c.c. more in twenty-four hours than those given salt solution, the average for the former being 2,144 c.c. in twenty-four hours, and in the latter or salt series the average being 2,041 c.c. in the twenty-four hours. Those who received salt solution by rectum required nearly double the amount of water by mouth to quench thirst. The amount of urine voided was slightly greater in the water cases during the first twenty-four hours and then the reverse was noticed. In the salt cases the patients complained of tasting salt, without knowing that saline solution was used. More fluid may be taken by rectum in drainage cases than in laparotomies closed without drainage. In the use of proctoclysis, care should be taken to prevent waterlogging of the entire system, and this applies to both salt and water. In peritonitis cases with drainage, patients may take four or five times as much fluid by rectum as in the cases reported.

14. Improved Carbolfuchsin Solution.—Verhoeff states that in the usual method of preparing carbolfuchsin, for staining tubercle bacilli, a chemical reaction takes place between water and phenol, a fine precipitate is gradually formed, and the staining power of the solution becomes progressively impaired, so that freshly prepared solutions are necessary. The writer advises the preparation of a stock solution (phenol crystals, melted, twenty-five c.c.; absolute alcohol, fifty c.c.; fuchsin, basic, two grammes—allow to remain over night in an incubator or on a steam radiator to insure complete solution; cool and filter). For use, add two drops of this stock solution to eight drops of distilled water. Carbolthionin stain, made and used in the same manner, makes a beautiful and rapid contrast stain for sections stained for tubercle bacilli in carbolfuchsin.

MEDICAL RECORD.

May 4, 1912.

1. A. L. Soresi: Clinical Indications for Direct Transfusion of Blood; Author's Technique.
2. A. Emil Schmitt: Treatment of Intranasal Conditions.
3. Raymond C. Coburn: Scientific System of Administering Ether.
4. Victor C. Pedersen: Death from Renal Adenosarcoma. Final Notes of a Case Reported in the *Medical Record*, August 26, 1911.
5. Herman B. Sheffield: Tetanism.
6. Fred H. Albee: Juxtaepiphyseal Fracture of Upper End of Humerus. New Postural Treatment.

1. Indications for Direct Transfusion of Blood.—Soresi, from an experience gained in experimental work on animals and twenty-five transfusions on human beings, assures us that transfusion done by his method is absolutely safe for both donor and recipient, and that there is always the certainty that blood will flow freely from the blood-vessel of donor to that of recipient, making transfusion easy of performance and absolutely perfect. Cases of transfusion are naturally of two classes: In one blood lost through hemorrhage was replaced; in the other the blood was used as a therapeutic agent to improve a condition caused by a pathological process, and to accelerate convalescence; in some cases both indications existed. The best results are reached in cases in which the condition that caused the hemorrhage was removed. The bleeding may come from large bloodvessels which may be reached and tied; or there may be an oozing from capillaries, as in the case of gastric or intestinal ulcer, hemoptysis, postoperative bleeding from the biliary tracts, in hemophilia, etc. In the former class, after ligating the bloodvessels, the indication is to replace the lost blood; in the latter class the cause of the hemorrhage is irremovable and the blood is transfused, not only to supply the lost fluid, but as a therapeutic agent to stop further loss. In hemorrhages which can be cured surgically, saline solution is generally sufficient, but where there is a lack of coagulability of the blood, direct transfusion is indicated. In the former cases blood transfusion should be employed only when the loss of blood has been very large and shock is present and the hemopoietic organs would be unable to meet the demands in a reasonable time. Local anesthesia (one to 500 cocaine solution) is used, but no adrenalin on account of its contracting action on the bloodvessels.

2. Treatment of Intranasal Conditions.—Schmitt, when using the nasal douche for cleansing purposes in rhinitis and nasopharyngitis, instructs the patient to hold his head sidewise over a basin, not backward, and to adjust the nozzle of the douche to one nostril and allow the fluid to run through and pass out the other nostril. The mouth is kept open to fix the soft palate and permit mouth breathing, and the patient is cautioned against any

attempt at swallowing. Superior to spraying or douching, is a cleansing of the nose from behind forward by a process called "nasopharyngeal gargling." The teeth are brushed, the mouth is rinsed, and the throat gargled to free it from food particles and mucus, which would be liable to be forced into the nose. After a long breath, the patient takes a mouthful of the cleansing solution, throws his head back, but instead of fixing the soft palate and breathing through the mouth, as in gargling, the palate is relaxed, and the air is forced through the nose with the same gargling force. As the fluid rises into the nose, the head is thrown forward over the basin to permit the fluid to escape. Repeating this procedure several times the nose becomes thoroughly cleared and open. Use of the spray is condemned.

3. Scientific System of Administering Ether.—Coburn describes an apparatus which he has devised specially for the administration of nitrous oxide and oxygen with ether as an adjuvant, in which he has overcome every objection made to the various methods of administration, except the increased carbon dioxide in rebreathing. The strong points in the use of the apparatus are: A rapid and pleasant induction; a mechanical drop method; a regular constant administration of a warm, bland vapor, producing a smooth and even anesthesia; a pliable control of oxygen and carbon dioxide. The apparatus is economical in its use, and furnishes a practical and scientific method of anesthetization.

5. Tetanism.—Sheffield uses "tetanism" to denote a peculiar form of more or less *continuous* muscular hypertonicity observed now and then in children under three months of age suffering from marasmus. This condition is almost always associated with faulty assimilation of food (faulty feeding, intestinal tuberculosis, or syphilis), and probably results from intestinal autointoxication. When first described by the writer (*Archives of Pediatrics*, August, 1910), this condition was thought to occur only in bottle fed infants. Further observation has proved that breast fed infants may also be affected. A typical case is that of a baby that had an insatiable appetite, but the more it nursed the worse it became, until at eight weeks of age it was a mere skeleton, weighing about three and a half pounds (six pounds at birth). The face was senile, its muscles were contracted, and the jaws tightly set. The spasm at its acme, for there was now and then a partial relaxation of the muscular contraction, resembled a tetanic condition, the retraction of the head amounting almost to opisthotonos, the forearms firmly flexed, hands clenched, thorax arched forward, abdomen very tense and slightly bulging, and the lower extremities strongly flexed. The spasm was increased when the baby was handled. Notwithstanding this extreme hypertonicity of the musculature, the baby nursed without difficulty, and it was always hungry. This last symptom eliminated the diagnosis of tetanus or eclampsia; it differed from tetany in that the spasm in tetanism is almost continuous; by occurring in infants under three or four months of age, and by the peculiar general muscular contracture. The "tread of tetany" was absent. These infants recover completely under proper care and strict supervision of diet.

BRITISH MEDICAL JOURNAL.

April 27, 1912.

1. Henry Butlin: Unicellula Cancri (*Third lecture*).
2. H. T. Gray and L. Parsons: Mechanism and Treatment of Shock (*Lecture I—Part I*).
3. J. A. Braxton Hicks: Estimating the Strength of a Vaccine.
4. C. J. Conford: Tuberculous Polyserositis.
5. W. B. Watson: Diagnosis and Treatment of Sciatica.
6. S. A. F. Charles: Traumatic Ossification of Tendon.
7. A. R. Galloway: Color Blindness.

2. Mechanism and Treatment of Shock.—Gray and Parsons have approached the study of this condition from two points of view, first by conducting a series of detailed observations upon human beings subjected to the various operative procedures, and second in an experimental manner, in which they have sought to study the conditions in animals subjected to precisely similar conditions. In this first communication they deal with certain phases of blood pressure and its influences upon the manifestations of shock. By means of a diagram they illustrate graphically the most important afferent impulses which reach the vasomotor centre and influence the blood pressure, viz.: 1. Impulses from the higher centres—for example, mental activity, emotion, etc.; and, 2, continuous impulses from the peripheral parts of the body. These latter impulses form the most important group of factors to be considered in surgical operations, for it is this normal reflex which is subjected to the greatest disturbance. The study of arterial blood pressure, therefore, affords trustworthy information as to the effects of various surgical procedures upon the central nervous system, provided that the variations observed can be appraised at their true value. It is therefore necessary to eliminate the factor of the impulses from the higher centres. It is further necessary to consider the effect of the peripheral impulses upon the respiratory centre, which itself is an important factor in the regulation of the blood pressure. It is, then, necessary to take continuous or consecutive records or tracings at short intervals during the course of surgical operations upon the three chief points: Blood pressure; pulse rate; respiration. As a result of such studies the authors find that during a state of *consciousness* the mean blood pressure falls as the subject becomes mentally quieter and that the individual variations in the pressure correspondingly decrease. The consciousness of pain has but little effect upon the mean level of pressure, but the variations are much increased. Simple anesthesia by chloroform causes no material effect upon the vasomotor centre other than that of simple sleep when kept within the limits of safety. Ether, on the other hand, through its stimulant action on the respiratory centre compensates for the fall of pressure caused by the blocking of impulses from the higher centres through loss of consciousness. The variations are also widely increased by the increase of the respiratory amplitude and rhythm. Lumbar puncture causes a marked elevation of the blood pressure, which is not due to the pain for it is present in anesthesia. Spinal anesthesia with dextrin-stovaine causes a complete block to all peripheral impulses and the curves of pressure are constant independently of the nature of the operation performed. The fall in blood pressure un-

der this anesthetic is due to subsidence of mental excitement, to a very small extent to muscular relaxation, and chiefly to the paralysis of the supraumbilical and thoracic muscles, and is directly proportional to the height of the anesthesia. Passing to the effect of operative manipulations upon the blood pressure when anesthesia has been induced, we find that chloroform does not block afferent impulses arising from the periphery unless administered in large doses over a prolonged period of time. In other words, the vasomotor centre is the most resistant of the medullary centres to the influence of chloroform. These findings on man are confirmed by experimental evidence on animals. The compensating effects of ether mask the effects of peripheral stimuli, but there is no evidence that these afferent influences are in any way mitigated by its use, in fact there is evidence to the contrary. In surgical operations there is a rise of the blood pressure following each accession of afferent impulses from the periphery and a slow fall to the normal or thereabout. In all of those operations which are known clinically to produce shock it is significant to note that each step is accompanied by a large isolated rise in pressure. In the observed cases of shock, at the time the symptoms were first definitely noted, the blood pressure was at the highest point during the operation, save for an occasional temporary rise. Therefore, the vasomotor centre was not fatigued, but was at the height of activity. From this point on there was noted a reversal of the phenomena, and with each severe manipulation there was a marked fall in pressure instead of the previous rise. Cessation of manipulations was followed by an immediate and rapid rise. This reversal is not a paralytic process, but an active one and gives further evidence in support of the contention that the vasomotor centre remains active. Gray and Parsons therefore divide surgical shock into: 1. The stage of stimulation, or the pressor stage; 2, the stage of depression, or the depressor stage; and, 3, the stage of equilibrium, when active abnormal afferent impulses are in abeyance. The mechanism of reversal of response is explained by the authors as being a depression or a failure of the domination of the pressor impulses and a consequent domination of the depressor, which is due to fatigue of the pressor fibres of the sensory nerves involved. Death from shock occurs from the continuous lowering of blood pressure, which renders the blood supply to the heart through the coronaries deficient, and which, combined with lack of peripheral resistance, causes delirium cordis and consequent anemia of the central nervous system, rendering the recovery of the centres impossible.

LANCET.

April 27, 1912.

1. A. Latham: Uses of Tuberculin in Pulmonary Tuberculosis.
2. S. A. K. Wilson: Progressive Lenticular Degeneration.
3. F. Taylor: Treatment of Opium Poisoning by Faradaism.
4. B. Whitehouse: Uterine Hemorrhage; Abuse of Curette.
5. H. B. Day and O. Richards: Treatment of Bilharziasis by Salvarsan.
6. C. Saugman: Can as Good Results in Treatment of Pulmonary Tuberculosis Be Had in Slight as in Great Altitudes?
7. J. B. Hellier: Cæsarean Section for Obstruction by Suppurating Dermoid Cyst.

1. Uses of Tuberculin in Pulmonary Tuberculosis.—Latham concurs in the opinion that tuberculin in association with other methods gives better results than any other known method of treatment. He presents an excellent classification of the various forms of tuberculin and a brief description of the chief characteristics of each. Of the tuberculins, he says that it is to be remembered that we have no efficient standardization of the several preparations, and that the same dose of preparations of the same name have, at times, different effects upon the same patient. While the afebrile patient is the one best suited for the use of tuberculin, the careful use of this adjunct in many febrile cases will yield very favorable results. He discusses the various phases of dose, the initial dose, the rapidity of increase, the interval between doses, and the size of the last dose. As regards the mode of administration, he employs the subcutaneous, but adduces evidence to show that it is quite possible to obtain similar reactions and the development of immunity by oral administration. The best results with this latter method of giving the tuberculin are to be had by giving the dose on an empty stomach before breakfast. Satisfactory absorption under these circumstances is usually obtained, but if the stomach is disordered the absorption may be interfered with to a greater or less extent.

2. Progressive Lenticular Degeneration.—Wilson assigns this name to an entirely new syndrome which he is the first to recognize as an entity, though a few cases have been reported previously by others. The disease is a familial one, but is neither congenital nor hereditary. We quote his definition of the disease verbatim: "A disease which occurs apparently only in young people, which is often familial, but not congenital or hereditary; it is essentially and chiefly a disease of the extrapyramidal motor system, and is characterized by involuntary movements, usually of the nature of tremor, dysarthria or anarthria, dysphagia, muscular weakness, spasticity or hypertonicity, and contractures, with progressive emaciation; with these may be associated emotionalism and certain symptoms of a mental nature. It is progressive and, after a longer or shorter period, fatal. Pathologically it is characterized predominantly by bilateral degeneration of the lenticular nucleus, and in addition, cirrhosis of the liver is constantly found, the latter morbid condition not giving rise to symptoms during the lifetime of the patient. As to the etiology of the disease there is nothing definite as there are no exciting or predisposing causes to be found in the twelve cases so far seen. Both syphilis and alcohol are absent as factors, either in the direct causation or in the families of the victims. Both similar and dissimilar heredity can be excluded. Males and females are about equally affected. The earliest age at onset was ten years and the oldest was twenty-six, with an average age for the twelve cases of fifteen years. Eight of the twelve were familial cases. The symptoms may be briefly enumerated as follows: 1. Bilateral involuntary movements of the upper and lower extremities and sometimes also of the head and neck; the movements are practically always of the nature of rhythmic tremors, at times irregular, increasing with voluntary motion. 2. Marked spasticity, or rather hypertonicity, of the

extremities, face, and general musculature. The face is usually set in a spastic smile, while the extremities are in contracture—attitudes like those of hemiplegia, save that by an effort of the will the patient can, so to speak, undo these attitudes and can move his limbs at all joints. 3. In the later stages true contractures arise and this is a constant feature of the disease. 4. There are dysphagia and dysarthria, the latter eventually becoming anarthria. These are in the first instances due to the muscular rigidity. 5. There is often some degree of emotionalism. 6. As a result of the extraordinary stiffness of the muscles, there is at times difficulty in maintaining equilibrium, but there is little or no true paresis, for the victim is able to make all of the usual movements at all of the joints, though it may be very slowly and rather feebly. The reflexes of the abdomen and extremities are preserved, which indicates the extrapyramidal nature of the affection. 7. In some cases there are certain transitory mental symptoms. The pathology consists in a bilateral symmetrical degeneration of the putamen and, to a less extent, of the globus pallidus of the lenticular nucleus. The degree of degeneration runs from discoloration and sponginess to complete disintegration and cavitation. The caudate is never disintegrated, but may be somewhat shrunken. In addition to the changes in the nervous system there is constantly present a marked cirrhosis of the liver, mostly multilobular." The following points are in regard to the pathogenesis of this curious disease: 1. It is probably not due to a congenital abiotrophic defect; there is strong presumption that it is acquired. 2. There is evidence to show that the disease is of toxic origin, but none to suggest that this toxine is syphilis. 3. The toxine may be elaborated in the liver. 4. The toxine has a specific action on the lenticular nucleus. 5. The nature of the toxine is a matter of speculation. It is almost certainly not microbial. Wilson here puts forward for the first time the syndrome of the corpus striatum in the following words: "In pure uncomplicated bilateral lesions of the lenticular nucleus, and more generally of the corpus striatum, provided they are of sufficient size and of adequate duration, the clinical symptoms are bilateral involuntary movements, practically always of the tremor variety; weakness, spasticity, or hypertonicity (sometimes spasmodic contractions), and eventually contracture of the skeletal musculature; dysarthria or anarthria, and dysphagia, and a degree of emotionalism, but without any sensory disturbances; without any true paralysis, and without any alteration in the cutaneous reflexes. If the abdominal reflexes are absent (apart from muscular rigidity) or the plantars of extensor type, then the syndrome is no longer pure."

BULLETIN DE L'ACADÉMIE DE MÉDECINE.

April 16, 1912.

CH. FIESSINGER: The Curable Forms of Constantly High Blood Pressure.

Curable Forms of Constantly High Blood Pressure.—Fiessinger considers the four commonest causes of continued high blood pressure to be, in the order of their frequency, interstitial nephritis, arteriosclerosis without apparent renal disorder, obesity without renal lesion, and cardiac weakness. Of 160 cases showing a continuous systolic blood pressure of 230 or 240 mm. Hg. (Pachon instrument), eighty-four were referable to the first named cause, forty-four to the second, thirty to the third, and two to the fourth. The last three causes differ from the first in that there may be a prolonged period in which the high blood pressure remains stationary and even, sometimes the high pressure may be completely recovered from. In each form of hypertension there may be added, owing to overexertion, a heavy meal, a long railway journey, etc., a further rise of blood pressure up to 260, 280, or 300 mm. It is only in such attacks of special hypertension, according to Fiessinger, that the high frequency currents are of use, and even here a recovery can be attained with greater certainty by means of a milk and vegetable diet and rest in bed. In the renal and arteriosclerotic cases it is useless and inadvisable to attempt to lower the blood pressure permanently, but in the obese, provided the kidneys are not diseased, a considerable fall in the pressure, corresponding with a reduction in the weight, may be secured. After the age of forty years, nearly one half of obese patients weighing 100 kilogrammes or more show increased blood pressure; when this is removed and the obesity cured, there is a tendency to rapid development of arteriosclerosis, the pressure then rising again, more especially if the patient's age is sixty or seventy years. Below this age, recovery is usually complete, though in some of the author's cases rheumatic pains and sciatica developed. No marked change in the treatment of obesity is necessitated by the coexistence of hypertension. Where the heart weakens, however, the meat and green vegetable diet should be preceded by water and milk for a couple of weeks. Digitalis is not contraindicated by the high blood pressure, but it should be given in very small doses, combined with theobromine. In the cardiac form of hypertension, in which the pressure is generally only moderately raised, rarely reaching 250 or 270 mm. Hg., digitalis is the most promptly acting agent for lowering it.

PARIS MÉDICAL.

April 27, 1912.

1. KREFTING: Clinical Significance of Wassermann Reaction.
2. A. SCHWARTZ and L. KAHN: Nontuberculous Cold Abscess.
3. J. CAMUS: Magnesium Sulphate and Phenol in Treatment of Tetanus.
4. JEAN HEITZ: Carbogaseous Baths in Treatment of Gouty Conditions.
5. GLUGE: Berlin Clinics.

1. Wassermann Reaction.—Krefting gives the results of this reaction in his own experience. In 92 cases of primary syphilis, the spirochete being found in 60, he had a positive reaction in 69, a negative in 23. He never found a positive reaction earlier than the sixth or seventh week after infection. In secondary syphilis, 317 cases, reaction in all was positive. In tertiary syphilis, 84 out of 87 were positive. In latent syphilis, three to four years after infection, only 89 out of 322 cases showed positive reaction. In 70 per cent. of cases of nodose leprosy the reaction was positive. In 27 cases of paresis the reaction was positive, and a negative reaction is good evidence against a diagnosis of paresis. Cerebral syphilis gave 42 positive reactions. In tabes, of 32 cases,

24 reacted positively, 8 negatively. In 15 cases of nervous disorder, myelitis, spinal meningitis, spasmodic paraparesis, paralysis agitans, sciatica, neuralgia, and polyneuritis the reaction was positive. Of 259 cases of epilepsy, only one gave a positive reaction. Only 1.6 per cent. of cases of imbecility and idiocy gave positive results. In diseases of the heart and arteries, there were 15 cases positive in aortitis and insufficiency, 2 negative; of aneurysm of the aorta, 15 cases were positive, as well as 3 cases of mitral valve disease, and 5 of myocarditis. Ten cases of liver disease were positive. Two cases of gastric ulcer and 3 of duodenal were positive. Eight cases of nephritis were positive, 26 negative; 4 of anemia, and 6 of chronic rheumatism were positive. In 15 cases of surgical disease of the bones, reaction was positive, also in 2 cases of lymphatic adenitis, one of supraorbital tumor, 2 of rectal ulceration, 2 of glossitis, one of parotid tumor; reaction was negative in malignant tumor and esophageal stricture. The reaction is of vast importance in the diagnosis of tumors of the parotid, the testicles, or near the liver. Reaction was positive in 22 cases of parenchymatous keratitis, negative in 15 of deep keratitis, positive in 6 cases of specific iritis, and in 12 other iritides, also in 2 of relapsed scleritis, iridocyclitis, chorioretinitis, pigmentary retinitis, and ocular palsy. Reaction was positive in 18 cases of ulcers of the nose, 3 of laryngitis, 3 of specific deafness, 32 of congenital syphilis. From the viewpoint of the Wassermann reaction, salvarsan gives the best results in syphilis, then mercury, then potassium iodide, but the reaction frequently becomes negative after no treatment, apparently through the unaided *vis medicatrix naturæ*.

PRESSE MÉDICALE.

April 24, 1912.

1. Pierre Heresco: Opening Lecture, Clinic of Diseases of the Urinary Passages, University of Bucharest.

April 27, 1912.

2. Henri Hartmann: Surgical Treatment of Pulmonary Diseases.

2. Surgical Treatment of the Lung.—Hartmann thinks that pulmonary surgery has lagged behind that of the abdomen, although it has made notable advances in the last twenty years. He advises courage in undertaking operations on the chest, notwithstanding the danger of infection of the pleural cavity, the occurrence of pneumothorax (now prevented by use of one of the pneumatic operating cabinets), etc. Digitalis given before the operation prevents heart failure. The patient should not lie on the sound side during the operation if this can be avoided. Local anesthesia during the early part of the operation is sometimes advisable. Directions are given for thoracotomy, pneumonotomy, the handling of complications, the subsequent treatment, etc., also for the combined internal and surgical treatment of such conditions as actinomycosis, and the like.

SEMAINE MÉDICALE.

May 1, 1912.

No original communications.

BERLINER KLINISCHE WOCHENSCHRIFT.

March 18, 1912.

1. Alexis Carrel: Conservation of Tissue outside the Organism.
2. Wilms: Formation of Artificial Choledochus through Simple Drainage Tube.
3. Richard Mühsam: Demonstrations in Plastic Surgery.
4. Albrecht Erlemeyer: Periodical Appearance of a "Floating Pupil."
5. Heinrich Stern: Increase in Temperature in Hyperthyroidism.
6. K. Thiele: Diagnostic Use of Albumin in Solution in Achylia Gastrica.
7. S. Cohn: Importance of Sodium and Potassium in Etiology and Therapeutics of Gout, with Reference to Radium.
8. Max Levy-Dorn and Max Silberberg: Polygrams, a New Form of Röntgen Pictures for Demonstration of Mobility.
9. J. Bauer: Addition to My Paper on the Origin of Anaphylatoxine.

March 25, 1912.

10. Killian: Laryngoscopy with Patient in a Suspended Position.
11. Arthur Münzer: Influence of Blood Glands upon Psychic Functions (*To be concluded*).
12. H. Marx: Responsibility and Ability to Conduct Business.
13. F. Göppert: Stricture through Bend in the Rectum in Late Childhood.
14. R. Rohrbach: Intense Atypical Growth of the Epithelium in Syphilis.
15. Fritz Lesser: Epileptiform Attacks after Salvarsan.
16. L. Halberstaedter: Wassermann Reaction in Rabbits.
17. Ludolf Süssenguth: Nail Extension in Treatment of Fracture.
18. Siegfried Peltesohn: Peroneus Paresis through Amniotic Constriction.
19. Ishio Haga: Osteoplastic Tracheopathy.

April 1, 1912.

20. F. Sauerland: Acquired Supersensibility of the Skin.
21. Paul Lazarus: Modern Radium Therapeutics.
22. A. Knick and A. Zaloziecki: Diseases of the Acoustic Nerve in the Early Stage of Lues, Especially after Salvarsan (*To be concluded*).
23. Hans Aronson: Anaphylactoxine and Bacterial Toxine.
24. Wilhelm Weinberg: Methods of Investigation in Heredity in Man (*To be concluded*).
25. Arthur Münzer: Influence of Blood Glands upon Psychic Functions (*Concluded*).

April 8, 1912.

26. Fedor Krause: Resection of the Liver for Ulcerative Tuberculosis.
27. F. Neufeld and L. Händel: Serum Therapeutics in Pneumonia and Importance of Pneumococcic Serum.
28. S. J. Zlatogoroff and K. Z. Willanen: Importance of Sera upon the Isolated Heart of a Rabbit.
29. M. Bernhardt: Pathology of Paresis of the Facial Nerve.
30. Wechselmann: Influence of Salvarsan upon the Cerebrospinal Fluid.
31. Julius Fejér: Eye and Salvarsan.
32. A. Knick and A. Zaloziecki: Diseases of Acoustic Nerve in Early Stage of Lues, Especially after Salvarsan (*Concluded*).
33. Wilhelm Friedländer: Local Mesothorium Therapeutics.
34. Wilhelm Weinberg: Methods of Investigation in Heredity in Man (*Concluded*).

1. Conservation of Tissues outside the Organism.—Carrel describes methods which make it possible to keep tissues actively alive outside the organism for about two months, without any detriment to their growth, and another method which produces antibodies in active tissue inside the organism through external influence.

2. Formation of an Artificial Choledochus through a Simple Drainage Tube.—Wilms reports four cases in which the choledochus did not function on account of severe injury, inflammation, or tumors. He successfully inserted a drainage tube to take the place of the duct. The patients were well about a year after operation.

6. Diagnostic Use of Albumin in Solution in Achylia Gastrica.—Thiele bases his report upon the essay of Wolff and Junghans, who dissolved the stomach contents in solutions of one to ten; 0.5 to 10; 0.25 to 10; 0.1 to 10; 0.05 to 10; and 0.025 to 10. The amount of albumin found in these solutions they designated according to the strength of the solutions as 10, 20, 40,, 100, 200, and 400. Thiele now found that albumin under 60 indicated benign achylia; from 200 to 400, carcinoma; under 100, cases either malignant or benign, but inclined more to malignancy.

11 and 25. Influence of Blood Glands upon Psychic Functions.—Münzer concludes from his experiments and from his researches in the literature, that the thyroid influences mostly the expression of emotion; this is proved through a number of physiological and pathological observations. Of the hypophysis, the posterior lobe affects physical

functions, while the anterior lobe influences trophic functions, and there is a possibility that the posterior lobe also contains an autonomous centre of sexual actions. The posterior lobe of the hypophysis may also exert an influence upon emotions, but is in this action like the thyroid, dependent upon the cerebrum. Finally, the hypophysis possesses the action of inhibition upon sexual life and development, somatic as well as psychic. The germinal glands represent the origin of sexual desire and influence the formation of character and the expression of emotion. The beginning of the secretion of the germinal glands (puberty), and the suspension of this secretion (castration and climacterium) are often accompanied by psychoses. The beginning and the suspension of the secretion of the germinal glands are not the causes of insanity, but play a rôle only in the etiology. The relations of the adrenals, the epithelial bodies, and the pancreas to the cerebrum are not yet demonstrated. As it is proved that pathological changes occur in the blood glands in psychic disturbances, the latter should be carefully examined in insane or mentally defective patients

15. **Epileptiform Attacks after Salvarsan.**—Lesser reports eighteen cases of epileptiform attacks after salvarsan. He explains these attacks by saying that the breaking up of salvarsan in the human body produces toxines which so far we do not know, but which effect either changes in the tissues or result in functional disturbances. The intensity of the toxines will be followed by all degrees of severity, from the lightest to a fatal ending. These attacks may appear soon after the injection of salvarsan, or months later, as it has been proved that the arsenic will be discharged from the body months after the injection, and is found in the liver long afterward.

22 and 32. **Diseases of the Acoustic Nerve in the Early Stage of Lues, Especially after Salvarsan.**—Knick and Zaloziecki have observed ten cases of acoustic nerve disturbances in the early stage of syphilis and have been able, through lumbar puncture, to demonstrate a syphilitic meningitis in all these cases; this circumstance seems to demonstrate that the acoustic disturbances are caused by luetic disease of the nerve sheaths. Salvarsan neurorécidives do not differ at all from other syphilitic diseases of the cerebrum and are mostly luetic meningitides. The authors come to the conclusion that it cannot be proved that salvarsan produces a neurotropic effect.

28. **Importance of Sera upon Isolated Heart of Rabbit.**—Zlatogoroff and Willanen have made thirty-six experiments to find out the influence exerted by sera upon the isolated heart of the rabbit. They thus found that there exists no difference between normal and therapeutic serum of the horse in its influence upon the heart. The color or appearance of the sera cannot be taken as a criterion of its toxicity. The same serum affects different hearts differently, also different sera affect the same heart differently. The serum may be a very powerful poison for the heart of warm blooded animals.

30. **Influence of Salvarsan upon the Cerebrospinal Fluid.**—Wechselmann emphasizes the fact that salvarsan is not a neurotoxine and that it is absolutely indicated in all early cases of syphilitic meningitides. He makes the statement that fresh affections of the central nervous system should be treated with ten or twenty injections of salvarsan, given under certain conditions. If such a treatment were strictly carried through the best results would follow.

WIENER KLINISCHE WOCHENSCHRIFT

April 4, 1912.

1. Ernst Fuchs: Tabes and the Eye.
2. Hans Neugebauer: Pathogenesis of Icterus Catarrhalis.
3. D. Pupovac: Use of Detached Segments from the Fascia Lata in Mobilization of Ankylosed Joints.
4. Josef Ritter von Winiwarter: Extirpation of Cancer of the Esophagus.
5. E. Zadro: Heliotherapeutics.

April 11, 1912.

6. Herman Pfeiffer and O. Albrecht: Urine Toxicity in Different Diseases.
7. Anton Gluzinski: Further Observations of My Method of Recognizing the Characteristics of Pyloric Stenosis, i. e., the Change of a Round Ulcer of the Stomach into Cancer.
8. Viktor Lieblein: Lymphatic Pseudoappendicitis.
9. Favento: Prostatectomy.
10. Hans Gallus Pleschner: Prostatic Sarcoma.
11. O. Schweeger: Ulcers of the Intestines in Pernicious Anemia.

1. **Tabes and the Eye.**—Fuchs remarks that although the diagnosis of tabes through eye symptoms has made great progress, therapeutics is still at the same point that it was twenty-five years ago, that is, we still are unable to cure or even check the disease. The author speaks of pupillary symptoms, symptoms of the muscles, and finally of the nerves. Among the symptoms of the pupils he mentions the Argyll Robertson pupil, spinal miosis, and, finally, anisocoria. The muscle that is mostly affected is the oculomotor, and double vision is the symptom that brings the patient to the physician. Atrophy of the nerve belongs to one of the earliest symptoms of tabes. Fuchs takes it for granted that it has been proved that tabes is a late sequela of syphilis. The infection itself occurred years ago and was usually mild. Syphilitics with recurrent attacks do not become tabetics. That is the reason that tabetics so seldom show syphilitic symptoms. The author thinks that it is correct to distinguish tabes as metasyphilis from real syphilis. The distinguishing features of these two forms of lues are: Frequent change of symptoms speaks for syphilis; miosis and Argyll Robertson pupil are characteristic of tabes, while total rigidity, or enlargement of the pupil, with paralysis of accommodation, is a sign of syphilis. Atrophy of the nerve occurs in tabes, seldom in syphilis. Specific treatment with good results show syphilitic origin, while poor results point to metasyphilis or tabes.

2. **Pathogenesis of Icterus Catarrhalis.**—Neugebauer concludes his article with the remarks that icterus produced by paracholia does not exist, but that even if the cells of the liver are insufficient a mechanical momentum only can result in icterus. The origin of the insufficiency of the liver cells can be found in acute and chronic infectious diseases of childhood as well as of adult life, venereal affections, excessive use of alcohol, diseases of the heart, or pregnancy. These causative factors should be taken into consideration in the treatment of jaundice.

5. **Heliotherapeutics.**—Zadro finds that the good results received from sun rays in the treatment of osseous tuberculosis on the seashore as

well as in great altitudes on mountains should be attributed not only to these rays, but especially to sanitary and hygienic conditions existing in these sanatoria.

6. Urine Toxicity in Different Diseases.—Pfeiffer and Albrecht have shown in 133 experiments on guineapigs the toxic condition of the urine obtained from sixty-nine patients suffering from epilepsy, dementia præcox, chorea minor, infectious fever, nephritis, and other diseases. Epileptics show a high toxicity on days without attacks; shortly before an attack the toxicity is greatly decreased, sometimes even so much as to show a poison free urine, while soon after the attack the usual toxicity appears again. In dementia præcox the toxicity of the urine increases with the severity of the disease. In chorea minor the toxicity increases and decreases with the good or bad condition of the patient. In infectious fever the toxicity is greatly above the normal condition and a parallelism exists between the grade of the toxicity and the temperature curve. The authors think that the toxicity is a result of the excessive production of substances which in normal condition are discharged in small quantities through the urine as a sequence of physiological disintegration of albumin.

ZENTRALBLATT FÜR CHIRURGIE.

April 20, 1912.

1. F. Koenig: Incision in Operations on Biliary Passages.
2. H. Hans: "Winging" of the Uterus as Radical Operation for Prolapse.
3. A. Hofmann: Use of Tincture of Iodine to Disinfect Opened Gastrointestinal Tract.

April 27, 1912.

4. V. E. Mertens: Cure of a Streptococcogoneitis by Injection of Iodvasoliment.
5. E. Peiser: Incision in Operations on Appendix.

2. "Winging" of the Uterus as a Radical Operation for Prolapse.—Hans suggests, and has performed on one patient, an operation in which he removes the tubes, cuts wedge shaped flaps from each side of the uterus, and attaches them to the right and left recti, the tendons of which have previously been freed.

ANNALS OF OTOLOGY, RHINOLOGY, AND LARYNGOLOGY.

December, 1911.

1. A. Logan Turner: Spread of Bacterial Infections from the Nasal and Nasopharyngeal Cavities by Way of Lymphatic Channels.
2. Percy Fridenberg: Ear and Social Hygiene.
3. Harry A. Barnes: Relation of Age to Tonsillar Infection.
4. James J. Carroll: Cartilaginous Tumors of the Larynx.
5. F. E. Hopkins: Multiple Foreign Bodies in the Smaller Bronchi.
6. Henry Lewis Wagner: Passive Immunization in Diphtheria of the Upper Respiratory Organs.
7. W. Sohier Bryant: Circulatory and Respiratory Reflexes and Neuroses from Upper Air Tract.
8. Harold Hays: Pneumococcus Infections of Throat.
9. James T. Gwathmey: Methods of Giving Anesthesia in Operations upon Upper Respiratory Tract.
10. Lee M. Hurd: Nasal Accessory Sinuses—Different Methods of Treatment.
11. H. Beattie Brown: Treatment of Mastoid Wound Following Operation.
12. D. Jacques: Insertion and Seat of Rhinopharyngeal Fibromata.
13. Dr. Staacke: Conservative Radical Operation on Middle Ear.
14. J. W. Gleitsmann: Summary of Annual Reports of Tuberculosis Sanatoria in United States and Canada.

1. Bacterial Infections from the Nasal and Nasopharyngeal Cavities.—Turner states that in spite of certain conflicting opinions, the prevalence and virulence of microorganisms within the nasal passages have been definitely determined; however, it appears from results so far obtained that the accessory sinuses of the nose remain sterile during life. A variety of microorganisms may be found within the nasal and postnasal cavities, and also the accessory sinuses of most individuals who are apparently in the enjoyment of excellent health, but who are at the same time suffering from a chronic catarrhal or mucopurulent inflammation of the membrane of the upper respiratory passages. The chief organisms demanding attention are the pyogenic cocci, the pneumococcus, the micrococcus catarrhalis, the influenza bacillus, the meningococcus, and the bacillus causing tuberculosis. These appear in healthy air passages in small numbers, in pure culture, of low vigor, and of little or no virulence in comparison with those organisms found during the existence of inflammatory conditions. When macroscopic and microscopic evidence does not indicate the avenue of infection, it may be legitimate to assume that the lymphatics are responsible. At the same time, however, the conclusive proof of endocranial infection by pyogenic organisms from the nose by way of the lymphatic vessels requires more direct evidence than has yet been obtained. Experimental proof has been presented, demonstrating the passage of the meningococcus within leucocytes from the meninges into the nasopharynx, which would tend to indicate that in cerebrospinal meningitis, the nasopharyngeal mucous membrane may serve both as an exit and as an entrance for the organism. Further study of tuberculous infection of the cervical lymphatic glands and lungs from the nasal and nasopharyngeal mucous membranes is necessary before conclusive proof can be obtained. Certain anatomical and clinical facts, however, in regard to the lymph drainage of the upper air passages through the cervical chain of lymphatics and into the large veins at the root of the neck, must be regarded as proved, but evidence so far presented fails to demonstrate any direct communication between the cervical and the bronchial glands. The existence of more than one portal of entry in the upper air passages makes it difficult to determine beyond doubt the actual part played by the nasal and nasopharyngeal lymphatics in distributing infection.

4. Cartilaginous Tumors of the Larynx.—Carroll states that few laryngeal tumors were diagnosticated before the introduction of the laryngoscope, but after its discovery the number of diagnosticated laryngeal neoplasms increased rapidly. Of the reported cases of the cartilaginous variety, ninety per cent. have been in the male, the majority occurring during the fifth decade of life, and most frequently emanating from the cricoid cartilage. They are usually single, of slow growth, and may vary in size from that of a pea to a mandarin. Uniformity of nomenclature is suggested, thereby eliminating the confusion that is sometimes displayed. Cartilaginous tumors of the larynx should be classified as chondroma, ecchondroma, ecchondrosis, or mixed tumor, and the term enchondroma should retain the meaning given it by Virchow and should not be applied to growths of the larynx.

7. Reflexes from the Upper Air Tract.—Bryant appears somewhat emphatic in his statement that unless the air tract is in no way obstructed and is not hyperesthetic, the patient suffering from emphysematous symptoms and pulmonary

congestion is not receiving the attention to which he is entitled if the upper air passages are ignored. Appropriate treatment will often minimize the danger arising from the reflex neuroses which are abundantly found to emanate from this region.

10. **Nasal Accessory Sinuses.**—Hurd believes that an acute exacerbation of a chronic inflammation of any of the accessory sinuses of the nose is far more dangerous than a simple acute attack. Many of the cases of sinus involvement are the result of a deformed middle turbinate, with which is frequently associated a septal deviation to that side, an enlarged ethmoidal bulla, or the uncinate process may crowd in upon the nasofrontal duct. If the symptoms produced are not relieved by the usual intranasal manipulations, the external operation, especially in chronic conditions, is strongly advocated in order more directly to view the anatomical and pathological conditions, and more thoroughly to clean out the diseased tissue.

11. **Treatment of Mastoid Wound.**—Brown believes in suturing the upper portion of the mastoid wound only, thereby leaving the lower portion open for the dressing and drainage, and eliminating any pocket that might retain secretions and become a source of infection of the wound. The first dressing is made on the fourth or fifth day, and the area surrounding the wound is cleansed, using oil of turpentine followed by alcohol if the secretions are hard and have formed crusts. The gauze from the wound is removed, the cavity is carefully mopped out with a cotton tipped applicator soaked in one to 500 bichloride solution, new gauze is inserted, and the sutures are then removed. The condition of the granulating surface should be an indication as to the firmness of the gauze dressing. With subsequent dressings careful attention should be paid to the flaps, especially the anterior one, to prevent its adhesion to the posterior wall of the canal and a resulting deformity of a marked degree.

12. **Rhinopharyngeal Fibromata.**—Jacques is of the opinion, as the result of clinical and operative investigations, that the majority of the fibrous tumors of adolescence known as rhinopharyngeal polyps usually have their origin in the rearmost part of the nasal roof and not the roof of the cavum, notwithstanding the fact that the great majority of the general surgeons at present still hold to the old doctrine that the site of election of rhinopharyngeal polyps is the vault of the pharynx between the tubercle of the atlas and the beak of the sphenoid.

SURGERY, GYNECOLGY, AND OBSTETRICS.

March, 1912.

1. J. A. Sampson: Blood Supply of Uterine Myomata. Study of One Hundred Injected Uteri.
2. H. Neuhof: Nonsuppurative Subphrenic Peritonitis Complicating Appendicitis.
3. Alexis Carrel: Technique and Remote Results of Vascular Anastomoses.
4. E. Reynolds: Ultimate Results of Conservative Surgery of Ovaries.
5. R. C. Bryan: Cancer of Prostate.
6. E. B. Cragin: Treatment of Ectopic Gestation.

1. **Blood Supply of Uterine Myomata.**—Sampson presents an article on this subject, one concerning which it would seem that very little work had been done. The methods by which the specimens were prepared are given in detail. The diseased uterus was injected, not only for the purpose of differentiating the blood supply, but substances impervious to the x ray were also injected in order that good radiographs could be obtained. The blood system of the tumors is carefully presented. A comparison is drawn between the differences in vascularity of the two. The different classes of myomata are taken up in detail, and other phases, as the influence of the age of the patient on the blood supply and the blood supply of myomata that have undergone degeneration.

3. **Technique and Remote Results of Vascular Anastomoses.**—Carrel gives his technique for operation on bloodvessels. The two chief precautions are, a rigid asepsis and the avoidance of any manipulation that will cause an injury to the wall of the vessel, other than that purposely done. Otherwise thrombi will form and interfere with the results. As perforating stitches are always used, the endothelial layer is necessarily wounded by the needle. These wounds are rendered as harmless as possible by the use of very fine and sharp round needles. Extremely small wounds are made. The threads, which are very fine, are sterilized in petrolatum and kept heavily coated with it during the suture. Petrolatum is rubbed into the holes, covers the silk threads, and prevents the wounded tissue and the foreign material from coming into actual contact with the blood. A great many anastomoses have been performed with this method, many of the animals were kept alive for a long time, and the anatomical and clinical results of such anastomoses are completely known. The technique has been used for several years on human beings and can be employed with safety, provided the rules are carefully followed.

5. **Cancer of the Prostate.**—Bryan gives a résumé, first considering it from the point of view of diagnosis. The subjective symptoms are given and then those that are manifest to the examiner. The article closes with a brief discussion of the prognosis and the treatment. In connection with the paper is an alphabetical list of several hundred references.

REVUE MÉDICALE DE LA SUISSE ROMANDE.

March, 1912.

1. H. Oltramare: Dangers and Advantages of Salvarsan.
2. E. Thomas: Psychotherapy in Medical Practice.
3. Sillig: Artificial Pneumothorax in Treatment of Pulmonary Tuberculosis.
4. Combe: Reaction of Mantoux in Tuberculosis of Children.

1. **Dangers and Advantages of Salvarsan.**—Oltramare has collected data showing that nearly 150 deaths have followed the administration of salvarsan. Careful scrutiny of the individual reports shows, however, that many of these cases were the result merely of error or coincidences, were too incompletely described to warrant consideration, were without autopsy, or were due to faulty methods, especially in the case of intramuscular injections. With these omitted, there remain about a dozen cases in which death is to be attributed to the drug itself, particularly to its renal and neurotropic influences. Detailed study of these shows, again, that excessive doses, or unjustifiably frequent repetition of the injections, can in many instances be considered responsible for the accidents, and tends to reassure one as to the safety of salvarsan administration in the future. The in-

travenous method is recommended unreservedly, and, although an injection of 0.6 gramme is permissible in persons weighing sixty-five kilos or more, the dose should be reduced in those weighing less than the average. In syphilis of long standing, with possible latent involvement of the liver, kidneys, or brain, 0.6 gramme appears excessive. As to the interval between injections, while the elimination of salvarsan takes place as a rule in four days, it is occasionally delayed until the seventh day, and even, according to Lockmann, Heiden and Navassart, from the third to the seventh week. Thus in certain individuals with deficient powers of elimination, salvarsan may exert a most dangerous cumulative effect—an important thing to know when so many are giving repeated injections, even to the extreme attained by Duhot, who within a year's time gave a patient seventeen injections, amounting altogether to 9.4 grammes, without, indeed, curing the patient. Some observers are now using repeated injections of smaller amounts, such as 0.3 gramme, but it is better to adhere, as far as possible, to Ehrlich's original idea of *therapia sterilisans magna*, as results of repeated injections have been rapid loss of weight and jaundice, appearing some time after the treatment, which tend to show a more profound and prolonged toxic action of the drug than had been suspected. With a single intravenous injection of 0.01 gramme to the kilo of body weight (not exceeding 0.6 gramme), given in the primary period, secondary manifestations may be prevented in eighty-five per cent. of cases, and abortion of the disease hoped for; there is no advantage in repeating the injection, the percentage of failures being apparently the same after several as after one injection, while the danger increases with the number of injections (in but one case, that of Queyrat, has death been caused by a single injection in the primary period); and if, owing to failure, further injections are given, the method must be changed, as a single dose can no longer suffice to sterilize the organism. No definite procedure, in the latter event, can as yet be recommended to the exclusion of others.

3. **Artificial Pneumothorax.**—Sillig reports ten cases of pumonary tuberculosis treated by injection of nitrogen into the pleura. Two cases, in which the treatment appeared to have been successful, were lost sight of. One patient died suddenly while receiving a second injection, probably owing to "pleural eclampsia." Of the remaining seven cases, the temperature descended to normal in four, in one remained stationary, and in two remained at normal; the weight increased in three cases, diminished in two, and remained stationary in two; expectoration diminished in five cases, was uninfluenced in one, and entirely ceased in one.

4. **Reaction of Mantoux in Tuberculosis of Children.**—Combe made a comparison of the Pirquet and Mantoux tuberculin tests, extending over two years. Every child was submitted to the Pirquet on one arm and to the Mantoux on the other. The latter test, an "endodermoreaction," is made by introducing a short needle horizontally well into the derma and injecting a drop containing exactly 0.0001 c.c. of Koch's old tuberculin. The Mantoux proved to be far superior to the Pirquet. In many of the early cases the initial test with the Mantoux was already positive when the Pirquet was still negative; in each case the diagnosis was confirmed by clinical manifestations as well as the x rays, and the second Pirquet test, made a few weeks later, became positive. In cases of measles, typhoid, whooping cough, and influenza the Pirquet disappeared, whereas the Mantoux was only diminished in intensity in several cases, and in those in which it likewise disappeared, it came back earlier than the Pirquet. The Mantoux was also found useful from the standpoint of prognosis. Whereas, with the Pirquet, the amount of tuberculin entering the system varies, with the Mantoux the amount is always the same, and further, the reaction produced in a given child is always of the same extent and intensity, whether carried out on the arm, leg, or back. If, in a given child, a series of Mantoux tests shows double or threefold increase in intensity, aggravation of the infectious process, with fever, loss of weight, and extension of physical signs always occur at the same time, whereas, conversely, progressive diminution of the reaction shows a tendency to recovery. Useful indications for tuberculin treatment are also afforded. It was noted that in the course of tuberculin therapy employed—increasing doses of Béraneck's tuberculin followed by Koch's O. T.—the cases fell into two groups in their response to the Mantoux reaction. Thus in twelve cases, the reaction, at first very intense, diminished as the dose of tuberculin was gradually increased, and finally disappeared, the signs of disease disappearing at the same time. A "Mantoux immunity" of this kind permits of recognizing quickly those children who will derive benefit from tuberculin, and particularly up to what dose the tuberculin should be carried before it is stopped. In a second series of nine cases, the Mantoux reaction instead increased with increasing doses of tuberculin, and even if the latter was then diminished, remained stationary or still increased. To such a state of affairs, associated with increase in the fever and physical signs, Combe applies the term "Mantoux anaphylaxis." In these cases, which are unsuitable for tuberculin treatment, the author has recently made use, with apparent benefit, of ultraviolet rays supplied by an apparatus devised by Held, of Lausanne.

Proceedings of Societies.

THE WESTERN SURGICAL ASSOCIATION.

Twenty-first Annual Meeting, Held at Kansas City, Missouri, December 18 and 19, 1911.

The President, Dr. Amos W. Abbott, of Minneapolis, in the Chair.

(*Concluded from page 1017.*)

Failure of the Colon to Rotate.—Dr. Charles H. Mayo, of Rochester, Minnesota, said that the relative rarity of these obscure intraabdominal abnormities, and the fact that they so infrequently gave rise to definite symptoms, explained in part why a diagnosis was so seldom made. The com-

mon afflictions, such as harelip, clubfoot, imperforate anus, anomalies of external genitalia, etc., usually came under the surgeon's care in infancy or early childhood. But within the abdomen congenital deformities were so efficiently concealed that only a small percentage of them was found until adult life was reached, and then only at operation or autopsy. The various phases resulting from nonobliteration of the vitelline duct, dermoid cysts, anomalies of the female genitalia, variations in the position and relationship of the large intestine, were familiar examples of these conditions.

Because of congenital or acquired openings in the diaphragm, much of the colon with other abdominal viscera might be located in the pleural cavity. A partial rotation might leave the cecum at any point between the normal and the right under liver position, or the left umbilical or left pelvic position. In the event of such abnormity, there might be failure to find the appendix at operation, and the congenital position should be considered probable when no colon was found on the right side, and positive if the duodenum was found uncovered by colon and with a mesentery. Failure of the colon to rotate should be considered as a possible cause in cases of obscure inflammatory conditions in the left or middle pelvis, or in the left iliac fossa. Appproximately 300 cases of complete transposition of the abdominal viscera had been reported in the literature. In six cases observed at St. Mary's Hospital they operated three times for left sided appendicitis, twice in acute abscess. Very little was found in the literature as to failure of the colon to rotate, although it was undoubtedly a condition which should be considered as more frequent than complete transposition. The condition might be found described under various anomalies of the duodenum as well as of the colon. They had observed five of these cases during the past two years in operating upon the abdomen, and in only one of the cases was the abnormity diagnosticated before operation.

Doctor Mayo reported five cases observed at St. Mary's Hospital during the past two years.

Nitrous Oxide and Oxygen Anesthesia.—Dr. CLIFFORD U. COLLINS, of Peoria, read a paper on this subject. The advantages of nitrous oxide and oxygen, as pointed out by him, were: 1. So far no one had been able to discover that it had any harmful action on any tissues of the body when administered in anesthetic quantities. 2. It had no odor, and the patient was not aware, so far as any odor was concerned, that he was taking an anesthetic. 3. It produced no shock of itself, and the total amount of shock from an operation was much less under nitrous oxide and oxygen than under ether. 4. It did not have any harmful action on the leucocytes, therefore, its use was indicated in infections. 5. Its danger was not increased by frequent subsequent administrations. 6. There was much less postoperative vomiting than from ether or chloroform.

The disadvantages were: 1. It was considerably more expensive than ether or chloroform. 2. It did not produce deep relaxation of the muscles. 3. The anesthesia was lighter and more transient. 4. It required a more expensive administration apparatus.

The disadvantages of nitrous oxide and oxygen concerned the surgeon and anesthetist, but did not add any discomfort or danger to the patient. With an apparatus like the Teter, nitrous oxide, oxygen, or ether might be administered separately or in any desired combination. In this way the anesthetics might be fitted to the patients and not the patients to one anesthetic.

Tuberculosis, Solitary and Apparently Primary, of the Fallopian Tubes.—Dr. ALBERTIUS J. BURGE, of Iowa City, reported two cases of tuberculosis of the Fallopian tubes. The sections in each case showed well marked tuberculosis in the partially destroyed or degenerated mucous and muscular walls with distinct giant cell formation. He predicted that the future would recognize distinctly the tendency of the female annexa to incur primary tuberculosis as did the epididymis of the male. If so, what should be the treatment? Would it be the same vigorous, radical, and summary course which the analogous disease in the male merited and now received? In view of the added dangers of an intraperitoneal location in the female, he ventured to say that it would, saving the ovaries when free and safe, but in nowise temporizing with the tuberculous infected tubes.

Dr. JOHN B. MURPHY, of Chicago, stated that Doctor Burge's paper had interested him from several standpoints; first, from the pathological findings; second, from the clinical history; third, from the association of this lesion with hemorrhages from the uterus, and, fourth, from its surgical treatment. The reason for the deposit of tubercle bacilli in a tube was not definitely settled. Whether it was of hematogenous origin in the tube, or of hematogenous origin in the vas deferens, or the epididymis, which was a common point of location in the male organs of generation, was a question. It was his belief that infection in the tube was more commonly through the peritoneum or through the uterus, and that tuberculosis of the uterus was a more frequent lesion than was generally believed.

Both of Doctor Burge's cases showed evidences of mixed infection, and not a pure infection. When there was a pure infection of the tube the fimbriated end was open. It was the only type of infection of the tube that retained the patency of the tube during the inflammatory process. In the other types of infection of the tube the tendency was at once to the closure of the tube by agglutination to the neighboring structures. Where a tube remained open the clinical course was almost identical with that of recurrent appendicitis. The patient would have a period of relief—in fact, of good health—followed by a sudden attack of pain, nausea, and vomiting, local sensitiveness, elevation of temperature, and often a discernible effusion in the peritoneal cavity. Examination through the vagina or through the rectum usually showed a thickening of Douglas's pouch in the class of cases of the type he mentioned. In the type of cases Doctor Burge had reported here, once the tube became closed, it did not give the recurrent appendicitis syndrome of symptoms as did the open fimbriated end. Perforation of the tube on the side of tuberculosis, as mentioned in the paper, was not uncommon. When it did occur, it caused a limited peritonitis, which usually rapidly circumscribed itself and underwent repair. The

peritoneum had such greater resistance against tuberculosis than any other tissue in the body that it healed up rapidly.

In the treatment of these cases removal of the tube with the encapsulation of the ends sufficed for the cure of the local condition, and not only that, but the extensive peritonitis that might have resulted from repeated attacks of leakage from the end of the tube, entirely repaired itself.

Present Status of Surgery for Cancer of the Breast.—Dr. E. S. Judd, of Rochester, Minnesota, read this paper, which appeared in the Journal for April 27, 1912.

Sarcoma of the Testicle.—This paper, by Dr. Arthur C. Stokes, of Omaha, appeared in the Journal for March 2, 1912.

Strangulation of Intestine beneath a Persistent Inguinal Genital Ligament.—Dr. C. H. Wallace, of St. Joseph, reported a case illustrating a very rare condition. The case presented the unusual features of cryptorchidism with a well organized embryonic inguinogenital ligament underneath which a loop of small gut became strangulated while the patient was in the act of lifting his leg. The development of a free band extending from the retained testes to the internal abdominal ring brought forth some controversy, inasmuch as the settlement of considerable accident insurance was involved in the case. On the one hand, it was held that the inguinogenital ligament which later became the gubernaculum, existed as a retroperitoneal structure similar in peritoneal relations to the ureter; hence the impossibility of the intestine being caught beneath it. This view appeared to be reasonable until further study was made of the development and descent of the testes. In order to clear up the question satisfactorily, a personal letter was addressed to Dr. George S. Huntington, professor of anatomy, Columbia University, New York, explaining the findings at operation. His letter of reply would be freely and literally quoted in what follows:

According to Professor Huntington, "there was unquestionably in this case the exceptional condition of cryptorchidism in which the testis remained after reduction of the Wolffian body proper, in relation to the caudal pole of the permanent kidney, instead of descending, as it usually did to the inguinal ring or some point within the inguinal canal." The constricting band was undoubtedly the inguinogenital ligament of the embryonic testis which normally became the gubernaculum. That it existed as a free band capable of strangulating the bowel was not remarkable. "All abnormally persistent embryonic structures, which raised the colon lining into folds, tended, if they persisted in the adult, to become free structures traversing the peritoneal cavity. This was accomplished by absorption of the thin layered sheet of colon lining which formed the foundation of the original fold of embryonic peritoneum developed by the growth of the related structure."

An example might be found occasionally in the persistence of a free band extending from some point along the terminal portion of the ileum to the umbilicus. This was a fibrous cord representing a persistent omphalomesenteric artery. Very rare was the condition of a persistent band representing the inguinogenital ligament. If persistent, however, the same law of absorption of mesentery had been followed. Originally the mesenteric folds performed a blood carrying function. "In the case of a descendant and rudimentary structure, persistent in the adult, this primitive mesenteric fold lost its original significance as a blood carrying membrane. The structure to which it originally brought vessels degenerated into a fibrous cord, with very slight vascular relations, and the mesenteric peritoneal fold by means of which it was originally suspended within the peritoneal cavity, beginning to be absorbed in certain regions, producing lacunæ or perforations, the confluence of these areas of absorption tended to the formation of larger fenestræ between the parietal peritoneum and the band, and finally by a continuation of this process the band, whatever its original significance and purpose might have been, traversed the abdominal cavity of the adult in the direction of its original embryonic relation, and might act as a constricting or strangulating agent if intestinal coils were caught beneath it, or between it and the abdominal walls."

Another rather interesting feature in the history of the case was the apparent relaxation of the band while the patient was in the act of lifting the leg, thus permitting a long loop of intestine to slip beneath it.

Congenital Malformations of the Ureters.—Dr. Daniel N. Eisendrath, of Chicago, drew the following conclusions: 1. Congenital malformations of the ureters were formerly thought to be only of interest to the pathologist. 2. The surgical importance of these malformations was just beginning to be appreciated. 3. Four of his cases were found to give rise to clinical symptoms sufficient to require operation. The fifth case was a specimen obtained at autopsy. 4. The clinical picture in these cases varied. In some the abdominal tumor was the most prominent symptom. These were the cases generally spoken of as congenital hydronephrosis, where the obstruction was close to the renal pelvis. A second clinical variety was that in which the sausage shaped tumor extended from the costal arch downward. A third variety was where a protrusion of the lower end of the ureter into the bladder existed. A fourth variety was where the clinical picture was that of a renal infection. Some of these cases might be very difficult to diagnosticate on account of their resemblance to other varieties of intraabdominal infection.

The origin of all congenital malformations of the ureter was undoubtedly a persistence of fetal conditions. The principal varieties found at operation and autopsy were these: 1. No lumen for the entire length. 2. Narrowing or localized absence of lumen; (a) ureteropelvic junction; (b) upper third alone; (c) both upper and lower thirds; (d) at vesical end (cystiform protrusion). 3. Spiral twists, usually one or more. 4. In none of the cases was the lesion due to any accessory renal vessels or any exoureteral inflammatory process.

Election of Officers.—President, Dr. L. L. McArthur, of Chicago; first vice president, Dr.

Walter B. Dorsett, of St. Louis; second vice president, Dr. B. Merrill Ricketts, of Cincinnati; secretary-treasurer, Dr. Arthur T. Mann, of Minneapolis.

Cincinnati was selected as the place for holding the next annual meeting.

Letters to the Editor.

MAN'S SUMMER GARB.

PHILADELPHIA, *May 10, 1912.*

To the Editor:

I notice your very sensible editorial article on A Man's Summer Garments in your issue for May 4, 1912, and I hope you will reiterate it until it produces results. In this connection permit me to call your attention to my article on Hygienic Dress in *American Journal of Clinical Medicine* for May, p. 540. Sensible, serviceable garments are needed for mankind, and the medical press should show *what* those are

JOHN C. ROMMEL, M. D.

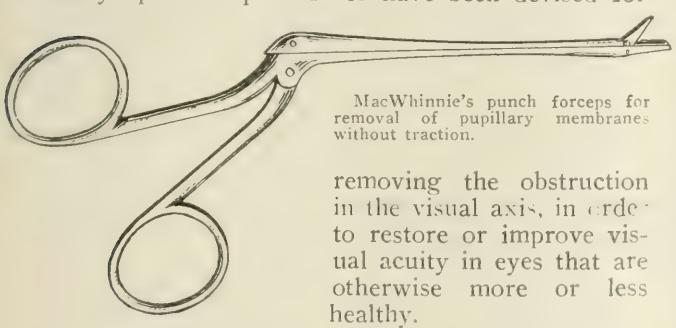
New Inventions.

PUPILLARY OBSTRUCTION.

(With description of a new punch forceps for removal of pupillary membranes without traction.)

BY A. MORGAN MACWHINNIE, M. D.,
Seattle.

Closed pupils following iritis or iridocyclitis—secondary capsule cataract—the result of thickening of the lenticular capsule and of retention of cortex following operations, are exceedingly unsatisfactory and the despair of ophthalmic practice. Many operative procedures have been devised for



MacWhinnie's punch forceps for removal of pupillary membranes without traction.

removing the obstruction in the visual axis, in order to restore or improve visual acuity in eyes that are otherwise more or less healthy.

By nearly all these methods—those with the single or two knife needles, with the von Graefe cataract knife and the keratome, with the Dewecker scissors and forceps—always result in more or less traction upon the thickened and tough membranes, pulling upon the ciliary processes, followed by secondary irritation, or inflammation with exudation, which partly or completely fills the original field of operation in the course of a few days or weeks, and with no better, or even lessened visual acuity than existed before the operation.

Mark D. Stevenson and others have devised punch forceps with which I have had some success. I have devised a much more delicate punch forcep, so constructed that after the corneal incision is made by the von Graefe knife or keratome in the position most favorable for visual acuity, a thin elevator, such as a spatula, is passed through the anterior chamber, the upper lip of the cornea being elevated, the punch being then introduced, cutting out such portion of iris or capsule as may be deemed necessary for visual results.

The instrument is very sharp, to allow of clean cutting. The female blade is basket shaped, with teeth which retain the punched out portion, preventing its retention in the anterior chamber. If there is entire closure of the pupillary area, entrance of the female blade under the membrane of the iris is obtained by having the original incision of the cornea extend through the iris. The blades are very small and it may be necessary to make more than one punch. It is to be borne in mind, however, that the smaller the pupil, the better the vision. Yet, on account of the danger of secondary exudation which may occur from very little irritation, it is usually advisable to excise one sixth or one fourth of the iridic area. In a number of operations done with this instrument, the irritation has been so slight that improved visual acuity has been obtained and thus this description is offered to the profession.

610 LEARY BUILDING.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Textbook of Ophthalmology. In the Form of Clinical Lectures. By Dr. PAUL ROEMER, Professor of Ophthalmology at Greifswald. Translated by Dr. MATTHIAS LANCKTON FOSTER, Member of the American Ophthalmological Society; Member of the American Academy of Ophthalmology and Otolaryngology. With One Hundred and eighty-six Illustrations in the Text and Thirteen Colored plates. Volume I. New York: Rebman Company, 1912. Pp. xvi-275. (Price, $2.50.)

The disposition to return to the form of the published clinical lecture is unmistakable. Mayhap it is not without good cause. One of its chief charms is that it carries with it the personal flavor; and when to this is joined the really scientific cast of mind, as in the volume before us, there issues not only satisfaction, but delight both to the casual reader and the deep student. Roemer's advocacy of the specific treatment of disease strictly in accordance with its etiology has been uncompromising; but his enthusiasm is most seductive. Almost he persuades us into the serum treatment of pneumococcus ulcer of the cornea to the exclusion of all other therapy. This chapter alone is worth the price of the whole volume, not so much for what it actually advocates, as for what it suggests to the thoughtful worker. It is almost unfair to the author to emphasize any one chapter in such fashion, as the whole volume abounds in refreshing originality. This particular volume treats principally of diseases of the conjunctiva, cornea, and lens. It is true, as the translator frankly admits, that Roemer has one fault in common with many writers—that is "a certain provincialism that leads him to undervalue some procedures that did not originate in his own country." But the translator has wisely added footnotes to make up for some such omissions. Indeed the author is peculiarly fortunate in his translator. We are pleasantly reminded of the happy association of Fuchs and Duane in this same way. One cannot lay down Roemer's volume without the feeling that he has been listening to personal instruction, which after all must be the real aim of every scientific work. We shall look for-

ward with pleasant anticipation to the appearance of the second and third volumes. The mechanical make up of this particular volume is above criticism.

Spondylotherapy. Physiotherapy of the Spine Based on a Study of Clinical Physiology. By Albert Abrams, A. M., M. D., F. R. M. S., Consulting Physician to the Mount Zion and French Hospitals, San Francisco, Formerly Professor of Pathology and Director of the Medical Clinic, Cooper Medical College, etc. Third Edition, Enlarged. The Pathology of Spondylology is Founded on Clinical Physiology and Its Methods Embrace the Therapeutics of the Reflexes. San Francisco: Philopolis Press, 1912. Pp. xxiv-673.

This book by Doctor Abrams, now in its greatly amplified third edition, is an important contribution to the elucidation of problems in clinical medicine. A careful reading of the earlier editions, and thoughtful consideration of this more elaborate one, induce the impression that a yet more judicious arrangement of the author's significant findings, original inferences, and practical recommendations, will result in fundamental improvements in our conception of the natural history and phenomena of disease. Already it marks an epoch in the solution of many simpler and some obscure problems, by turning light on new avenues of approach and affording much needed new sources of information and relief.

Among the evidences of derangement in bodily function, morbid phenomena are manifested by both a direct and an indirect symptomatology. The latter embraces highly significant reflex symptoms which have been more or less appreciated, but hitherto the reasons for their full bearing have not been presented with sufficient vigor and comprehension. "Life is expressed by a rhythmic flow of automatic functions known as reflexes. Each has its antagonistic reflex and, when both are coordinated, the result is a physiological condition." (P. 388.) ". . . Pathology is founded on physiology and pathology and is naught else but the physiology of the sick. This pathological physiological condition creates its own pathological anatomy. That is, instead of regarding the morbid tissue change as a primary requisite of disease, it is in reality secondary to physiology in a state of disequilibration."

Hence the principle of action advocated, viz.: ". . . to promote recovery one must influence the general health." Which is done by determining the specific influences of the reflexes in a given instance and exercising such mechanical control of their centres as shall bring about a readjustment, i. e., physiological balance. "We have misinterpreted defensive reflex phenomena as symptoms of disease."

The terms *reflexopathy* and *reflexotherapy* are used. It is also permissible to employ an equally useful term, *reflexodiagnosis,* because the methods explained and advocated aid diagnosis to a gratifying degree through "eponymic reflexes." The subject of the spinal reflexes has been studied from all available sources. The author gives evidence of high scholarly attainments, penetrating intelligence, admirable industry, along with that most necessary quality in any pioneer work, intense enthusiasm. He has availed himself of the work of both local and foreign specialists, of clinics and laboratories, setting forth his lines of research with candor, and securing expert cooperation on obscure problems. His is the credit of bringing together in systematic and comprehensive form what is already known (a very creditable total) adding original researches, analyzing and synthetizing the whole judiciously and comprehensively. The result is a treatise of extraordinary interest and usefulness.

The human body, to be understood (in health and disease) must be surveyed from different aspects. Doctor Abrams, while focussing attention on the eponymic reflexes, opening up directions for interpretations and recommendations, has by no means confined himself to his one special subject, but gives much incidental information on cognate subjects, notably, judicious epitomes of acceptable opinions on physiology, clinical medicine, and even drug therapy. The subject is one which has been culpably ignored by the profession. They have treated assertions by competent trained observers, as well as astute irregulars, with neglect or contumely. In consequence, the public having good reason to recognize the unquestionable utility of many forms of spinal therapy, naturally regard the regular profession as either prejudiced or ignorant. Herein will be found an array of precise, significant, well attested findings, collated and explained by a physician of proved equipment, capacities, experience, originality, and practical good sense, which compel attention. It is to be feared professional prejudices have bitten so deeply that a long time may elapse before the evidence adduced will become accepted as part of current procedures.

From this volume the general practitioner can learn much of helpfulness in many vexatious daily problems; the research worker will find many cardinal points suggested, rich in promise for study.

What the author set out to do he has in great measure done. The department of knowledge to which he has devoted his life is no longer in the experimental stage. On page 182 he makes the statement that he feels justified in having written the book, if for no other reason than to "direct the attention of the profession to the greatest simulator of visceral diseases, viz., neuralgia of the spinal nerves" which may be accompanied by visceral phenomena so diverse and urgent that the mere neuralgia (or nerve root symptoms) is overlooked, and wholly unsuccessful treatment directed to supposititious visceral disease.

The therapeutical measures recommended are of the simplest, chiefly mechanical stimuli of one form or another. The principles of treatment are well defined; the clinical instances cited, convincing, as the reviewer has learned from several direct sources. No doubt, much remains to be worked out in this department of diagnosis and treatment, and some excellent and reliable methods are not even mentioned.

Theorie und Praxis der inneren Medizin. Ein Lehrbuch für Studierende und Aerzte. Von Dr. Erich Klindborg, in Bonn. Zweiter Band. Die Stoffwechselstörungen, die Krankheiten des Bewegungsapparates und der Verdauungsorgane. Mit 74 Abbildungen. Berlin: S. Karger, 1912. Pp. xiii-634.

A year after the appearance of the first volume on the theory and practice of medicine, Klindborg publishes the second volume, in which he speaks of digestion and metabolism, which includes the glands with internal secretion, and as these have, undoubtedly, an influence upon the skeleton and muscles, they are also here included. As we said in our review of the first volume, the author has a new method of treating an old subject, which although he does not produce anything new, makes the book very interesting reading.

New and Nonofficial Remedies, 1912. Containing Descriptions of the Articles Which Have Been Accepted by the Council on Pharmacy of the American Medical Association Prior to January 1, 1912. Chicago: American Medical Association, 1912. Pp. 298. (Price, Cloth, 50 cents; paper, 25 cents.)

The fourth issue of *New and Nonofficial Remedies* has been published by the American Medical Association. It contains the articles which have been accepted by the Council on Pharmacy and Chemistry of the association prior to January 1, 1012; as these are not arranged alphabetically as to their names, a general index at the end of the book is a very necessary addition for the use of the reader. The volume begins with the official rules adopted by the council for the acceptance of the remedies, and preceding the index is a list of manufacturers complying with these rules.

Fortpflanzung, Verebung, und Rassenhygiene. Illustrierter Führer durch die Gruppe Rassenhygiene der Internationalen Hygiene-Austellung 1911 in Dresden. Herausgegeben von Prof. Dr. Max von Gruber, Vorstand des hygienischen Instituts in München, und Priv. Dox. Dr. Ernst Rüdin, Oberarzt an der psychiatrischen Klinik in München. Erklärender Text mit 230 Abbildungen von M. von Gruber nebst einem bibliographischen Anhang von Dr. Rudolf Allers. Zweite, ergänzte und verbesserte Auflage. München: J. F. Lehmann, 1911. Pp. 191.

This book was written as a guide to the section in race hygiene of the International Hygienic Exposition, held at Dresden in 1911. For both, visitors and those who were not so lucky as to be able to inspect the exhibition, the

book will be of interest. The visitors will remember the beautiful and instructive exposition and the others will learn a good deal from these pages. Everything of interest that refers to procreation, hereditary transmission, and race hygiene is represented in this book, which, as we said, is not a textbook on these subjects, but a manual or guide. The illustrations, schematic or otherwise, are very instructive, and the text is written in such a style that any one familiar with the subject and with a fair knowledge of German, can easily understand it.

NEW PUBLICATIONS.

Twenty-sixth Annual Report of the Managers and Officers of the New Jersey State Hospital at Morris Plains. For the Year Ending October 31, 1911. Pp. 73.

Twenty-second Annual Report of St. Mary's Hospital, Rochester, Minn. Conducted by Sisters of St. Francis. Pp. 38.

Annual Report of Mount Sinai Hospital of Boston, Mass. For the Tenth Year, January 1 to December 31, 1911.

Twentieth Annual Report of the Trustees of the Foxborough State Hospital, Boston, Mass. For the Year Ending November 30, 1911. Pp. 43.

Roberts, John B.—Surgery of Deformities of the Face, Including Cleft Palate. Illustrated with 273 Figures. New York: William Wood & Co., 1912. Pp. vii-273. (Price, $3.)

Hill, Leonard.—Caisson Sickness and the Physiology of Work in Compressed Air. (International Medical Monographs.) London: Edwin Arnold; New York: Longmans, Green, & Co., 1912. Pp. xi-255. (Price, $3.)

Rio-Brancho, P. do (da Silva Paranhos).—Essai sur l'anatomie et la médecine opératoire du tronc coeliaque et de ses branches, de l'artère hépatique en particulier. Paris: G. Steinheil, 1912. Pp. 828.

Forty-fourth Year Book of the New York Orthopedic Dispensary and Hospital. January 1, 1911, to January 1, 1912. Pp. 69.

Miscellany.

Scientific Research in the United States.—In the absence of the supervising editor, it is with some natural diffidence that we reproduce from *American Medicine* for April, 1912, the editorial comment on this subject. We feel, however, that justice is on the side of the writer and, while deeply susceptible of the honor done to one of our staff, we do not hesitate, despite our blushes, to approve highly the tribute paid to the physicians mentioned. Our contemporary remarks:

We seldom give our scientists the commendation that their contributions actually merit, and it is not an infrequent occurrence that the work of American surgeons and investigators is more highly appreciated by those on the other side of the water than it is by their own countrymen. Take for instance the remarkable studies of Sajous on the internal secretions. Although the writer was more conversant with Sajous's contributions to the subject than the average American physician, it was not until he went to some of the medical centres of Europe that he began to grasp the far reaching, epoch making importance of the discoveries and researches of this truly great American scientist. As long ago as 1901-02, our European confrères saw that Sajous had tapped a vein of richest truths concerning matters previously shrouded in obscurity and was uncovering a wealth of data and information that promised a new era of progress in the study of metabolism. Ten years have slipped by, and Sajous's two volumes are a monument to some of the greatest studies in human physiology and pathology. His name is known and his work is known—and admired—by those who ever stop to think of what he has done while pursuing a busy life as practitioner of medicine and editor. But what has his country done for him? What recognition, what gratitude and appreciation have been accorded him? Had he had the good fortune to have been born in England or Europe he would have been knighted, made a [illegible] the Legion of Honor, or have received a [illegible] grant that would have enabled him to devote [illegible] research work the rest of his life.

So with Finlay and Agramonte, of Cuba, who [illegible] the relationship of mosquitoes to yellow fever [illegible] made possible the practical obliteration of this [illegible] In this connection it is interesting to learn that the [illegible] scientists have been suggested for the Nobel pri[illegible] medicine. That they richly deserve it every Ame[illegible] physician will agree, for few contributions to preve[illegible] medicine are more glorious and deserving of substa[illegible] recognition than theirs.

So with Gorgas, Flexner, Noguchi, some of our gr[illegible] surgeons like Halstead, Howard Kelly, Maurice Richard[illegible] son, the Mayos, Murphy, Bryant, McBurney, Coley Wyeth, and many others.

So with some of those who have devoted their lives to medical journalism and whose work as great medical editors stands forth like that of Shrady, Hamilton, Foster, and Stedman. Why do our colleges fail to honor these men and emphasize their unselfish, faithful work for humanity? Are we unable to appreciate our own? Are we so indifferent that we will go on keeping from telling them while it could encourage them, that we are proud and grateful for their efforts? Are we not missing opportunities to foster and promote scientific research?

Meetings of Local Medical Societies.

MONDAY, *May 20th.*—New York Academy of Medicine (Section in Ophthalmology); Medical Association of the Greater City of New York; Elmira Clinical Society; Hartford, Conn., Medical Society.

TUESDAY, *May 21st.*—New York Academy of Medicine (Section in Medicine); Triprofessional Medical Society of New York; Medical Society of the County of Kings; Psychiatrical Society of Ward's Island; Medical Society of the County of Westchester; Syracuse Academy of Medicine; Ogdensburgh Medical Association; Oswego Academy of Medicine; Syracuse Academy of Medicine; Buffalo Academy of Medicine (Section in Obstetrics and Gynecology); Binghamton Academy of Medicine; Clinical Society of the Elizabeth, N. J., General Hospital.

WEDNESDAY, *May 22d.*—New York Academy of Medicine (Section in Laryngology and Rhinology); New York Surgical Society; New York Society of Internal Medicine; Medical Union, Buffalo.

THURSDAY, *May 23d.*—New York Academy of Medicine (Section in Obstetrics and Gynecology); Bronx Medical Association; New York Celtic Society; New York Physicians' Association; Hospital Graduates' Club, New York.

FRIDAY, *May 24th.*—Academy of Pathological Science, New York; New York Society of German Physicians; New York Clinical Society; Manhattan Medical Society.

SATURDAY, *May 25th.*—West End Medical Society; New York Medical and Surgical Society; Harvard Medical Society; Lenox Medical and Surgical Society.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending May 10, 1912:

CHOLERA—FOREIGN: *India*, March 10-16, 5 cases, 4 deaths; *Indo-China*, March 12-18, 24 cases, 16 deaths; *Siam* (Bangkok), Jan. 28-March 24, 489 deaths; *Turkey* (Aleppo), April 6-13, 5 cases, 2 deaths.

YELLOW FEVER—FOREIGN: *Venezuela* (La Guaira), March 17-April 1, 2 cases, 2 deaths.

PLAGUE—FOREIGN: *Chile* (Iquique), March 24-April 6, 3 cases; *China* (Hongkong), March 10-23, 30 cases, 27 deaths; *Peru*, March 27-April 10, 24 cases; *Siam* (Bangkok), Feb. 25-March 23, 2 deaths; *Straits Settlements*, March 3-16, 2 cases, 1 death; *Trinidad*, May 1, 1 case; *Venezuela* (Caracas), March 27-April 13, 2 deaths.

SMALLPOX—UNITED STATES: *Florida*, April 16-22, 34 cases, 1

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na (New Orleans), April 21-27, 13 cases; *Missouri* (St. 21-27, 4 cases; *Nebraska* (Omaha), April 21-27, 1 case; Essex County), March 1-31, 1 case; *New York*, March

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es; *Oregon*, Nov. 1-Dec. 31, 10 cases; *Pennsylvania*, h 31, 57 cases, 1 death; *Tennessee*, April 21-27, 7 cases; 1-31 (omitted from last report), 1 case, 10 deaths; A. M., 1. 1-March 31, 208 cases, 41 deaths; *Washington*, Feb. 1- Mount, 35- cases.

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OX—Foreign: *Austria-Hungary*, March 31-April 6, 4 cases; April 14-27, 32 cases, 1 death; *China*, March 10-30, 67 cases, Medi hs; *Germany*, April 7-20, 17 cases; *Great Britain* (London), Editi 7-20, 2 cases; *Italy*, Jan. 1-April 20, 52 cases, 8 deaths; Fou p, Feb. 18-April 27, 4 cases, 1 death; *Russia*, Feb. 18-April 13, brac es, 2 deaths; *Siam* (Bangkok), Jan. 28-March 23, 849 deaths; cis 4 (Cadiz), March 1-31, 2 deaths; *Straits Settlements*, March 3- cases, 2 deaths; *Turkey* (Constantinople), April 8-14, 21 deaths.

Public Health and Marine Hospital Service:

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Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending May 8, 1912:

Billings, W. C., Passed Assistant Surgeon. Granted two days' leave of absence, April 22d and 23d, under paragraph 189, Service Regulations. **Brown,** F. L., Pharmacist. Relieved from duty at the Marine Hospital, Chelsea, Mass., and directed to report to the medical officer in command at the Marine Hospital, Vineyard Haven, Mass., for duty and assignment to quarters. **Cannon,** C. C., Pharmacist. Upon the arrival of Pharmacist F. L. Brown, relieved from duty at the Marine Hospital, Vineyard Haven, Mass., and directed to report to the medical officers in command of the Marine Hospital, Chicago, Ill., for duty and assignment to quarters; granted twenty-four days' leave of absence from May 2, 1912. **Carmichael,** D. A., Surgeon. Granted fourteen days' leave of absence from May 23, 1912. **Cleaves,** F. H., Acting Assistant Surgeon. Granted seven days' leave of absence from May 2, 1912. **Cumming,** H. S., Surgeon. Granted one month's leave of absence, from April 24, 1912, on account of sickness. **Draper,** W. F., Assistant Surgeon. Granted four days' leave of absence, on account of sickness, April 17 to 20, 1912. **Goldsborough,** B. W., Acting Assistant Surgeon. Leave of absence for one day, April 24, 1912, without pay, revoked. **Gwyn,** M. K., Passed Assistant Surgeon. Granted seven days' leave of absence from April 2, 1912, under paragraph 191, Service Regulations. **Jackson,** J. M., Acting Assistant Surgeon. Granted four days' leave of absence from May 8, 1912. **Knight,** C. P., Assistant Surgeon. Granted seven days' leave of absence, April 4 to 7, 1912, and April 11 to 13, 1912, under paragraph 191, Service Regulations. **Mullan,** E. H., Passed Assistant Surgeon. Granted ten days' leave of absence from April 20, 1912. **Parker,** H. B., Passed Assistant Surgeon. Granted nine days' additional leave of absence from April 1, 1912, on account of sickness. **Ryder,** L. W., Pharmacist. Granted two days' leave of absence, April 12 and 13, 1912. **Schuster,** B. L., Acting Assistant Surgeon. Leave of absence for one day, April 18, 1912, amended to read "two days' leave of absence, April 29 and 30, 1912." **Thurston,** E. J., Pharmacist. Upon the arrival of Pharmacist C. C., relieved from duty at the Marine Hospital, Chicago, Ill., and directed to report to the medical officer in command of the Marine Hospital, Evansville, Ind., for duty and assignment to quarters. **Troxler,** R. F., Pharmacist. Upon the arrival of Pharmacist E. J. Thurston, relieved from duty at the Marine Hospital, Evansville, Ind., and directed to report to the medical officer in command of the Marine Hospital, San Francisco, Cal., for duty and assignment to quarters. **Weitgenant,** W. W., Pharmacist. Granted twenty-four days' leave of absence, from May 2, 1912. **Wertenbaker,** C. P., Surgeon. Detailed to represent the Service at the Southern Sociological Congress, to be held at Nashville, Tenn., May 7 to 10, 1912.

Boards Convened.

Board of medical officers convened to meet in Philadelphia, Pa., upon the call of the chairman, for the physical examination of an officer of the Revenue Cutter Service. Detail for the board: Surgeon W. G. Stimpson, chairman; Surgeon J. H. Oakley, recorder.

Board of medical officers convened to meet at Port Huron, Mich., for the reexamination of an alien immigrant. Detail for the board: Acting Assistant Surgeon B. L. Schuster, chairman; Acting Assistant Surgeon W. S. Henderson, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending May 11, 1912:

Freeland, Herbert I., First Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Benjamin Harrison, Ind., and ordered to Fort Mott, N. Y., for duty. **Guittard,** A. M., First Lieutenant, Medical Reserve Corps. Granted four months' leave of absence, to take effect July 1, 1912. **Jones,** Harold W., Captain, Medical Corps. Relieved from further treatment at the Army and Navy General Hospital, Hot Springs, Ark., and will return to his proper station, Jackson Barracks, La. **Lemmon,** Robert, First Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Hancock, N. J., and ordered to Fort Rodman, Mass., for duty. **McLellan,** George H., Lieutenant, Medical Corps. Granted leave of absence for two months, with permission to apply for an extension of one month.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending May 11, 1912:

Baker, M. D., Pharmacist. Detached from the Navy Yard, Boston, Mass., and ordered to the Naval Hospital, Great Lakes, North Chicago, Ill. **Hough,** F. W. P., Passed Assistant Surgeon. Detached from the naval recruiting office, San Francisco, Cal., and ordered to the *Intrepid*. **Little,** J. C., Acting Assistant Surgeon. Appointed on May 3, 1912. **MacKenzie,** E. G., Passed Assistant Surgeon. Ordered to the Naval Hospital, Washington, D. C., for treatment. **Norton,** O. D., Medical Inspector. Ordered to the Naval Recruiting Station, San Francisco, Cal. **Phelps,** J. R., Passed Assistant Surgeon. Ordered to the Naval Hospital, Boston, Mass.

Births, Marriages, and Deaths.

Married.

Bulkley—Rogers.—In Toronto, Canada, on Saturday, May 11th, Dr. Kenneth Bulkley, of New York, son of Dr. L. Duncan Bulkley, and Miss Gladys Clarke Rogers. **Comfort—Buchanan.**—In Pittsburgh, Pa., on Friday, May 3d, Dr. Charles Comfort and Miss Louise Buchanan. **Sleath—Warner.**—In Ambler, Pa., on Tuesday, May 7th, Dr. Samuel Sleath and Miss Mark K. J. Warner.

Died.

Benzinger.—In Baltimore, on Saturday, May 4th, Dr. Joseph C. Benzinger, aged seventy years. **Blucher.**—In New Castle, Pa., on Monday, May 6th, Dr. Thomas J. Blucher, aged eighty-four years. **Cheesman.**—In Auburn, N. Y., on Tuesday, May 7th, Dr. William S. Cheesman, aged fifty-nine years. **Gilmore.**—In Tuscaloosa, Ala., on Friday, May 3d, Dr. Frank T. Gilmore, of Tuscumbia, aged sixty-five years. **Horton.**—In Buffalo, N. Y., on Monday, May 6th, Dr. Eugene B. Horton, of Niagara Falls, aged thirty-nine years. **Laughlin.**—In Deer Park, Md., on Monday, April 29th, Dr. J. W. Laughlin, aged seventy years. **Lipschutz.**—In New York, on Thursday, May 9th, Dr. Jacob M. Lipschutz, aged twenty-seven years. **McCrary.**—In Woodbury, Tenn., on Tuesday, April 23d, Dr. Mercer W. McCrary. **Nicholson.**—In Dallas, Texas, on Tuesday, April 30th, Dr. Archibald Nicholson. **Owsley.**—In Jacksonboro, Ohio, on Tuesday, April 30th, Dr. Joshua B. Owsley, aged eighty-two years. **Pierson.**—In Huntington, N. Y., on Friday, May 10th, Dr. William Butler Pierson, of Brooklyn, aged eighty-five years. **Sale.**—In Bedford City, Va., on Tuesday, April 30th, Dr. John W. Sale, aged eighty-six years. **Spencer.**—In Port Huron, Mich., on Sunday, May 5th, Dr. Clarke E. Spencer, aged sixty-three years. **Walker.**—In Carnegie, Pa., on Tuesday, May 30th, Dr. Robert Latshaw Walker, Jr., aged forty-one years.

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Original Communications.

HYSTERICAL DREAMY STATES, THEIR PSYCHOLOGICAL MECHANISM.*

BY A. A. BRILL, Ph. B., M. D.,
New York,
Clinical Assistant in Psychiatry and Neurology, Columbia University.

The hysterical dreamy states that I am about to discuss are not the protracted crepuscular episodes followed by partial or complete amnesia which were described by Ganser and others, and often taken as psychic equivalents of motor epilepsy, but they represent those peculiar conditions so often observed in psychoneurotics which were first described by Loewenfeld,[1] and later submitted to a thorough psychanalytic study by Abraham.[2] The characteristics of these states will be best described by recalling to you the familiar old fable which is said to have originated in India and passed from the Sanskrit versions with many variations into many languages. The story selected by me tells how an oriental glass vender sat cross legged with his basket of glassware in front of him. While wishing for purchasers he merged into the following reverie: "If I sell this whole basket of glass I shall have ten dinars. I will then buy glassware for the whole sum, and when that is sold I shall have twenty dinars. I will then buy glass for twenty dinars and sell it for forty dinars. For this sum I shall again buy glassware and when that will be sold I shall be worth eighty dinars," etc. In his reverie he kept on doubling his fortune until he was immensely rich. He bought enchanted palaces, lived in luxury, and lavished fortunes. His fancies became more and more extravagant, he was very happy and elated, when a slight movement suddenly reminded him of his basket, and the thought flashed through his mind, "What's the use of bothering with such worthless stuff?" And with this he kicked the basket over. The clanging of broken glass interrupted his day dream and brought him back to himself.

Let us for a moment think of this story which, *si non è vero, è ben trovato*, and examine the different mental operations which enter into its formation. It shows the following fairly well defined stages: There is a first stage of fantastic exaltation, the content of which deals with the individual's hopes and aspirations. The glass vender is in a state of euphoria; from a poor man he is suddenly transformed into a man of wealth, and his fortune is rapidly increasing. This is followed by a stage of dreamlike withdrawal from reality. He is no longer controlled by logical judgment and reasoning; his fancies therefore run riot, as it were; everything is changed; it is like a dream where time, space, and natural obstacles are absent. He amasses an enormous fortune, and owns palaces, etc.; in brief, he is no longer himself. This is followed by a very rapid third stage, which is distinguished by a suspension of consciousness, an absent mindedness during which there are no thoughts so to speak, and the whole episode is followed by depression characterized by anxiety with its concomitant manifestation.[3] I need hardly say that our hero must have been depressed on emerging from his revery.

In almost all the cases observed by me these three stages which were originally described by Abraham[4] could readily be distinguished, but I should like to add that the first stage is always preceded by a period of craving.

Without going into detailed histories, I shall cite some of my own observations.

CASE I. I. C., was seen by me in the neurological department of the Vanderbilt Clinic in November, 1908. Among other things he complained of strange thoughts which interfered with his work. He stated that he was a weaver by trade and that for months he was hardly able to attend to his work. He explained that weaving required concentration of attention, as a great deal of counting had to be done, and that a single mistake spoiled the work. His "foolish" thoughts would come in spite of all effort to keep them away; they absorbed his mind to an extent that he forgot his work and unconsciously stopped weaving and continued dreaming until aroused. As examples, he gave a few experiences of the previous day, which in his own words read as follows: "I am working and unconsciously I begin to think what I should do if I had two thousand dollars. I start a shop and soon earn a lot of money because I oppress my employees. With the money thus gained I open a big factory and employ a lot of greenhorns whom I force to work long hours for very little pay. I enlarge my business; I have hundreds of people working for me; I become greater and greater . . . when I suddenly find myself crying because I have lost all my money in Wall Street."

"I marry a very nice girl; she is very much in love with me, but she is afraid of me. I am very tyrannical and brutal. She has to do what I tell her, otherwise I beat her. She cries and begs me not to kill her, but I pay no attention to her. I become more and more excited. I hardly know what I do when I suddenly wake up wringing my hands because she is dead."

He recited many more day dreams, but they were all of the same nature. They all dealt with wealth and murder.

*Read before the New York Academy of Medicine, April 4, 1912.

[1] *Zentralblatt für Nervenheilkunde*, August, 1909.

[2] Ueber hysterische Traumzustande, *Jahrbuch für Psychoanalyse*, Bd. II.

[3] Confer Brill: The Anxiety Neuroses, *Journal of Abnormal Psychology*, June-July, 1911.

[4] *Loco citato.*

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Recalling Freud's saying that the contented individual does not indulge in fantasies, I assumed that these dreamy states must represent some of the patient's wishes, and viewed superficially one may think that the first dreamy state corroborates this assumption. The patient is a poor weaver who believes himself oppressed by his employer, and therefore dreams of changing places with his oppressor. His day dream is simply a realization of his wishes. But a number of questions arise as soon as we take a closer view of the subject. In the first place, it cannot be said that it is really a wish realization, as the money thus rapidly gained is as rapidly lost, leaving the patient unhappier than he was. It may also be asked, why the patient is not satisfied with the everyday conscious day dreaming; why do these dreamy states come in attacks, why are they accompanied by complete oblivion to external impressions, especially at their height, and why does the patient perceive them as unreal and strange? Moreover, when we recall his second dream, we can no longer think of any wish realization, for the patient is single and is very much in love with his fiancée whom he wishes to marry.

From the study of dreams we have learned that no matter how absurd a dream may seem, it nevertheless contains sense and meaning if we find its latent content, and that every dream, and for that matter every psychotic symptom, contains the hidden fulfilment of a repressed wish[5] which usually refers to the two great impulses, hunger and love. Freud has also shown that certain episodic manifestations of hysteria are simply substitutive gratifications for the abandoned masturbation,[6] and Abraham maintains that the same is true for the hysterical dreamy state. Let us see whether this is true in our patient.

I regret that I was unable to make a complete analysis of the following case. The patient was a clinic one, and, as often happens in such cases, the analysis had to be given up. Still the facts that I have obtained are sufficient to confirm the assumption that his dreamy states were substitutions for his masturbation. His history was briefly as follows:

Case II. I. C., twenty-two years old, had masturbated on and off since the age of twelve. From a very early age he had been suffering from a mixed neurosis (anxiety hysteria and compulsion neurosis) which was due to many conflicts and repressions. At the age of seventeen years he consorted with women and masturbated excessively besides. He came to New York at twenty years of age and after that tried very hard to abstain from sexual indulgence but often failed. At twenty-two years he fell in love and decided to lead a life of sexual abstinence until his marriage which was to take place in March, 1909. The sadistic day dreams described above came on after a few weeks of hard struggle. He was always given to day dreaming, but he himself sharply distinguished between his former air castles and his present day dreams, by saying that the latter were beyond his control because they were accompanied by a "short fainting spell." We are therefore justified in saying that there was a direct relationship between the suppressed sexual activities and his fantastic day dreams.

If we bear in mind the different stages described above and follow the act of masturbation we can at once see a distinct analogy. Here as there there is a preliminary craving followed by a pleasurable stage, and the second and third stages of the day dream, the withdrawal from reality, and absent mindedness, fully correspond to the increasing sexual excitement and its acme at the moment of ejaculation. It is well known that coitus was compared by many writers to a minor epileptic attack. Also the terminal depression corresponds to the same stage of coitus or its inadequate outlet, masturbation. *Post coitum animal triste* is an old saying equally true of masturbation, which is always followed by self reproach.

To illustrate the psychological significance of dreamy states the following case will serve:

Case III. A., referred to me for treatment by Dr. Frederick Peterson, was a rising journalist of twenty-six years. He was addicted to dreamy states most of which showed the three stages cited above. A few examples recited by himself will give us an idea of their nature. "I am running a race, and I feel fine because I am sure of winning. I am accidentally struck in the thigh with the spiked shoe of one of my competitors. I am bleeding but I don't seem to feel it. I am very excited because I am getting ahead of the others. Some trainers try to stop me because they imagine I am hurt, but I punch them and run on. I win the race, but collapse from exhaustion. I am carried out amidst the applause of the crowd." "I am taking a walk with a party of young men and women. We are held up by a highway man. We all submit to it. I stand with my hands up, but taking advantage of the highwayman's momentary inattention I throw myself upon him, take away his pistol, and strike him on the head with it. I beat him into submission and then lead him by the collar to the police station amidst the great applause of my companions, who, being Jews, are astonished at my bravery." "I escape from home and make my way to China. I insinuate myself into court and become a favorite of the Dowager Empress. I am put in charge of the army which I train to great efficiency. A rebellion breaks out; I lead the army. The emperor who is on the other side is killed or dies (vague). As a reward for my services I marry the Dowager Empress who looks like my mother. This happiness does not last very long, for I am deposed and returned to New York an exile."

The patient stated that these day dreams usually came when he was writing, and that they were entirely beyond his control. He himself referred to them "as a sort of absentmindedness during which I am like a somnambulist."

It is interesting to note that in both patients the dreams appeared during mental concentration. This fully corroborates what Freud states in his *Three Contributions to the Sexual Theory*, viz., that mental application to an intellectual accomplishment will often result, especially in youthful persons, in a simultaneous sexual excitement. Another striking point in all these dreamy states is the emotional lability in the different stages; the dreamer distinctly realizes that the first two stages are of a pleasurable nature, while the last stage is of a depressive painful nature.

I am unable to go into long analytical explanations, so I will content myself by stating that here, too, the day dreams were substitutes for the abandoned masturbation, and will proceed with the analysis of day dreams proper.

In the study of the psychosexual constitution of the individual we find that it is made up of many components and partial impulses which run through a definite evolution. These impulses are active in infancy, but normally they are gradually repressed, leaving only slight traces of their former existence. As I have thoroughly discussed this question else-

[5] *Confer* Brill: Dreams and Their Relation to the Neuroses, New York Medical Journal, April, 1910.

[6] Allgemeines uber den hysterischen Anfall, *Sammlung kleiner Schriften zur Neurosenlehre*. Deuticke, Wien, 1909.

where,[7] I shall briefly refer to the impulses of exhibitionism and cruelty only.

It is well known that unlike adults, children like to show themselves naked, that is they like to exhibit. It is not at all unusual to see children of both sexes exposing themselves *coram publico*. Shame is a matter of training. I know a little girl of six years, who at the age of three or four used to invite her grown up acquaintances to be present while she took her bath, and who now blushes at any allusion to it. That the Golden Rule is not inherent in the human being is also well known. Cruelty in our sense is common to childhood. I believe it is La Fontaine who calls childhood "an age without pity." That cruelty and exhibitionism are intimately connected with sex is hardly necessary to mention. Naturalists and anthropologists have repeatedly called attention to it. Freud, who has perhaps penetrated deeper than any one else, shows[8] that when these impulses are repressed by a process of training and education they form certain reactions like modesty and sympathy which go to make up the character of the individual. But as no impulse is entirely suspended, one can always find some traces of it in the individual's character. Thus persons inclined to obscene joking usually conceal a desire to exhibit, and persons having a strong sadistic or cruel component in their sexuality, which is more or less inhibited, are most successful with the tendency wit of aggression.[9] If for some reason these impulses cannot be repressed, or when later in life there is a failure of repression, the individual remains a sexual exhibitionist or a sadist, or he suffers from a neurosis in which these impulses come to the surface in some negative form. One of the distressing symptoms for which A sought relief was an irresistible impulse to pinch women. His fancies simply reflected his symptoms. The first two day dreams nicely illustrate, in a rather hidden form, his exhibitionism as well as his sadism, while the third one referring to his marrying the dowager empress who looked like his mother shows a very nice unconscious mechanism, the so called Œdipus complex.[10] His neurosis is the result of a conflict between his conscious resistances and his unconscious attachment to his mother. As with every little boy, his mother was the first women he loved, but unlike the others his libido remained fixed on her. This is a very common mechanism and, as shown by Abraham, accounts for so many consanguineous marriages. Neurotics, who are unconsciously attached to their parents, either never marry because "no girl is like mother," or marry some member of the family who resembles the parent. As a little boy our patient often found home too small for him and his father. He was his rival, as it were, for his mother's affection and for that reason he often wished him dead. Now as a grown up man, he still finds life burdensome because he cannot tolerate his superiors who take the place of his father, and he consequently entertains murderous thoughts toward them. The morning before this day dream he read about the war in China, and that the army had been trained by foreign officers. This was the main determinant of the last dream, but the other elements that enter into its formation are part and parcel of his neurosis. In his day dreams he runs away from home and becomes a great man, because in reality he dislikes the idea of having to stay at home and be supported by his parents who lately referred to it rather unkindly. In this rebellion he either kills the emperor or he dies. Such vague statements occurring in day or night dreams indicate a marked repression; here the emperor stands for his father.[11] He thus kills his father and is united to his childhood ideal. But, as he is no longer a child, the dream shows the influence of the incest barriers which were formed during his development; he is therefore deposed and returned to New York an exile. This sudden fiasco is also constellated by the depressive emotional tone of the terminal stage of masturbation which invests, so to say, the last stage of the day dream and determines its character. That A's first two day dreams lack the depressive thoughts which go to make up the terminal stage of masturbation, is not without reason.

I have purposely selected these examples because they demonstrate a rather interesting mechanism. They always appeared after the patient practised interrupted masturbation. As you know this is a common practice of masturbators, who imagine that loss of seminal fluid is loss of vitality.

In conclusion it may be said that this type of day dreaming is simply a substitution for the abandoned masturbation. The unrequited libido seeking an outlet invests those thoughts which are in some way connected with the individual's hopes and strivings. Like the wolf in the lamb's skin they look quite innocent at first sight, but on closer investigation it becomes very evident that they represent repressed wishes of the person's psychosexual life and thus constitute a concealed form of mental masturbation.

97 Central Park West.

[7] Freud's Theory of Compulsion Neurosis, *American Medicine*, December, 1911.

[8] Three Contributions to the Sexual Theory, translated by A. A. Brill, *Journal of Nervous and Mental Diseases*, Monograph Series.

[9] *Confer* Brill: Freud's Theory of Wit, *Journal of Abnormal Psychology*, November, 1911.

[10] *Confer* Freud: *Interpretation of Dreams*, translated by A. A. Brill, New York.

[11] This is a rather common identification. Confer Freud: *The Interpretation of Dreams.*

THE TRAINING OF THE UROLOGIST.

By Hugh Cabot, M. D.,
Boston,
Chief, Genitourinary Department, Massachusetts General Hospital.

At the last meeting of this association, I asked your consideration of the question, Is Urology Entitled to be Regarded as a Specialty? As that question has been answered in the affirmative, it now becomes our duty to point out what the training of a urologist should be. We believe that "the old order changeth," and that advance compels a rearrangement of the departments of medicine and a readjustment of specialties. It becomes our business, therefore, to see that the men who are to do this work, who are to put urology in the place where it belongs, are properly equipped, for unless we see to it, be well assured that it will not be done.

Since we claim for urology the rights of a specialty, we must see that our successors are properly equipped to advance the cause.

At the outset we cannot discuss the training of a urologist without first considering what is the field which he must cover. The urologist has come into being because of a widespread dissatisfaction with the lines as at present drawn. The genitourinary surgeon has existed, more or less as a specialist, for half a century, but his work has gravitated more and more into the lines of venereology and this not from accidental causes. It should not be overlooked that when a man elects a narrow field for his activities, that field will in time react upon him. Narrowness breeds narrowness, and surroundings have an inevitable effect upon character. The tendency of the genitourinary surgeon to gravitate into the care of venereal disease is no accident. It is but a natural and probable consequence of his decision to deal with the diseases peculiar, not only to one region, but to one sex. As the line was drawn and as the process was proceeding, it required no prophetic vision to see the total extinction of any sound specialty devoted to the diseases of the male genitourinary system. Furthermore, the division had no sound basis, as the essential lesions of the urinary system are the same in both sexes, and with the exception of certain conditions of the bladder, vary in no important particular.

Parallel with the fall of the genitourinary surgeon is that of the gynecologist. His specialty has proved too narrow and has led with mathematical accuracy to a surgical myopia. Those who have stuck strictly to their field are being strangled by their specialty. The larger and bolder spirits have attempted to take over the field of abdominal surgery, with which their work has no logical connection and in which they can claim no superiority over the well equipped general surgeon.

The field of urology, then, must, in the natural order of events, cover that of the old genitourinary surgeon and part of that occupied by the gynecologist. It is true enough that the average gynecologist has known far too little of the urinary system and to that, in part, is due his downfall. But it is more importantly due to the fact that his work was in no true sense a specialty and that the narrow field has strangled endeavor. Such portions of the work of the gynecologist as deal with the results of obstetrical lesions belong properly to the obstetrical specialist and to him they will ultimately gravitate. Such portions of his field as lie wholly within the abdominal, belong to the well equipped general surgeon, while the lesions involving the urinary tract, directly or indirectly, must ultimately come under the province of the well equipped urologist. Thus the old order changes. Subdivisions of the field of surgery change and gravitate into a natural and logical relation, and any specialty which expects to stand upon a permanent basis must mark out for itself a field sufficiently wide to tax the capacity of the largest individual, so that he may avoid the inevitable dangers, either of being narrowed to the vanishing point, or of being obliged to take over other and not properly allied territory in order to allow for growth. It is not a question of what I believe or what you believe, but is the natural and inevitable result of forces far greater than the individual. Progress will hew to the line, whether we like the position of the falling chips or not.

This, then, is the field of the urologist. He must know, in all its ramifications, the conditions of the urinary tract in both sexes. He must, because of anatomical facts, know the genital tract of the male and to a somewhat less extent, he must master the lesions of the genital tract of the female. The parts of this field are soundly correlated and they will provide a specialty wide enough to tax the capacity of the largest mind, while giving infinite play to the particular hobbies of the smallest individual.

Clearly the equipment for work in this field will not be achieved by a few years of casual study. The specialist who makes his mark here will not be produced by an ordinary medical training, a few weeks in foreign clinics, and an extraordinary ability to plagiarize the work of others. He must be grounded firmly. He must be equipped with the soundness of judgment characteristic of the general surgeon, and he must acquire the technical skill essential to the study of the urinary lesions. Let us be more specific. The student who aims to be a urologist, if such prevision exists, must have had a sound medical training and the customary experience of a hospital training. That hospital training must have given him a comprehensive view of the field of general surgery and cannot be obtained in those institutions which divide the interne's course between medicine, surgery, and various specialties. He must devote himself for not less than one year, as an interne, to surgery. At this point, he will reach the parting of the ways and will probably be able to decide whether his part in the scheme of things lies in general surgery or in one of the specialties of surgery. Should he elect urology, further training in general surgery is essential to success. As the possibilities exist at present in this country, he has one of two choices. He may either become a surgical resident at one of a few hospitals, or he may associate himself, if he is fortunate, with a general surgeon in large practice, with whose work he will become familiar, and from whom and with whom he will acquire sound surgical judgment. If it should seem to any that I lay too much stress upon the requisites of a general surgical training, let it be remembered that the surgery of the urinary tract, in many of its branches, is the most major of major surgery, that surgical skill, boldness, and judgment are nowhere more necessary than in dealing successfully with the graver lesions of the kidney and the bladder. It is my own opinion that the successful urologist can arrive at his own only through the portal of general surgery, and that it is while in the practice of general surgery that it will become clear to him that he is particularly equipped by temperament to become a specialist.

At this point he may wisely begin the study of the methods of examination belonging essentially to urology and may start upon the long road which produces a skillful cystoscopist. If any one believes that a cystoscopist can be produced in a few months, he has only to watch for a brief period the

work of one equipped with a few months' training, to arrive at the conclusion that this is no simple business. Though the belief seems to be current that a brief course in cystoscopy will suffice to equip the practitioner to undertake this work, conviction grows upon me that this is a fundamental error. The ill trained cystoscopist is more likely to arrive at conclusions dangerous to his patient than to add to the sum of useful knowledge. To-day the worst menace of urology lies in the failure of the general surgeon to appreciate that years of training are essential to these delicate manipulations and to the ability to distinguish, surely and rapidly, the varied manifestations of bladder disease. The exact method by which the young practitioner trained in general surgery shall acquire his urological experience cannot be laid down dogmatically. It must necessarily depend upon the opportunities for study which his environment offers, and the extent to which it is financially possible for him to neglect the practice of medicine in order to acquire a specialist's training. Whatever method may be selected, it should be appreciated at the outset that it is a matter of years and not a matter of months. For the recent resident in surgery probably the most available method is to attach himself directly to a trained urologist and stick there until he has acquired a well rounded experience. For those who have found it best to associate themselves with a general surgeon, it will perhaps be possible to acquire urological skill by devoting a part of their day to hospital work in this line without abandoning at once their general surgery. More and more, however, the specialist must be deliberately produced by becoming the assistant of some trained urologist and leaving him, to settle elsewhere, when his training is complete.

It may reasonably be questioned whether a well rounded view of the field can be obtained from experience in any one clinic, and it is undoubtedly highly desirable that the work of more than one individual should be studied. I think we have much to gain and little to lose by a system of interchange of assistants, and that not only the assisant but the chief would gain by the fresh view point thus obtained. There are probably a great variety of individual roads which may lead to the desired result, namely, a well rounded specialist. Which of them be chosen, I care not, so long as it be clearly understood that the specialist of the future will succeed or fail according as his equipment includes three important features. He may be said to stand upon a tripod, consisting of a mind fitted to struggle with problems, a sound foundation in general surgery with its accompanying surgical judgment, and highly developed skill in the delicate manipulations in which the cystoscope plays so large a part.

There is one thing more in the training of the urologist to which I would call your attention. Social unrest arising from inequalities in the social scale is the most important present phenomenon of our civilization. More and more, thinking men are realizing that this is not the chatter of cranks, but a failure in our development that will require the full application of the best minds for its solution. No group of men is brought more constantly into contact with these problems than physicians. No one of these problems is more difficult and far reaching than that of the relation between the sexes, involving, as it does, not only the whole question of marriage and divorce, but also the various diseases and disabilities arising from the relation. In no department of medicine do these questions confront the physician with more force than in urology. Any man who takes up this work will find himself deeply involved in these problems. He cannot well plead as an excuse that his duty begins and ends with the treatment of disease. It is all too clear that more and more demand is being made on the physician for expert advice in preventive medicine and he must either fit himself for this work or give up his job. The future urologist must devote time and study to social questions that he may help to guide a public opinion which is now fully aroused to their importance and anxious to apply a remedy. He will need to bring to these questions the best that his mind affords, for they are intricate, involve time honored if shop worn moral standards, and arouse passionate defence of long standing, if imaginary rights.

1 Marlborough Street.

RESEARCH IN PSYCHIATRY.

By Bayard Holmes, M. D.,
Chicago.

Over fifteen hundred persons went down in the *Titanic*. This is less by 500 than the number of persons committed to the institutions of the insane in the State of Illinois in one year. The whole world is aroused to prevent the repetition of a similar nautical calamity. Nevertheless the whole world is committing to the institutions for the insane within the dominions of civilized countries, not less than 80,000 citizens a year from every walk of life, from the rich and the poor, from the educated and the uneducated, and with almost equal proportions. Moreover, this has been going on for fifty years, and yet no vigorous, rational, adequate methods have been instituted or practised, designed to discover the causes of the diseases or physical conditions which lie at the bottom of insanity.

I know very well that the Zeitgeist, the tendency of the time is toward the mystical and the occult. Mysticism has entered mathematics and almost attained the position which it occupied among the preChristian Egyptians. Mysticism has come into physics, and it was necessary at the last meeting of the Association for the Advancement of Science for Magie to devote a large part of his address to combating the occult spirit in physics. Mysticism has come into natural philosophy, and Wilhelm Fliess has issued a book on a mystical family substance and its rhythmical fluctuations upward toward genius or health, and downward toward perversion or disease. By this system of natural philosophy, Siegmund would have us treat the father, the mother, the uncles, and the aunts when we are called to see a child suffering from hives or headache.

During these fifty years the alienist and the philanthropist have had their way with the institutions

for the insane, and with the departments of charities and correction. It is now time for the scientist and the physician to take hold of the problems of insanity.

If, as rational and scientific men we wish to discover the causes of insanity, we ought to pursue the same methods which have been rewarded by success in discovering the causes of other afflictions of mankind. We should do this in spite of any tendency of the time toward any other method. We should not be led astray by the success of occultism in building temples or in curing complaints.

It is perfectly legitimate to experiment in the crude and single handed manner which brought immunity against smallpox; it is perfectly legitimate to use remedies which are applied empirically or by accident, as mercury has been used against syphilis, but it is far more hopeful to undertake such a systematic course of investigation as will lead to the discovery of the cause of the disease, such as Koch instituted in tuberculosis, and such as the various laboratories have undertaken in investigating the sleeping sickness and other tropical diseases.

Then research for psychiatry ought to be undertaken according to the clinical method of Sydenham and the laboratory method of Metchnikoff, and every State should expend for research, not less than ten per cent. of the appropriations which are so liberally made for custody and confinement.

In the early explorations into disease it was possible for a man to make a great discovery single handed, but any reasonable, rational research for psychiatry must be a research *en masse*. A squad of research men must pursue a truth down into this dense and dark continent of our ignorance. Every clinical technologist should do his part,—the chemist in his department, the experimental biologist in his department, the biochemist, the biometrician, the serologist, and the cytologist in their several departments, to bring about the subjugation of parallel lines of Nature's intrenchment against our science.

Probably the first department of a laboratory of research should be manned by a skillful bibliographer. At the present time the library has reached such proportions and complexity, that no individual who has exacting duties at the laboratory desk or in the clinical laboratory can possibly find the time for bibliographical research. This must be in the hands of an expert in his own department. He must have at his hand, not only the current literature of our periodicals, but he must also have accessible the bibliographies of the past.

The workers in a laboratory of psychiatry need to have at their disposal the literature of modern science, and the location of such a library will determine the proper location of a laboratory of psychiatry; hence it appears at the very onset that an efficient laboratory for psychiatry must be placed where libraries already exist. This would naturally bring the laboratory to the university, or, at least, to the largest cities in the State.

The number of workers in a laboraory of psychiatry ought to be sufficient to cover the whole field of the natural sciences, with an expert at the head of each department, and special workers under each of these heads.

Thus again, it seems that such a corps of experts could be found in each of the universities. They would be men who had arrived at a prominence in their profession, which would save the workers time and effort by their advice and by the conception which their position and attainments afforded.

The number of men who are prepared for such a laboratory is almost unlimited, provided they are selected from the universities at a sufficiently early age. All the great research men have come from their general laboratory training into their special field early in life. The fact that research in psychiatry has never been seriously and aggressively undertaken has allowed this department of medicine to escape the attention of prospective research men. In France the *Prix de la Société medico-psychologique* for the year 1912 amounts to only 2,400 francs, and there is no psychiatric laboratory similar to that of Metchnikoff in which research in this direction is exclusively encouraged. A body of research men cannot be built up by offering rewards such as the Nobel prize, because the only persons fitted to undertake the work must necessarily be young, and dependent upon a salary for their support. The prize cannot be given to a squad, even though the squad should attain an unaided and undisputed achievement; the reward will eventually come to the state and society as a whole, and the research men should be placed on a civil service basis, with a growing salary and an adequate pension in case of disability. Bacteriology and vivisection experiments are dangerous occupations, and the risk to the investigator is a matter of lamentable and common knowledge.

If private initiative can be useful in any way in establishing a laboratory of psychiatry it must do so with the full cooperation of all the existing endowments of the university, and with a complete cooperation with a neighboring institution for the insane. Not less than eight scholarships with a value of $2,000 a year for salaries, can hope to make even a beginning in the research which shall dissipate our ignorance of the etiology of even one of the insanities. Such a corps could be attached to a university like that of the University of Chicago, but it would necessitate the building of an institution for the insane with a full corps of physicians and nurses adequate for the accommodation of twenty or thirty patients of a single clinical disease. Moreover, this institution, on account of the monopoly which the State maintains in the custody of the insane, would necessarily be under State supervision.

In the States of California and Wisconsin ideal conditions exist for the establishment of a laboratory of psychiatry in the university of the State, with full cooperation with the institutions for the insane located in the immediate vicinity, in pursuing this promising research. In the State of Illinois, the State university is almost out of the question, on account of its remoteness from the institutions of custody. It is likely that Dunning will soon be rehabilitated and made one of the principal asylums of the State. It is more than likely that an aroused public conscience will demand that a reception hospital be established in the city of Chicago for the uncommitted insane, and this might be attached to and be a part of a hospital for research.

The advantages of the great John Crerar Library and the aggregation of proponent scientists at the University of Chicago would make this combination an ideal one, provided the prerequisite cooperation could be established between the University of Chicago and the Board of Administration of the State.

The very atmosphere of research which surrounds the university, and the highly optimistic spirit of the city of Chicago itself, would promise well for the enthusiasm of laboratory workers, who are so often depressed by the discouragement which naturally attends protracted labor upon a false and fruitless lead.

When the State has devoted a tithe of the energy now expended in custody and confinement upon research and cure, when all natural, rational avenues for disease have been followed out, and no physical basis of such long lasting conditions as dementia præcox have been discovered, then it seems to me that every good citizen, that every rational physician, that every sociologist and humanitarian would unite with me in such an effort as will make it possible to obtain for these afflicted ones the remedy of euthanasia. By the law of equity which provides a remedy or attempts to provide a remedy for all legal torts, it ought to be possible for the friends of the committed insane to appear in court and secure an order which would command the sheriff or his deputy to execute the hopelessly insane and remove them from the consuming custody of the State, from their own hopeless calamity, and give their relatives and friends the consolation of the end.

108 North State Street.

THE APPLICATION OF PSYCHOANALYSIS TO INSANITY.

By C. Macfie Campbell, M. D.,
White Plains, N. Y.

The application of psychoanalysis to insanity has given an impetus to the study of mental disorders, the extent of which has hardly begun to be realized. Thanks to it the medical student may come to realize that the study of insanity is closely connected with his other studies; it promises to give the practising physician more insight into incipient mental disorders than is merely necessary to certify a patient; it has even commenced to disturb the slumbers of the routine alienist. To apply psychoanalysis to insanity merely means to study the disordered conduct of each patient, not only in relation to his clearly conscious ideas and purposeful acts of volition, but in the light of the subtle underlying forces which are apt to influence mood and thought and activity without the individual being clearly conscious of the process. This method has thrown a flood of light on individual symptoms. It has made intelligible episodes and processes which previously meant little or nothing, and which had only a certain descriptive interest.

The psychoanalytic study of certain forms of insanity has shown that the familiar clinical symptoms are of more than merely diagnostic importance. Delusions and hallucinations can no longer be considered as merely a ghostly ballet flitting across the stage of the disordered mind without any relation to the moving forces of the individual's personality. We are beginning to trace the sources from which these figures rise up; we can penetrate the symbolism of their disguises. We are beginning to appreciate the dynamic value of the real elements behind these disguises.

The study of infections has shown us that fever is evidence of the endeavor of the system to deal with forces which tend to upset its equilibrium, and the study of action and reaction has developed an important doctrine of immunity and of the action of pathogenic organisms. In the psychoanalytic study of a case of insanity we endeavor to work out the complex determination of the individual forces, to estimate the natural immunity of the individual, i. e., his constitutional traits and reactions. We study the factors which increase or diminish the resistance of the individual, i. e., the influence of the environment, and of education in its widest sense, including all cultural influences, and finally we endeavor to understand the circumstances in relation to which the psychosis develops at the special time. The aim is to study the psychosis as the definite resultant of forces which can be appreciated, if not definitely measured, and thus to see in the mental disorder a further example of pathological biological principles. To present any case of mental disorder in convincing detail would require a much longer time than I have at my disposal. I can only try therefore to illustrate the general principles referred to. For proof one needs to go to a series of full case records.

Case I. The first illustration is taken from the case of a patient who had shown a series of common symptoms. At times he had been very excited, he had behaved in an absurd and apparently meaningless way, he had written foolish verses, had heard imaginary voices, talked of a great number of fantastic delusions; episodes of violence had occurred. At an early phase of the disorder the patient talked of having special revelations. He took a journey, but left the train, wandered across country, and was finally found exhausted and dishevelled in a state of great mental confusion. The forces at work in this episode became partially clear during the course of analysis undertaken at a later period. The patient had once had a serious love affair, his fiancée having married another in a foreign land. The patient had really never been reconciled to the disappointment. Just before the wandering episode personal relations with another lady had revived strong dormant trends in his nature, and mental symptoms soon developed. He spent one night in a dreamlike, hallucinatory condition. He seemed to be in the middle of a Pompeiian orgy with marked erotic coloring, and again during the night he and his old sweetheart seemed to be standing on a car driving through the streets of New York in an earthquake, while the people fled terrified before them. It may be mentioned that his fiancée had been abroad at a time when serious earthquakes had occurred. In these fantasies or hallucinations the patient was more or less transported into a situation which satisfied those longings which actual life had refused him; he was triumphant, beside his sweetheart, in an atmosphere of sexual satisfaction. In the morning he arose early and took the train, and his reason was no longer able to dominate the craving of the strong longings so long repressed. As he looked from the train he thought that it was the country where his fiancée lived. The sight of a woman by the wayside made still more vivid his memory of his fiancée; he left the train and wandered about for many hours with feet swollen and bruised. It was no mere delirium representing the frank satisfaction of a wish, for the conflicts of his nature persisted even in this experience. He felt that he was going toward his fiancée, but at the same

time he felt that he was in communication with his dead brother. It was this brother who at an earlier period had talked seriously to him about masturbation, and had opposed his chosen line of life on the grounds that an esthetic career meant an overindulgence in the sensuous elements of his nature.

This meagre sketch may perhaps be sufficient to indicate the deep meaning beneath the apparently quite crazy behavior, and the whole reaction of the individual is seen as the resultant of deeply rooted biological forces. To obviate misconception it may be useful to state here that such an analysis does not pretend to exhaust the whole complexity of the situation. Conduct is not a psychological happening *in vacuo*, but is the conduct of an organized being. In calling attention to certain roots of this conduct, one does not deny that the metabolism of the patient is disordered or that the inner secretions may not be in normal equilibrium; these more elementary functional disorders, however, are far from giving an adequate conception of the whole situation.

Case II. A young man of twenty-six years came under observation, after he had for a period of over four years presented the symptoms of a common form of insanity. His mood alternated between depression and elation. At one period he carried a revolver to defend himself; he said that he had been drugged and operated on in a hypnotic state, persecuted by Jesuits and Tammany men. He heard imaginary voices and tried to commit suicide.

Several of the delusions of this patient referred to bodily complaints. He thought that he could not chew; he attributed all his trouble to constipation; he wished to be allowed to fast for forty days. He was much troubled by a feeling of heat in the head, a drawing in his brain. The analysis of the patient's utterances on the subject of constipation, and of the value he laid on fasting, led directly down into *the depths of his inner life* and back to *the early stages of his development;* these two expressions are intimately related because the depths of consciousness are only intelligible in relation to early childhood feelings, fancies, beliefs and experiences. The patient himself brought his constipation into direct relation with childhood trends. He said that he had been a moody child and referred to "a peculiar feeling of uncertainty, doubt, and dread—a feeling of horror which was centred around the anus and the ileocecal valve—it felt as if the tube and the convolutions of the intestines were vibrating, from the throat to the intestines—I was later told that this was chronic constipation," an excellent example of how gladly the personality welcomes a current term, a familiar diagnosis to veil the significance of uncongenial trends. It is evident in this case that we are not dealing with an ordinary insufficiency of the colon or the rectum, and the meaning of the so called constipation is clearer when we find the patient using the same terms to describe his sensations when embarrassed in the presence of a buxom teacher. The patient clamored for cathartics and insisted on the great significance of his long fasts, but the real disorder from which he vaguely longed to purge his system was not one to be reached by drugs. Although distressed by the claims of the sexual instinct, he posed as an ascetic and freely expressed his contempt for woman, yet he evidently dwelt on sexual topics with keen pleasure.

The following statement of the patient illustrates the confused symbolical level of thought, at which various trends are brought together in strange juxtaposition: "Cleanliness is next to Godliness. Guts come from the German word Götter, the word for God."

The patient had a habit of running water on his head for fifteen minutes at a time, and this was explained to be due to a feeling of heat in his head. He hated women, because by one of their sex he was early stimulated and made to have the heated feeling in his head. This feeling interfered with study; also, he could not study with his sister in the room, and the root of this lay in childhood experiences in which his sister had played a rôle.

The patient laid stress on a feeling of dread and horror once associated with a serpentine movement at the anal aperture, when he passed what he described as a snake or a serpent, but also as a tapeworm.

The full significance of such utterances is only appreciated in the light of similar cases; thus a young woman, with a case of dementia præcox, deliberately vomited for two weeks because there was a lizard in her stomach, but she also said there was a man in her stomach. Another woman had a peculiar cough and complained of something in her throat. She hesitated to cough in case she should hurt Christ. Christ was in her stomach, she had taken in Christ at Communion; but again she described the throat feeling as that of a worm creeping down her throat; it was the kind of worm that every man had. No case could illustrate more strikingly the level of thought at which many of the symptoms of mental disorders receive their explanation.

Case III. Another case which illustrates the general topic of this paper, is that of an unmarried woman of somewhat precocious development and marked intellectual ability in whom developed a series of nervous symptoms, and finally an episode serious enough to require treatment in a hospital. She heard voices, placed her hand in a flame, communicated with spirits. Many of her ideas were evidently the more or less veiled expression of repressed trends. She desired a child by magic, but magic or the occult was, in her own words, "The sphere where desire is fulfilled." The magic child which she longed for was therefore merely the product of the fulfillment of desire. The same desire was the basis of other morbid experiences. In one fantasy she saw cubical blocks of stone and in answer to a voice she said, "Oh, it is the temple of Nature, I shall build within." She thought afterward that the temple should be on her own place and the thought came to her, "Should there not be under the wall of this temple a virgin slain." Here again we have the same desire for the creative act, the creation of something within the temple of her own body, creation in which the virgin is lost. The same force no doubt impelled her when she wandered out in her nightgown onto the porch, with a lamp in her hand, to write poetry. She wanted to write on *purity*, but at the same time it was indicated to her that she was to lie naked on the stone to write the verse, and the conflicting forces showed themselves again in the fact that in addition to the verse on purity she wrote one on friendship. The patient on one occasion put her hand in an alcohol lamp, probably an act of atonement in compensation for faulty sexual habits of autoerotic nature.

In this case, as in that of the young man who tried to cleanse himself by fasting and cathartics, the intellectual pursuits of the patient had been determined by undercurrents in a way which the patient little understood, and affinities which she considered purely intellectual had their roots in childhood affections which had never been thoroughly appreciated by the adult consciousness. As in the other cases, here, too, repressed trends asserted themselves in the psychosis in peculiar actions, morbid ideas, hallucinations of hearing and sight, and the reason why this expression of these trends took place was, no doubt, because they had not been taken frankly into the adult thought and modified by all the wider associations of a broadly educated mind.

Few psychoanalytic doctrines have met with more opposition than those dealing with the developing emotions and sexual life of the child. The myth of the golden age of childhood as a purely asexual period is clung to with much pertinacity, as if the admission of the actual facts would strip human life of much of its charm, and as if a care-

ful examination of the structure and functions of the roots of our affective life were incompatible with a full appreciation of the beauty of the flower. As an example of the clinical symptoms, which point unmistakably to the persistence of childhood trends at the deeper levels of the activity of the adult, I shall merely refer to a case which I have not time to report in detail. The patient, after a preliminary period of interest in Christian Science, and in a lady who believed in these doctrines, passed into an acute excitement and required to be cared for in a hospital. On one occasion he drank his urine and said it was the spirit of his mother. He explained the fact that he urinated in bed by saying that he did it to purify himself. He pointed to a piece of bare plaster on the wall and said, "See that star, doctor? My mother." He talked about being controlled by a power for good, his mother. He said that his mother was descended from Venus, while his father was descended from a beautiful little pink Irish pig; he added, "the copulating instinct comes from the pig." He uttered many peculiar sexual ideas: Children are conceived spiritually by the pure; in the pure the spermatozoa flow in water like fishes in the sea, not in the ordinary seminal fluid. On one occasion he smeared himself with feces because it was a beautiful golden brown; his stools were not impure, they were of the little pink Irish pig. He was found one day in the attitude of coitus; he described it as "a position taken by the divine kings, who expelled their wrath by kneeling with their buttocks toward the sun and expelling gas from the bowel into the face of the sun." It is impossible to go into the detail of the patient's ideas and show the full significance of each expression, but by applying the principles of psychoanalysis, we are beginning to see that such ideas can be understood only in relation to the early development of the individual, the early direction of the childhood affections, the subtle way these are woven into the developing sexual life, the manner in which under the repression of the adult ideals and purposeful tendencies residuals of the childhood attitude still persist. In the manifold experiences of the adult these slumbering trends may easily be reactivated and force themselves into the conscious life of the individual in a peculiar, distorted manner. These elements manifest themselves sometimes in quite glaring form, sometimes thinly veiled, sometimes blended with religious and philosophical ideas. To discuss the mechanisms of elaboration is impossible here.

I should like to make a few remarks in conclusion: No psychoanalytic doctrines can be presented in tabloid form. One can hope to reach common ground only in the course of long and frank discussion on the basis of a rich case material with detailed observation. An endeavor has been made in this paper merely to illustrate the method by which one now tries to work out the determining forces in many cases of mental disorders. No attempt has been made to outline the various groups, or to show in which group psychoanalysis proves to be of special value. It is not meant that any mental disorders are fully disposed of, even after a psychoanalytic study. In the complex reaction of organism to environment there are many levels at which the phenomena can be studied; human conduct has to be considered as a sort of hierarchy of functions, and even the most ethereal life is a plant, the roots of which are deeply sunk in the material world.

While in parasyphilitic dementia, and some other conditions, the process can be sufficiently worked out for practical purposes at the elementary level of toxines and tissue reaction, in many disorders such categories are quite inadequate and we have to take into consideration the higher categories involved in the term conduct. Psychoanalysis is no key to the psychoses, but it is a ferment whose influence cannot be overestimated. It meets with much opposition, and opposition which recalls that of Carlyle to the doctrine of evolution. He could not accept that doctrine because he felt that it would strip life of its value. Since then we have learned to reconcile the doctrine of evolution with those conceptions which give value to life. The psychoanalytic studies have reached down deeply to the roots of human life, but the practical gardener need not lose his appreciation for the beautiful. Carlyle, dismissing evolution as false, because it was intolerable to him, naively admitted that he could never read a page of the stuff. Whatever else we do, let us try to get over this attitude, and let us in all sincerity and humility be willing to accept whatever facts our observation brings before us.

BLOOMINGDALE HOSPITAL.

DIAGNOSIS AND TREATMENT IN THE SURGERY OF THE STOMACH.*

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Of the two, diagnosis and treatment, diagnosis is the more difficult problem and the one which interests us all alike, physicians and surgeons. Ulcer and cancer are the two conditions which, with their complications, furnish most of the cases of gastric surgery. Acute gastric ulcer, unless complicated by perforation or repeated hemorrhage, is a purely medical condition. It is therefore with chronic ulcer of the stomach and duodenum that we have mostly to do surgically. From recent statistics it appears that about two thirds of such ulcers are in the duodenum, and the remaining third is mostly in the pyloric region of the stomach, over ninety per cent. being along the lesser curvature. It is neither easy nor necessary to distinguish between chronic duodenal and pyloric ulcers clinically.

In their early stages the symptom complex of these chronic ulcers is in very many cases pathognomonic. The pathognomonic symptom is *pain;* not its chronicity, nor its periodicity, the attacks alternating with periods of normal health; nor its position, which is usually epigastric; nor its character, which varies from a sharp severe pain to a feeling of distress; but the *time* of its onset, which is from one hour to four or even five hours after a hearty meal, and the *means of its relief*, by vomiting, lavage, the ingestion of food, drink, or alkalies. The

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pain or distress increases in severity until relieved by vomiting, eating, or other means. Pain which is present four or five hours after eating seems rather before the next meal than after the previous one, and has been termed "hunger pain," which is the more appropriate as it is relieved by eating. A feeling of pressure from gas, eructations of gas, and heartburn occurs with the pain. After a meal there is comfort for one hour to four hours.

In addition, we look for other signs or laboratory tests. In the early stages there is usually hyperacidity, with excess of free hydrochloric acid, but when these patients come to operation, usually after years of periodic attacks, seventy-five per cent. show no increased acidity, and these cases must be diagnosticated without hematemesis or melena. There is more often occult blood in the stools, but this test is usually of little value. The question of motor insufficiency, or the delayed emptying of the stomach, is a most important one in the gastric analysis. This is often well shown in the x ray by the presence in the stomach of some of the bismuth ingested six hours before. The test meal, therefore, helps us but little, and may be misleading. Palpation is of little service, for there is no great or characteristic tenderness, and a palpable mass, sometimes present, suggests cancer. It is from the history then that we diagnosticate chronic pyloric or duodenal ulcer, or rather from one symptom of it, *pain*, its time of onset, and the mode of its relief. This symptom loses its peculiar character and its diagnostic value when a gastric ulcer is away from the pylorus. In the later stages of a chronic peptic ulcer, after it has lasted many years, the attacks become more frequent, severe, and prolonged, the pain is relieved by the usual means for a shorter time, and the general nutrition suffers.

Complications of ulcer, such as adhesions, pyloric stenosis, etc., modify the symptoms. When the emptying of the stomach is interfered with by stenosis of the pylorus, or by interference with its motility by adhesions, or even by pylorospasm, the symptoms are more persistent, the pain is more constant, and not relieved but increased by food, the vomiting more irregular, more copious, and shows the residue of former meals. Many of these symptoms are common to all chronic types of dyspeptic trouble, i. e., chronic gallstone disease, chronic appendicitis, chronic pancreatitis, and cancer of the stomach, apparently on account of pylorospasm in the first three mentioned. Hence we must go back to the former history for the diagnosis.

Unfortunately the diagnosis is not even quite as easy as it would appear so far, for an ulcer may run a latent course without pain or other typical symptoms. Thus I have operated in perforated ulcer of the stomach, where there was no gastric history previous to the perforation. Oftentimes, however, the supposed latency does not really exist. After making the diagnosis at the operation we may elicit a good history of chronic ulcer. Thus at Bellevue Hospital, a year ago, I operated upon a patient, referred from the medical service with the diagnosis of appendicitis with peritonitis. I found the appendix normal, but I found, and closed, a perforated ulcer of the duodenum with a resulting cure. After the operation I obtained a fairly good history of duodenal ulcer. In many cases of perforated ulcer, perhaps after an initial epigastric pain, the greatest pain and tenderness is for a time in the right lower quadrant.

In my own experience quite a number of patients with chronic pyloric or duodenal ulcer have not given a history of the pathognomonic hunger pain, even on careful questioning. As an example, I may mention a case in which I did partial gastrectomy, January 7, 1912, at Bellevue Hospital, for a large indurated pyloric ulcer, which showed beginning colloid carcinoma. The woman had repeated vomiting of blood and coffee ground material in the two weeks before operation, but on careful inquiry after operation she denied having had any real pain except on one occasion. Her chief complaints were anorexia, nausea, and vomiting.

Another common source of error in diagnosis is that several conditions may simulate a chronic ulcer of the pylorus or duodenum, especially a complicated one. These conditions are chronic appendicitis, chronic gallstone disease, and chronic pancreatitis. Sometimes these conditions may even simulate the typical symptoms of chronic peptic ulcer, as given above, more often the symptoms of such an ulcer after complications have modified them.

The cases of appendicitis that simulate ulcer are a type of chronic recurrent appendicitis, in which the chief or only symptoms are gastric. The pain is often a severe discomfort rather than a severe pain. It may come on at once after taking food or, oftentimes, not for thirty minutes to two hours. Typical hunger pain may occur. Vomiting is not uncommon and gives some relief of pain, and there are gaseous and sour eructations. Some may even have hematemesis. These symptoms occur in periodic exacerbations with only moderate discomfort and flatulence after eating, between attacks. Many cases of this kind have been operated in for ulcer without finding any. Can we differentiate between them. A good many patients have a tenderness over the appendix, as well as in the epigastrium. In some cases the epigastric pain radiates to and below the umbillicus, especially to the right lower quadrant. In such cases always consider the appendix first.

Furthermore, ingestion of food soon increases the trouble and rarely gives direct relief. Exertion frequently aggravates the symptoms so that the patient is often unable to work. The pain is capricious, occurring immediately after one meal and not after the next, and is often more of an indefinite distress than a pain. Always inquire as to former frank attacks of appendicitis. The test meal is of no assistance. This type occurs most often in women (Paterson), chronic, gastric, and duodenal ulcer in men. Removal of the appendix cures the symptoms in the great majority of cases, but the cure may not be complete immediately after operation. Medical and dietetic treatment should not be omitted.

A typical gallstone attack is easy to diagnosticate on account of the sudden severe epigastric pain radiating to the right costal arch, sometimes to the left, and to the back or scapular region, accomaccompanied by spasm of the diaphragm, a feeling

of pressure, nausea, and often vomiting. It ceases as suddenly as it begins and with as little apparent cause.

But, in addition, we have more latent cases due to gallstones, which present mild attacks of gastric distress, with gas and the sense of pressure, soon after food, eased by belching or regurgitation. There are also other cases with more prolonged periods of dull pain in the epigastrium, radiating to the right arch, and dyspeptic symptoms. In the later stages of gallstone disease, where adhesions, perforation, or contraction of the gallbladder have occurred and the ducts are perhaps obstructed or infected, the symptoms are much the same as those of complicated gastric ulcer, and for the diagnosis we must endeavor to elicit a previous history of typical biliary colic. In addition, the history of jaundice or the passage of a stone, tenderness over the gallbladder, the peculiar radiation of the pain, and the lack of relation to the taking of food, help us to differentiate gallstones from peptic ulcer.

In some duodenal and gastric ulcers the only symptom is the sudden, severe, epigastric pain in short attacks, generally without radiation, sometimes radiating to the right. In such cases the only rational diagnosis is gallstones.

The leading symptoms of chronic pancreatitis are pain in the epigastrium, often radiating to the left side, varying from a slight discomfort to a sharp pain and often without relation to eating; nausea and vomiting; jaundice and rapid wasting. There is often a history of gallstones and the jaundice may be quite persistent, but there is no jaundice in at least thirty per cent. of the cases, where the common duct passes behind the gland in a groove and not through it in a canal.

These symptoms occur in attacks or exacerbations, and if they are combined with very bulky, pale, fatty stools containing a low percentage of split fats, a probable diagnosis may often be made. Gastric analysis often shows subacidity and the Cammidge reaction is not reliable. The gallbladder is usually contracted on account of the antecedent cholelithiasis.

In a recent case epigastric pain, relieved only when the stomach was empty, and the vomiting of everything eaten were the chief symptoms. Some patients merely present chronic dyspeptic symptoms, epigastric pain and fullness, eructations of gas, sour stomach, etc. Sometimes a chronic pancreatitis may very closely simulate a duodenal ulcer. A year and a half ago I operated upon a patient who gave a typical history of duodenal ulcer. On exploration nothing was found but a chronic pancreatitis.

Like other conditions that simulate chronic gastric and duodenal ulcer chronic pancreatic disease may cause pylorospasm. Less than a year ago I operated upon a man, sixty-six years of age, with symptoms of chronic dyspepsia and the appearance of one suffering from cancer. The tryptophan test was negative twice. The clinical diagnosis was gastric carcinoma, but on exploration nothing was found but a hard enlarged head of the pancreas, probably carcinoma, and a thickened and narrowed pyloric ring, without sign of previous ulcer. On account of the pyloric stenosis a posterior gastroenterostomy was made. I found chronic pancreatitis, complicating duodenal ulcer, in another case operated in about nine months ago. Because in recent years I have found chronic pancreatitis so often in cases operated on for gallbladder or gastric conditions, I often suspect it where the symptoms of the latter conditions are not typical. Though a positive diagnosis is difficult, a probable one may not infrequently be made. In a considerable proportion of cases of pancreatitis I have found no evidence of cholelithiasis. I am confident that the importance of these several reflex causes of gastric symptoms is not sufficiently appreciated.

Hyperacidity and hypersecretion are both symptoms and not pathological entities. Most if not all of the so called cases of hyperacidity and hypersecretion are the result of gastric or duodenal lesions, or of reflex gastric disturbance due to chronic appendicitis, gallstones, or pancreatitis. One element of this reflex is the spasm of the pylorus. Whether this is the cause of the hyperacidity and hypersecretion, or its effect, is of little moment. Soltau Fenwick followed 112 cases of so called chronic hypersecretion to the operating table, and every one showed chronic ulcer of the stomach or duodenum, cancer of the stomach, appendicitis, or gallstone disease. Of the so called hyperchlorhydria Moynihan well says that "persistent recurring hyperchlorhydria *is* duodenal ulcer." I feel quite sure that many if not most of us have treated cases of duodenal ulcer as something else. Codman confidently asserts that duodenal ulcer is as common as acute appendicitis. What we must always bear in mind is that the stomach, gallbladder, pancreas, and appendix are so intimately connected reflexly, and by the action of hormones as well, that lesions in one organ may simulate and even cause lesions in another. Mayo speaks of this as the "association of surgical diseases of the upper abdomen." The stomach is the centre toward which most of these reflexes are directed. At best we may expect to make mistakes in the diagnosis of chronic gastric and duodenal ulcer, and if we make no more than three in 100, as reported by Moynihan in his last 100 cases, we may well be satisfied.

Another condition remains for diagnosis, i. e., carcinoma of the stomach, almost the commonest form of cancer that occurs. In gastric cancer there is no one pathognomonic symptom or group of symptoms. There may be no previous history of gastric trouble, or a history of such trouble in earlier years, or cancer may follow chronic ulcer, mostly of the complicated type. Graham says that about half of the cases belong to the latter group, and seventy per cent. of the cases of gastric cancer excised by the Mayos were engrafted on a chronic ulcer. Two out of the last three cases of gastric cancer which I have removed by partial gastrectomy showed the carcinoma to be engrafted on a chronic ulcer. Hence malignant degeneration is by far the most important complication of chronic ulcer, and is a cogent reason for earlier operation in ulcer and its removal in doubtful cases.

The diagnosis, and especially the early diagnosis, of cancer of the stomach is of the most vital importance, for on it depends the success of the only treatment that is worth while, the surgical treatment. The pain in cancer is not a feature as in

ulcer. It may be of a peculiar sickening type, a depressing ache, or only a strange distress. It is more continuous than in ulcer, it is increased by food and drink, reduced by careful diet, and nearly always relieved by vomiting. The vomiting is more delayed, more copious, and more often contains blood (seventy-five per cent.) and food residue than in ulcer. The gas is worse after food, often offensive, and more annoying and continuous than in ulcer. The regurgitation increases, but loses its acidity. An important diagnostic point is that the course is steadily downward, without the complete intermissions of the early stages of chronic ulcer, and there is often a marked mental depression. A palpable tumor is present in sixty to seventy per cent. of the patients who come to the surgeon, and ninety-five per cent. of the palpable gastric tumors are carcinomata, five per cent. merely chronic ulcers.

The position of the tumor is sometimes misleading. In one of my cases the tumor was to the right of, and on a level with the umbilicus. On operation I found a large tumor of the pylorus adherent to the abdominal wall, and did a pylorectomy. In another case of cancer of the fundus, the tumor was below and to the left of the umbilicus and simulated a carcinoma of the colon. The test meal may help in the diagnosis. Though nearly half the cases of carcinoma have free hydrochloric acid, its absence, with the presence of lactic and butyric acid, the frequent presence of altered blood and undigested food suggest cancer, although indicating only pyloric stenosis or diminished motility. The trouble is that the gastric analysis is not very helpful until late in the disease.

The age averages greater in cancer than in ulcer, the loss of flesh and the secondary anemia are more marked, and there is often a peculiar saffron or cachectic hue. We may, however, have all the symptoms of cancer with only a complicated chronic ulcer.

As a rule, in an advanced case, where a tumor is palpable, the diagnosis is not difficult. But what we want is an early diagnosis. Often it cannot be made without the help of the surgeon. What should lead one to advise such a resort? Given a patient of cancer age with symptoms of chronic gastric dyspepsia, without apparent cause, and not cured in a reasonable time by medical means, an exploratory operation should be urged. This is the more imperative if the symptoms and signs correspond more or less with those just given. We may not always be able to differentiate clinically between an ulcer and a carcinoma, but all we need is the diagnosis of a surgical condition. We are sometimes deceived even on exploratory operation. A few years ago I explored in such a case, at the Presbyterian Hospital, and found a large, hard, nodular pyloric mass, which I thought was surely cancer. I did a gastroenterostomy and gave a bad prognosis. I saw the man two and a half years later in perfect health.

What we need most is something to help us make an early diagnosis of gastric cancer, and the tryptophan test gives promise of proving of great service for this purpose. The test depends upon the fact that in the presence of cancer in the stomach the gastric contents contain a ferment, erepsin, which converts proteids and simple peptids into aminoacids, among which tryptophan gives a pinkish color on the addition of a trace of bromine. This test is interfered with by the presence of blood, pancreatic secretion, or high acidity in the gastric contents. Hence if the latter are bloody or are colored by bile, indicating regurgitation of bile and hence of pancreatic secretion, the test cannot be carried out. The test therefore should be very carefully made and by one experienced in its technique. I have used this test in a dozen or more cases that came to operation and the result of the test, whether positive or negative, was confirmed by operation in every case but one, in which but one test by the modified method was used instead of the three tests commonly advised. In negative tests I have found gastric ulcer, cholelithiasis, or chronic pancreatitis, and no gastric carcinoma. Others have had still more experience with this test with very satisfactory results. Of course it is not infallible. The x ray of the stomach after the ingestion of bismuth furnishes another means of establishing the diagnosis. This requires a first class x ray plant, also skill and experience in taking, as well as in interpreting the plates. Pyloric stenosis and the projection of new growths from the walls into the lumen of the stomach are shown by the shadow, also the infiltration of the gastric walls by interference with the peristalsis. The latter is best shown by plates taken in rapid succession, every few seconds, but this method is rarely available.

Motor insufficiency, from pyloric stenosis, pylorospasm, gastric adhesions, etc., is clearly indicated by the presence of bismuth in the stomach six hours or more after it has been ingested. In a recent case where the tryptophan test was negative the radiographer thought there was a carcinoma of the pylorus, but operation showed there was none. In reality, however, the x ray indicated a pyloric stenosis, and this was found on operation; the cause of the stenosis was not clearly shown in the plate. My experience with the x ray in these conditions is that the interpretation of the two plates often taken (six hours after a bismuth meal and one half hour after a second one) is often incorrect.

TREATMENT.

Given the diagnosis of simple chronic gastric or duodenal ulcer, what are we to do? Medical treatment should first be tried and careful diet, by the Lenhartz or von Leube systems, should be continued for a longer period than after acute ulcer. There is a natural tendency to recover from the periodic attacks, and we must not relax treatment too soon and flatter ourselves that we have cured the patient. After a varying interval of good health the patient will very likely suffer another attack, and so on for years. I do not mean to say that some may not be cured by nonoperative treatment, but many will suffer relapses. The result of medical treatment is by no means as good in chronic as in acute gastric ulcer.

The average length of the disease before operation in the Mayos' cases was between twelve and thirteen years. I do not believe in delaying surgical treatment when the ulcer has relapsed more

than once after careful medical treatment, for the patient is always exposed to the risk of acute perforation, chronic perforation with the formation of a subphrenic abscess, malignant degeneration, etc. Fortunately, duodenal ulcers rarely undergo malignant change, but they offer the danger of serious hemorrhage, of repeated hemorrhage and anemia, and of perforation.

As to the choice of operation, posterior, no loop, gastrojejunostomy is the operation of choice in duodenal ulcers and in most gastric ulcers at or near the pylorus, and its mortality is almost nil. For ulcers distant from the pylorus, which will not cause pyloric stenosis from cicatricial contraction or from the cicatrix left by their removal, excision of the ulcer followed by suture should be done. In extensively indurated gastric ulcers of the pyloric region, especially when it is questionable whether malignant degeneration has occurred, partial gastrectomy is the best operation, if the condition of the patient justifies it and there are not too many adhesions. Under favorable conditions it is easily done and very well borne. In two out of three recent cases where this was done, microscopic examination showed the presence of cancer engrafted on the old ulcer.

That gastroenterostomy acts as a drainage operation may be proved by the x ray, after the ingestion of bismuth, of those on whom it has been done. The bismuth is seen to pass almost immediately through the new opening, and quite rapidly.

When we operate on a supposed ulcer (or cancer) of the stomach, and find no clearly visible or palpable evidence of it, we should never do a gastroenterostomy if the pylorus is normally patent. There is then some condition simulating ulcer, etc., and gastrojejunostomy not only does no good, but positive harm. Some years ago I had two experiences of this kind, and since then I have followed the foregoing rule. Mayo, Munro, and others have emphasized this point. If we find no lesion of the stomach we should explore the appendix, gallbladder, common duct, and pancreas. The appendix should be removed, unless, perhaps, we can be sure it is absolutely normal. If gallstones are present they should be removed from the gallbladder or common duct, and these should be drained. In case of chronic pancreatitis, if gallstones are present, they should be removed and the gallbladder drained for a considerable time, two or three weeks. Mayo Robson has shown that by this means the inflammation of the pancreas may be made to subside. In some cases of exploratory operation where nothing is done, as in two cases of chronic pancreatitis without cholelithiasis, the results have been most satisfactory, and one patient has remained free from attacks for nearly two years.

When gastorenterostomy is done for ulcer, should we do anything else directly to the ulcer? If the crater of the ulcer looks as if perforation were imminent, it should be inverted by suture, and this is a safe practice in every case. If hemorrhage has been profuse we can pass a catgut ligature beneath the main vessels leading to the ulcer area. Moynihan removes the appendix in addition to gastroenterostomy and inverting the ulcer, on the theory that toxic or septic absorption from the appendix has largely to do with the etiology of ulcer. Paterson, of London, has also found a diseased appendix in two thirds of the cases in which he has operated for duodenal ulcer.

In benign stenosis of the pylorus from the contraction of a chronic ulcer at the pylorus, surgery offers a complete cure, either by gastroenterostomy or Finney's gastroduodenostomy. I have operated in several of these cases by gastroenterostomy, and the results have been most satisfactory. Where the motility of the stomach is interfered with by perigastric adhesions, I have more than once seen excellent results from the freeing of such adhesions.

In general, posterior gastrojejunostomy by the suture method is the operation of choice, but in two cases about a year ago I could not carry it out by reason of posterior adhesions of the stomach, or a small contracted thickened stomach. In these cases I have brought a short loop of jejunum up behind the transverse colon, through the transverse mesocolon and the gastrocolic omentum, and done an anterior operation without the use of the long loop that is necessary when we bring the jejunum up in front of the colon.

In perforated ulcer, after closing the opening by two layers of sutures, and perhaps reinforcing the closure by suturing the omentum over it, we should add gastrojejunostomy if the suturing or the subsequent contraction of the ulcer is likely to stenose the pylorus, provided the condition of the patient allows it. Otherwise it has to be done at a subsequent operation. The results of operation for perforation of gastric and duodenal ulcers are very good, if done within the first twelve hours or so after perforation. It has been shown that the contents of the stomach and duodenum are generally sterile. The earlier the operation is done, the better the prognosis.

In carcinoma of the stomach at the pyloric end, we have to chose between two courses of operative treatment, the radical and the palliative. This depends upon the extent of the growth, its adhesions and lymphatic involvement, the condition and surroundings of the patient, and the experience of the operator. The desirable and ideal thing is the radical operation of pylorectomy, or partial gastrectomy, with posterior gastrojejunostomy. It could be done far more often than it is if an early diagnosis were more often made. Fortunately lymphatic invasion is relatively late and slow in gastric cancer, occurring in only fifty per cent. of cases (Bland Sutton). Adhesion posteriorly to the pancreas was thought by Mikulicz so to increase the mortality as nearly to contraindicate operation, but further experience shows that it does not necessarily add so greatly to the immediate mortality. The operation is surprisingly well borne. Out of ten or eleven patients upon whom I have operated in the last four years, only one died from the effects of the operation, and that one died of a complicating pneumonia after doing well for three or four days. The ultimate result depends upon the extent of the growth and especially its metastatic involvement.

I repeat again, for the sake of the possibility of radical operation and its immediate and ultimate results, that earlier diagnosis in this most common form of cancer is imperative. With early diagnosis

and operation the result of excision of cancer of the stomach should be as good as of cancer of the breast.

The presence of a palpable tumor has been said to indicate a stage of the disease too late for radical operation. This is not the case, though it is true that recurrence is more probable. Thus, in two of my cases, a large tumor, the size of a good sized orange, was readily felt and a partial gastrectomy done without very much difficulty. One patient lived for a year and a quarter in perfect health when cancer of the liver developed and led ultimately to his death.

Where for one reason or another partial gastrectomy is contraindicated, we can do gastrojejunostomy if the tumor obstructs the pyloric outlet, or is likely to do so soon. If such is not the case, excision of the growth is the only operation to do if any is to be done. In cases of cancer I have several times used the Murphy button in making the anastomosis, if a rapid operation is essential on account of the patient's condition, or if the stomach wall is so thick as not to be suitable for the suture method, as I have found it in two cases of so called "leather bottle" contracted stomach.

In gastric cancer after a simple exploratory operation, where nothing is done on account of an inoperable condition, I have seen the patient improve remarkably for a time. The psychic element may here be an important factor.

In cases of gastroenterostomy for supposed gastric cancer, we are occasionally very agreeably surprised to have the permanent recovery of the patient refute our prognosis and diagnosis, as in one case of my own already cited, proving the condition to be one of ulcer with a great amount of induration.

What our experience in stomach surgery emphasizes most, is the paramount importance of early diagnosis and correspondingly early treatment in lesions of the stomach, but especially in carcinoma.

117 East Thirty-sixth Street

ORGANACIDIA GASTRICA, DIAGNOSTICATED BY INSPECTION.*

By Mark I. Knapp, M. D.; LL. B.; LL. M.,
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We have here a young woman, who, as you see, comes for the first time. We shall not ask her any questions, but will attempt to make a diagnos s without questioning. The patient will now go into the examination room and get ready for the examination. You understand, gentlemen, that we shall first use inspection and, only after this, will we employ the other methods of physical examination, for the purpose of confirmation. You have already seen, before this, the absolute efficiency of inspection; you have already had the opportunity to witness, repeatedly, the absolute precision with which all the organs of the body can be outlined by mere inspection; you had repeated opportunity to convince yourselves, that neither sex, nor age, nor the relative degree of adiposity at all interferes with trained vision. On the contrary, you have yourselves been able to see, how much more easily the outlines of the organs mark themselves upon the skin of the fat person. We shall see now whether we can make the diagnosis merely by inspection.

Now, gentlemen, this young woman is before you, ready for our examination. You see she is fairly well developed, she is certainly not thin or emaciated. The first thing we consider is, whether the body is symmetrically formed. In other words, taking the median line as dividing the body into, what should be, two halves equally shaped, the question is, are the two halves shaped alike? If a certain part on the right side looks just as the corresponding part on the left side, there will be symmetry, to be sure. Yet, this need not necessarily imply that, because there is symmetry, hence there is nothing the matter with the patient. There may be a pathological condition present which extends both ways, on either side of the median line, as, for instance, a large tumor, or a gas or a fluid collection. These will have to be excluded first.

Let us now proceed in a methodical way and begin with the inspection of the head. You see that the patient's expression is perfectly tranquil; there is no wrinkling of the forehead, no furrows there, indicative of pain. Her eyes betray nothing unusual; there is no asymmetry here, no bulging out of the eyeballs. We may therefore dismiss, for the time being, the cranial cavity as the seat of any lesion. There is nothing pathological to be seen on the face. Observe the nostrils. We see nothing here to attract our attention; there is no rapid movement of the nostrils, which would point toward a pulmonary lesion. We now observe the root of the neck. I want to call your attention, especially, to the supraclavicular regions and want to ask you to train yourselves in the observation of the healthy appearance of this region. We find here perfect symmetry; no bulging out on either or both sides, nor is any retraction to be seen. You see that the graceful curves over the trapezius and sternocleidomastoids and the intervening space are fully preserved. I believe we may, therefore, rule out any affection of the apices. We observe the expansion of the chest and find nothing which would attract our attention; the intercostal spaces betray nothing, either on expiration or inspiration. Note that the normal rhythm is not in the slightest disturbed; there is no undue fulness or retraction on one side or on the other. We are justified, therefore, in ruling out also the lungs; there seems to be nothing pathological. Perhaps the subsequent physical examination, by percussion and auscultation, may prove otherwise. We now note the mucous membranes of the lips and find no trace of cyanosis; we do not see any abnormal pulsation of the vessels of the neck; we find nothing over the region of the heart suggestive of any cardiac lesion and we are justified, therefore, also in ruling out the heart, for the time being.

We now concentrate our mind upon the vista of the abdominal horizon, and again we look for symmetry. Look first for the very upper border of the abdomen, as it is marked off by the ribs. Note the inequality that is seen here. You see that the

*A clinical lecture given at the St. Bartholomew Clinic.

region immediately below and adjoining the free border of the ribs on the right side is somewhat fuller than is the corresponding part on the left side. This is normal, and is due to the presence of the lower border of the liver, which always protrudes to a slight degree beyond the edge of ribs, perhaps about an inch. Were that fulness to extend further down, we should have to watch for enlargement of the liver. On the other hand, were the skin to recede abruptly, just below the free border of the ribs, looking as if hollowed out, presenting somewhat of a concave surface, we should feel justified in assuming the existence of atrophy of the liver, of which condition we had an illustration last week. What we do see in this patient is a prominence in the epigastric region, corresponding to the region of the stomach. This prominence, as you see, is relatively small in its diameters, compared with the other cases, which we so often see. Furthermore, as we stand here at the feet of the patient, we see that at the very height of every inspiration, that is at the end of the inspiration, that a small, circular body seems suddenly to jump up against the skin at a point about three inches above the umbilicus and a little to the right of the median line. This is the pylorus. We now inspect the rest of the rotund abdomen and fail to find anything of note; we find perfect symmetry; we find that aside of this gastric prominence there is no irregularity anywhere. We do not see any distention of either the right or left iliac fossa. These regions must be carefully observed in the inspection of the abdomen, as they are the source of a great deal of error, notably in cases of women. Distentions of the cecum or of the sigmoid flexure, which occur with such great frequency, are very apt to be overlooked in a cursory examination and the pain resulting from such an overdistention very frequently, in the female, is ascribed to some pathological condition of the ovaries or annexa, the existence of which is assumed rather than demonstrated. Again and again have I seen the mistakes made and castrating operations were advised, when all that was necessary, was to rid the bowel of the gas accumulations. Perhaps, the long and tortuous sigmoid has been the more frequent cause of mistaken diagnoses.

We now conclude that what apparently brought the patient here, is a pathological condition of her stomach. Please observe again the prominence we now call the stomach. You see that it is in the normal position, you see that it extends only to within about an inch and a half above the umbilicus. You see that there is no wavelike pulsation of the stomach which would indicate the presence of abnormal gas accumulations. But the stomach moves vertically up and down with the respiration, without any break upon its surface and you observe the jumping up of the pylorus at the height of the inspiration. Were the stomach area somewhat larger, and were we to see the wavelike pulsations which indicate the transmission of the cardiac pulsations to a gas distended stomach, we would conclude that the trouble with this stomach was gas formation within its cavity. And, were this latter to prevail, we should be dealing with a pyloritis. The excessive mucous secretion, which is alkaline, would be acted on by the acid with the production of carbon dioxide, which distends the stomach. You remember that gases within the stomach cavity need not necessarily be engendered in the stomach; they may come from the small intestine. In the case of insufficiency of the pylorus the gases of the small intestine will flow back into the stomach and cause distention also of the stomach together with the duodenum; we have had those cases here. But then we will find that the distended area not only covers the region of the stomach, but extends to the right of the median line.

Since we speak of the distention of the stomach I might recall to you what we said when considering the physiology of digestion. I allude to the fact that carbon dioxide forms during diastatic digestion, a fact which I have ascertained in my research work. You will remember that the diastatic digestion goes on in the stomach, until the hydrochloric acid is poured out in sufficient quantity and then the saccharification of the starches stops. If the conditions in the stomach are such that will favor increased or prolonged diastatic action, a greater quantity of carbon dioxide will be formed, which will distend the stomach and cause the pain of distention. After this little digression, let us go back to the subject.

We see the stomach area to be smaller than is the case in conditions of gas distention, and we also see that the stomach, so to say, represents one compact mass. Seeing this and seeing the pylorus, we are justified in assuming that we are dealing here with a condition of the stomach characterized by the presence therein of irritable matter. The compactness of the stomach which we notice, is due to a contracted state of the muscularis, and the visibility of the pylorus is owing to its stenotic condition, that is to the *stenosis pylori ab irritatione*. That this small lump, which jumps up and which we say is the pylorus, does not show organic affection is easily ascertained from the fact that we do find the greater curvature of the stomach in its normal position. Were the visibility of the pylorus due to an organic affection, which would mean pyloric obstruction, we should find enlargement of the stomach and we should then see the greater curvature very much lower. We can therefore exclude any organic obstruction of the pylorus. Furthermore, were there here a stenosis of an organic nature, we should have not only a gastrectasy, but also the evidence of gas fermentation, which we note is absent. We, therefore, must come to the conclusion, so far as inspection alone here teaches, that the prominence of the stomach, which we see here and the pylorus, which is visible at the height of the inspiration, indicate that the patient suffers from some irritant in the stomach, that she suffers from the presence in her stomach of irritating, volatile, organic acids, that she suffers from organacidia gastrica.

Thus far the inspection. Let us now attempt to confirm or refute the diagnosis, just made, by the other physical means. You are now convincing yourselves that auscultation and percussion fail to elicit any abnormity of the organs of the chest. I will now mark off, from inspection, the greater curvature of the stomach and will have you confirm me, if you find it so, by percussion or auscultatory percussion. You note that you find a different percussion note over each finger as they lie closely

apposed, so as to bring the line drawn by me between your two fingers, which you use as plexi-meters. A difference of sound over each finger shows that each finger is over a different organ.

Let me again advise you to strike your fingers sharply, but gently. A strong percussion will cause the vibration also of the organs deeper than the stomach and the sound elicited will be very confusing. The very gentlest of percussion is to be advised, and, therefore, auscultatory percussion is by far the most satisfactory; the gentlest percussion gives the best results. You have now convinced yourselves that the line drawn by me as the greater curvature is absolutely correct. From our previous meetings you know how to see the greater curvature; you have already been able to see this line a few times yourselves, and remember that practice makes perfect. You have not yet succeeded in seeing the greater curvature in every case, but you need constant training at every opportunity; and also please remember that it took me several years before I could master this art of inspection. So do not lose courage, if you cannot see all the organs as yet; you will after a while.

Just once more. You stand here at the foot of the patient, or at the shoulders, and look toward the region of the stomach. If you bring your eyes down to the level of the patient, you see a line moving up and down with the respiration right beneath the skin, scratching, so to speak, the under surface of the skin. You will notice that this line is the lower border of a moving surface. You note that the line is best seen at the end of inspiration. This is the greater curvature of the stomach. Of course, once your sight is trained, you will be able to see the outlines of all the organs in all positions, but when you have to practise, do as just mentioned.

I want you now, gentlemen, to feel the stomach, when it is in an irritated, in a contracted condition. The sensation which you are going to get is the same that you have in palpating any contracted viscus or any contracted part of a viscus. For the purpose of this palpation use only the tip of one finger, say the middle finger. The finger strikes the surface perpendicularly; neither the arm, nor the wrist, nor the hand takes part in the movement of the finger. A few sharp strokes are very gently executed, the finger not being allowed to remain on the surface of the abdomen more than a fraction of a second. Thus we perceive the resistance underneath our finger. You now execute these finger movements over the stomach region and, for the purpose of comparison, also over the regions adjacent to the stomach. Observe the difference in the resistance to your finger over the stomach, and over the other parts of the abdomen. Over the stomach region you get the sensation of tension, of hardness, named by Boas and others "stiffening," while the sensation over the other parts of the abdomen is that of softness, of resiliency. This stiffening denotes muscular tension, muscular contraction, and this again proves the presence of irritation, which causes the muscle to contract, to become tense.

I will now ask you, to put the tips of one or two fingers, very gently, over the region of the pylorus. Be careful that you exert no pressure whatsoever; keep your fingers perfectly relaxed. It is quite hard for the beginner to employ this, what I call passive palpation; but keep on training. Remember that in the passive palpation, the fingers, or the hand, as the case may be, must be absolutely relaxed. Only in that fully relaxed condition will the examiner perceive the fine sensation and impression which the organs produce, when moved by inspiration toward the surface. In this way, keeping your fingers over the pylorus, you feel the coming up of the pylorus, as a rather hard object. What we saw before is now confirmed by palpation; the diagnosis of organacidia gastrica is thus confirmed.

Having made the diagnosis of organacidia gastrica, let us go over the symptoms which this disease produces. I am going to use strictly technical language, so that, in the discussion, we may not suggest any of the symptoms to the patient. You remember that this disease is produced by the irritation of the gastric mucosa by irritating volatile, acid gases. Aided by inspiration, which increases the intraabdominal pressure, the irritating, volatile, acid gases reach the esophagus, then the pharynx. From here they reach the posterior nares and the nasal cavity, whence they reach the frontal cells through the apertures in the cribriform plate of the ethmoid. These gases, because they are volatile, follow the common laws of physics and go everywhere, wherever there is a free passage. Now, unless occluded by a catarrhal condition or otherwise, there is normally a free passage between the gastric cavity and the frontal cells. The contact of these irritating volatile acids with the mucous membrane anywhere produces pain of a degree commensurate with the degree of the irritating properties of the volatile acids. The symptoms, which these irritating acids produce, will graduate from the uncertain, "undefinable something" to the severe cramp. There may be an uneasy sensation, soreness, rawness, slight pain, pain, severe pain, and cramp; these are only degrees of quantity, not of quality. These sensations will be experienced by the patient along the course previously outlined, beginning with the gastric cavity and reaching the frontal cells. The esophagus and pharynx experience the sensation, as of exsiccation, and the patient therefore imbibes fluids with greater frequency, which again, and naturally, increase the frequency of micturition. Owing to the wrong interpretation of the last symptoms I have seen many patients who were thought to have diabetes.

The gustatory nerves will have the sensation of the acidity, which the patient will correspondingly and symptomatically express. As the irritation causes spastic contraction also of the pylorus, this region will be pointed out by the patient as painful. In speaking of the nature and cause of appetite, you remember I pointed out to you that appetite means contraction of the pyloric region, or of the duodenum, or of both, and that, varying with the degree of the contraction, will vary the degree of the appetite; so that, slight contraction, slight appetite; great contraction, great appetite. And, as the contraction of the muscularis is here increased, the appetite will correspondingly be increased. Clinically, the irritation of the esophagus will be indicated by the patient either as being behind the sternum or between the scapulæ. The

patient will, correctly, point out the pharynx and and the supraorbital and frontal regions as the seat of greater or lesser pain.

Having made the diagnosis, and having reasoned out the symptoms, we are ready to ask the patient what she complains of. As you hear, the patient is now giving us, in her own way, the symptoms we spoke of and you also hear that she denies any symptoms which would make you suspect pulmonary or cardiac lesions. We must conclude, therefore, that the diagnosis first made by inspection is correct; just as soon as I can get a test meal examination I will report to you the result. You have here seen that a diagnosis without asking a single question can be made. Perhaps this will not hold good in all instances, but certainly in a large percentage of cases. Just think of the veterinary surgeons, who must rely upon their own examinations; why should we be less intelligent than the veterinary surgeon? No need of calling your attention to the fact that such procedure, that such an examination, without asking any questions, inspires great confidence, and you will greatly improve with practice and training.

Learn to observe. Remember that there is nothing accidental, there is nothing without cause. Every elevation and every depression, slight as ever they may be, every groove, every shadow, has its definite reason and you must learn properly to interpret everything you observe. Do not make light of anything; everything has its definite signification. Make the examination of the entire body a routine practice; a casual observation will never teach you much. Train your eye to become thoroughly familiar with the normal appearance of every part of the human body, so you may appreciate what is not normal. Persevere in your study; do not become discouraged, if you do not succeed soon. You did not notice the elevation of the epigastrium in this patient until your attention was called to it. I dare say the casual observer would not notice it. Yet the trained eye discovers this immediately and the entire process of deduction and exclusion and therefore the making of the diagnosis by inspection took but a few seconds.

Diagnosis by inspection is not only a possibility, but should be known to all physicians and, to judge from my experience with you, gentlemen, and those, who have been with me before you, this art can be very easily acquired by all who want to acquire it.

616 Madison Avenue.

OLD AGE IN ITS MEDICOLEGAL RELATIONS.*

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The medicolegal status of old age covers so extensive a field that I must either go over it superficially or else dwell only upon certain parts which may not be entirely familiar. The study of senility and its diseases has been so generally neglected in this country that there is not a single American work on this subject nor was there a lecture given upon it in any medical school until Fordham University, one year ago, introduced geriatrics, as this branch of medicine is called, into its curriculum. As a result of this neglect there are many misconceptions relative to senility, the senile organism and senile mentality, and some of these misconceptions are reflected in the opinions expressed where medicolegal questions involving the aged are brought up.

Ignorance of the senile physical changes is responsible for errors as to the character, extent, and permanence of injuries, their secondary effects, the effects of shock. Ignorance of the senile mentality, especially during the senile climacteric, is responsible for errors relating to the responsibility of the aged individual, the extent of his judgment and reason, his conception of his acts, lucid intervals, and the rationality of acts performed during such lucid intervals, etc., during that time. Let me first take up briefly some of the physical changes which may have medicolegal significance. I will explain only the medical side and leave the legal application to the legal minds of this society.

In bones the organic matter wastes faster than it is repaired and consequently the proportion of mineral matter is increased, the bones become brittle, they fracture easily, and repair proceeds very slowly. In some cases there is no union at all and the injury is permanent. While ununited fractures are uncommon, union proceeds more slowly than in maturity and the liability to another fracture at the same location is much greater. Owing to poor surface circulation, surface lesions like bruises, lacerations, and abrasions heal slowly, severe bruises have a tendency to become gangrenous, and lacerations have a tendency to become ulcers. In one of my senile cases a slight abrasion above the ankle refused to heal, an ulcer developed with such impairment to the circulation in the foot that gangrene resulted and part of the foot was amputated. This happened to a woman, who in spite of her seventy-two years was remarkably vigorous in mind and body. The immediate and remote effects of shock are far more serious than at maturity. Mental shock generally produces rapid degeneration of the brain, as is evidenced by the production of phobias, illusions, delusions, and hallucinations, with rapidly deepening dementia. Cerebral concussion may cause apoplexy and death. Physical shock is often immediately fatal. The remote effects of spinal concussion, which in maturity may not appear for months, are rarely delayed in the aged beyond a few weeks, and often appear within a few days after the injury and are usually rapidly fatal. Aged women bear shock better than aged men. Operations upon the aged are dangerous on account of the surgical shock and the effect of the anesthetic. If fatty heart is known to exist, nothing but the certainty of death without an operation will justify an operation. The sight and hearing are generally impaired, and there is weakened mentality, the individual receiving impressions, interpreting them, and responding more slowly than in maturity. There is also a stiffening of the joints and waste of muscles, making motion slower. These combined mental and physical impairments increase the liability to accidents, and where accidents occur the results are more serious.

*Read at a meeting of the Medico-Legal Society, April 24, 1912.

It is then a question to what extent these infirmities serve as mitigating circumstances in an action for damages.

More important in its legal bearings is the senile mentality. During the discussion of Doctor Hicks's paper on Medical Expert Evidence, at the February meeting of this society, I pointed out the most prolific source of error in interpreting the workings of the senile mind. It was in the ignorance of the profound changes in senile mentality during the senile climacteric. The failure to recognize this senile condition, which I first described a few months ago,[1] and of the profound psychic changes that accompany it, is responsible for the misconceptions and differences of opinion concerning the senile mind.

Let me first explain what is meant by the senile climacteric. You no doubt know that the period of development, which lasts about thirty years, is broken about the middle by a marked mental and physical change which we call puberty. There is a similar critical period about the middle of the period of maturity. In the female it is called the menopause and in the male it is called the male critical period. There is a similar critical period about the middle of the period of decline which I have called the senile climacteric. If we assume that the normal duration of each period is thirty years, and physiological life seems to justify this assumption, then the critical point of the period of decline, the senile climacteric, should occur about the middle of the eighth decade of life and profound changes in the organism and mentality do occur about this time.

For the purpose of this paper I will pass over the physical changes and confine myself to the changed mentality. In the preclimacteric period, from the beginning of the period of decline to the climacteric, the mental changes are not very marked. The memory is weakened, both in its ability to recall old ideas and in its ability to retain new impressions. The brain works more slowly and it becomes fatigued sooner than in maturity. The person who could write or reason for hours at a time must now take frequent rests, either naps or some form of recreation which does not tax the mind. But the character, the quality of the work may not be impaired, and this explains the remarkable production of great men at an advanced age. Sometimes volition is weakened, sometimes it is increased, and we speak of the obstinate old man or woman. There is, however, in most cases emotional depression due primarily to the recognition of advancing age.

When the individual begins to feel the little aches and pains that come with advancing age, that he gets tired sooner than before, that he becomes short of breath upon slight exertion, that sexual power wanes, that he forgets little things like names and dates, he realizes that he is on the downward path. Whatever hopes and ambitions of achievement he had, if still unfulfilled, must remain unfulfilled. He knows that aging is a progressive, uncontrollable weakening of mind and body, that he will become helpless, perhaps a burden to himself and his family, possibly to the State. He looks forward to the darkness, to death with fear, yet suppresses the indignation and rage arising from the contemplation of his impotence, in a philosophic resignation. He does not take kindly to innovations and prefers the older order of things, since it saves him the mental effort required to study new measures and methods, and the physical effort required to accommodate himself to them. For the same reason, the avoidance of mental strain, his interest in the passing events of the day is lessened. As brain fag sets in rapidly, he falls asleep at the sermon or play, not through lessened attention but through excessive attention which produced brain fag. Notwithstanding the change in temperament, weakened memory, more rapid fatigue, often slowed responses, the quality of the reason and judgment is not impaired. The individual may be more easily swayed from his purpose, but he is conscious of his acts, knows their nature, their results, and his own responsibility for them. He may do things which are apparently irrational, or may be made to appear so. He may want to live alone or contract a mésalliance, form peculiar friendships, distribute his property in a manner which is not approved of by his family. In these cases there is almost always an underlying rational cause which must be dug out and considered before we can determine the reasonableness of the act.

As the individual nears the climacteric, his mind approaches the condition known as the border state. Prominent traits of the aging mind are self interest, egotism, and suspiciousness. Let us now consider the postclimacteric period, from the close of the climacteric to the end. There is no sharp dividing line between the periods or stages, as one gradually merges into the next; but during the height of the climacteric and after the postclimacteric has been fully developed, the manifestations are clear. The postclimacteric stage of the period of decline, the true senility, is marked by senile dementia. The mental depression gives way to an apathetic state. The fear of death is now less acute and gradually passes away as the mind becomes gradually less and less able to realize its nature. Memory is so weak that it is unable to retain new impressions, while old impressions cannot be recalled by any process of mnemonics. They may arise spontaneously and will then appear like the momentary view obtained at night by the flash of lightning, or they may persist longer as though a distant curtain had been suddenly raised and slowly lowered. There is neither joy nor sadness in these memories, though the original impressions may have been the gayest or saddest in the life of the individual.

The most important from the forensic standpoint are the changes in reason and judgment. These are clouded and the impairment is progressive until complete dementia is reached. There is, unfortunately, no unanimity, in either the legal or the medical conception, of the condition termed "senile dementia." The term has been applied to so slight an impairment as weakened visual memory, some apply it to the stage where the natural inhibition upon conduct is diminished, some will not consider a person a dement until his impaired mental condition becomes obvious to others who do not know the normal condition of the individual, while some say mental derangement must accompany mental weakness to constitute senile dementia. This last conception is evidently wrong, as in many cases

[1] New York Medical Journal, December 2, 1911.

there is a gradual dulling of the faculties, an increasing difficulty in recalling events, in concentrating attention, in reasoning, in the control of the emotions, yet there may be no mental perversion. If this person does perform irrational acts, it is through unconscious impulse or lack of reflection, and not through illusions, delusions, or hallucinations. In mental derangement the individual performs irrational acts because he believes they are right, or else because he has an uncontrollable impulse to do what he knows is not right. In the former case he is conscious that he has performed certain acts, but his views concerning them are based upon false conception, or belief, or false perception, with or without material basis, and he will oppose rational views. The senile dement performs his acts without false conception or perception, but rather unconsciously or unthinkingly, and if an impression can be made upon his reason and he can be roused mentally to realize that he has performed a certain act, he will recognize its sense or folly.

In old age the moral sense is frequently blunted and the lessened control over the emotions and conduct may give rise to acts of impropriety and immorality. These do not, however, denote mental derangement, but mental impairment. I make a distinction between mental derangement and mental weakness, the former involving perversion of mental activity, the latter a weakening of mental activity. The mental picture in the former case may be likened to the picture seen through glasses of different thicknesses and curves, in the latter case the picture may be likened to the picture seen through dimmed glasses, clouded, but not distorted.

I will now consider the mentality during the senile climacteric. This transitional period between old age and senility generally occurs late in the eighth decade of life. Its inception and completion merge gradually into the preceding and succeeding periods, several months generally elapsing between the time that the mind appears rational and the time that persistent weakness of the reasoning power becomes apparent. During this transitional period every possible manifestation of insanity may appear. Mental confusion occurs frequently and circular insanity is sometimes observed. Manias, phobias, obsessions, and morbid impulses may arise. There may be delusions of grandeur or of persecution, rarely, however, the systematized delusions of paranoia. It is during this period that oikiomania develops, and this gives rise later to contests over contracts and wills. Criminal acts, especially sexual crimes, are committed. The individual often makes extraordinary efforts to appear young and will undertake impossible tasks to show that he possesses youthful vigor. A prominent manifestation of impaired mentality at this time is the desire to attract attention to himself. He is frequently suspicious, irritable, makes peculiar demands, gives way to fits of anger or tears, tells remarkable tales about himself with every appearance of sincerity, and will then not deny their falsity. His tales generally begin with "I" and end with "me," and he will continue their recital, oblivious of the fact that his audience had left him or paid no attention to him.

There are sometimes lucid intervals, during which the mind is clear, and if the person is examined during such lucid interval nothing more than weakened memory is discovered. If, however, the examination is prolonged mental confusion sets in and delusions appear. While delusions occur frequently during this period, they are soon forgotten. A frequent manifestation of this changed mentality is talkativeness, the talk being rational though often trivial, and there are breaks in the continuity as though the speaker was making an effort to find the words to express his thoughts. If he is interrupted, he forgets where he left off or forgets the subject altogether. The writing likewise shows signs of mental disorder. The subject matter may be gleaned from the writing, but there are breaks in the continuity, words are omitted, letters are dropped, and words foreign to the subject are injected. The first few lines may be clear, but afterward the words become blurred, run together, and show the mental confusion of the writer. A letter written during a period of excitement shows in its contents and in its handwriting the mental state of the writer. During the depressive state the person will not write, and if forced to speak he will be morose, pessimistic, and easily roused to anger. Oikiomania, which almost invariably begins during this period, arises from the momentary absence or fancied neglect of the person against whom the hatred is directed. I will describe two typical cases which I reported in a paper on Senile Mentality in the *International Clinics,* vol. 4, series 21:

Case I. A man, aged seventy-eight years, was physically well preserved, but his memory was weak. A daughter was assiduous in her attentions to him. For several weeks he had been acting queerly, calling for things, then declining to receive them, asking for friends of his early days, some of whom were dead, becoming angry when impossible wishes could not be fulfilled. On one occasion his daughter's momentary absence angered him and he brooded over her apparent neglect. From this arose dislike, then hatred, then fear, culminating in delusions of persecution. Here was a natural sequence of emotions, anger, dislike, hatred, and fear. Members of the family tried to reason with him and he began to fear that they were in league with the daughter to put him out of the way. After a few weeks, his reasoning powers showed signs of weakening, and he began to perform childish acts. His daughter kept out of his way from the time he first expressed the fear that she would kill him, but now on her return, he did not immediately recognize her and the former fear of her had entirely disappeared.

Case II. The second case was a woman, now seventy-six years old, who until her sixtieth year was self supporting, her husband having left her. She had always been positive in her likes and dislikes, was domineering, ambitious, and vain. Impaired hearing and growing weakness compelled her to give up her vocation and live with a married daughter. Her personality changed as she realized that she was growing weaker and depending upon her children. There was no change in her mental capacity, and until two years ago she took an active part in the affairs of several organizations. In discussions, ideas did not come as readily as formerly and she spoke more slowly and more at length, but the soundness of her reasoning was unquestioned. About a year ago the change due to the climacteric became apparent. She now made extraordinary demands upon her children. She must have the latest style in clothes, several wigs, and she would stand for hours before the glass. She insisted upon intruding on the company of young persons and became fault finding when she found that they objected to her company. Although deaf, she went to concerts and meetings, applauded at inopportune times, and boasted of the attention she thereby attracted to herself. Her one delusion was that she looked young, felt young, and could do the work of a young person. There were periods of elation and de-

pression, and often lucid intervals during which she realized the silliness of wearing youthful styles and attempting impossible feats. Her husband died a few months ago, and at the funeral she was lucid and gave evidence of terrible grief, but a few hours later she again passed into an exalted state and spoke of the greatness of her native village and exaggerated trivial events of her childhood. She is now passing into the state of senile dementia. She can still discuss matters rationally at times, but she cannot maintain prolonged interest, and lapses frequently into a condition of inattentive listlessness.

I have referred to the differences of opinion as to what constitutes senile dementia. A gradual weakening of mental power accompanies some diseases and further complicates our conception of this condition. The senile dementia which accompanies senile atrophy of the brain, the true senile dementia, follows the course I have outlined. It progresses slowly and there are no lucid intervals, but mental activity is sometimes aroused under some great stimulus, such as sudden or grave danger, or when facing extraordinary responsibility. The mind, however, breaks down rapidly immediately after the stimulus ceases. This has an important bearing upon the question of the competency of an individual known to be suffering from advanced senile dementia. Apoplexy is generally followed by dementia, but the mind clears up as the individual recovers from the stroke. In softening of the brain there are sometimes convulsive or mild apoplectiform attacks, followed by deep dementia, then mental confusion. The mind clears up partially, never completely, within a few days, and afterward the brain power again wanes and this may proceed to complete dementia. A momentary lucid interval may occur under great stimulus, as in true senile dementia. Dementia with illusions or delusions sometimes occurs in cerebral arteriosclerosis, but until the disease is far advanced, or until the senile climacteric occurs, there are long lucid intervals. Nothing need be said of the terminal dementia which occurs as the close of the various forms of insanity.

As to the testamentary capacity of aged individuals, an old decision declares that such capacity is destroyed by actual weakness of the mind, by anything that weakens the individual's memory and judgment and volition in relation to the disposal of his property or the objects of his bounty. A more recent decision says that "to avoid an instrument on the ground of the alleged mental incapacity of the person who executed the same, such person must be so deprived of his mental faculties as to be wholly unable to understand or comprehend the nature of the transaction." These two decisions show the extremes of construction placed upon the condition of mind necessary to indicate testamentary capacity. Forgetfulness of recent events is no evidence of testamentary incapacity. Forgetfulness of the name of a member of the family does not indicate extensive mental impairment, but to forget the existence of a member of the family, especially if such forgotten member has not been absent sufficiently long to explain such forgetfulness, shows profound mental weakness. It is, however, often impossible to determine if such omission from the provisions of a will was intentional or due to defective memory.

The extent to which the delusions occurring in insanity affect testamentary capacity, is frequently brought up in testamentary proceedings, and there is a mass of literature on this subject. I will not take it up here. But delusions and illusions are sometimes found in aged persons under circumstances that would exclude insanity. Illusions may occur in cerebral arteriosclerosis, and in such cases it is usually found that the degeneration in the optic or auditory system is more pronounced on one side than on the other and this can be traced to the greater extent of atheroma or sclerosis on one side. A difference in the visual or auditory impressions received on the two sides will produce a confused impression in the brain with consequent visual or auditory illusion. Things may thus appear double, or with a halo or shadow around them, or misshapen. Such illusions occurring in arteriosclerosis may persist during the lucid intervals and while the reasoning power is unimpaired. Illusions of hearing may occur in the same way. A delusion may arise from the frequent repetition of a story until it is so vividly impressed upon the mind that it appears true to the narrator, and this is often found in the aged.

The aged frequently exaggerate their own importance and magnify trivial events with which they were connected, but the exaggerations are not so florid as to constitute delusions of grandeur unless there is real mental derangement. The statements are not extravagant and even fabrications made to secure sympathy or admiration are well within the bounds of reason. While such facts may be introduced to show mental aberration they would indicate rather a clear reasoning power in which rational measures are employed rationally to secure a rational end.

In the incipient stage of senile dementia the aged frequently perform acts the nature of which they understand, but they cannot reason to consequences. In this, as in the other borderland states, sentiment, public policy or public opinion, rather than the medical view of the mental condition, determines the nature of the act and the responsibility of the individual performing it. The law when called upon to determine the mentality of the individual with reference to an act the legal consequences of which it is considering, does not recognize the existence of this borderland state. It declares arbitrarily that the individual is sane or insane, competent or incompetent, having sufficient mental capacity to make him responsible for his acts and make such acts represent his purpose and intent, or not having such mental capacity. Law and medicine are in hopeless conflict on this point.

I will touch briefly upon some other medicolegal questions involving the aged. The marriage of an aged person may bring up legal questions. Most States have laws granting divorce or making marriage void or voidable on the grounds of insanity or physical incapacity at the time of marriage. The question of insanity generally hinges upon the legal construction placed upon senile dementia. In some cases mésalliances are contracted and this question is brought up either to annul the marriage or to show mental incapacity. Here the mentality in the preclimacteric, climacteric, and postclimacteric periods must be considered. Most of the mésalliances consummated during the preclimacteric period are

contracted under sexual stress, which in itself is not an evidence of insanity. Such a marriage performed during the climacteric or later may properly bring up the question of insanity or mental incapacity due to dementia. Physical incapacity may be organic or functional, i. e., due to defective organs or weakness. The law demands that it be shown that the incapacity is incurable. In some cases organic incapacity can be relieved through operation. From a medical standpoint no functional incapacity is incurable if the organs are normal. The legal interpretation of the term "incurable" as applied to the annulment statute in this State has not been decided and a nice question of law can be raised if the requirement of incurability will hold notwithstanding the possibility of temporary improvement, or where the incapacity exists only in relation to one individual.

Sexual perversions are rather common in old age and are due either to diminished power with undiminished desire, during the preclimacteric, or to a recrudescence of desire during the climacteric period. The former class of cases rarely come to light, as the individual knows the nature of his act and its penalty and therefore such perversions are in the nature of secret vices or bestiality, rarely such outbursts of sexual fury as occur in recrudescence. In the recrudescence of desire during the climacteric there are outbursts of sexual fury which can be likened to the fury of a person starving from hunger. The offender does not realize the nature of his act. There is an impulse to gratify the desire of lust which is not controlled by will or reason, and the most available victim is usually a child. If the mental changes during the climacteric were generally understood, these assaults would be placed, not in the category of heinous crimes, but of insane acts.

Malingering is frequently found among the aged who crave sympathy. The so called factitious diseases are rare, as the aged will not purposely aggravate their ailments or do anything which will give them pain, but they will exaggerate symptoms, especially pain, cough, tremor, stiffness, and nausea. The frequent recital of exaggerated symptoms may produce the mental impression of such exaggerated symptoms and they become real to the individual. Symptoms, which have no pathological basis, may appear through unconscious mimicry or through the mental impression produced when seeing such symptoms, as when seeing a person with pruritus scratch himself. This occurred in a home for aged women where one inmate had pruritus and several others seeing her scratch, began to feel the itching and accused each other of having a parasitic disease.

The true malingerer will knowingly tell an untruth because he believes it will benefit him. In examining an aged malingerer too close investigation and the appearance of doubt will fix the symptoms in the patient's mind and this makes it more difficult to detect the deception. If the physician will make an apparently superficial examination and pass off the complaint as existing but trivial, the patient will probably soon forget about it and find a new source of complaint, if the physician at his next visit does not recall it to the patient. A persistent complaint, without basis and made for the evident purpose of securing sympathy or other material benefit, requires drastic treatment, either disagreeable medication or the threat of operation.

RESULTS OBTAINED FROM THE ADDITION OF LACTALBUMIN TO MODIFIED COW'S MILK IN THE FEEDING OF INFANTS.*

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All authorities on the artificial feeding of infants are agreed that, in order to supply a nourishing food, cow's milk must be diluted, and sugar and cream added in definite proportions. In other words, cow's milk must be so *modified* that it may simulate mother's milk as closely as possible. The percentage of proteid at first must be considerably less than is present in mother's milk, since clinical experience has shown that its digestibility and assimilability differ widely from the proteid of human milk. It is only through clinical experience that we actually learn the value of foods, despite the fact that chemical analysis may show them to be composed of substances which theoretically should produce certain definite results. Thus we clinicians know that many food preparations now on the market, and advocated and praised by the chemist or maker, prove in the light of practical experience very disappointing. Our judgment, therefore, of any preparation or food should be based on its clinical value, after it has undergone a thorough test in numerous cases.

It has been demonstrated that stable colloids, even when present in small quantities, have the property of rendering stable and of protecting unstable colloids from coagulation.

We know that the casein of milk is an unstable colloid, which when acted upon by the gastric juice coagulates, forming a tough curd, whereas we have been taught recently that the soluble albumin, lactalbumin, which is present in much larger quantities in mother's milk than in cow's milk, acts as a colloid protector, preventing the formation of tough casein curds.

Zsigmondy, in a work published in 1909, and Alexander and Bullowa (*Archives of Pediatrics,* January, 1910) have also demonstrated by the aid of the ultramicroscope that certain animal proteids, gelatin, albumin, and vegetable proteids, gluten or carbohydrates, gum arabic, Irish moss, tragacanth, and dextrinized gruels have this colloidal protective action.

It is evident, then, that there is a scientific reason for the addition of the protective colloids, such as albumin or dextrinized gruels, to cow's milk, and this is to improve the digestibility of the casein. Acting upon this principle, I undertook a series of experiments in the feeding of infants by adding to the modified milk a preparation of lactalbumin, or soluble albumin separated from the casein of cow's

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milk, the idea being to render the casein of cow's milk more digestible to the infant by the protective action of the added lactalbumin, and at the same time to increase the amount of soluble albumin in the food, and so cause it to resemble more closely mother's milk.

It was Biedert, in 1884, who published a book in which attention was first drawn to the fact that there were two varieties of proteid in milk, and in 1885, Sebelien separated these two proteids, one being casein and the other true albumin, or lactalbumin, as he termed it. Sebelien (*Upsala Lakaraforeningens Forhandlinger*, xx, 334-351, 1885) also pointed out that there was a larger percentage of this lactalbumin in human than in cow's milk and a less amount of the casein or curd forming element. He found 0.25 per cent. lactalbumin in cow's milk and 0.5 per cent in human milk, and 2.75 per cent. of casein in cow's milk as against 0.8 per cent. casein in human milk.

The *Medical Record* for March 12, 1910, discussing editorially the rôle of lactalbumin in milk digestion, comments on the fact that up to a comparatively recent date the main conclusions drawn from Biedert's and Sebelien's independent investigations had been that the advantage of woman's milk over cow's milk lay in the fact that lactalbumin was a more easily digested substance than casein and that the woman's milk contained an excess of this favorable form of infant food. I have already referred to the knowledge we now possess that not only is lactalbumin in itself more digestible to the infant than is casein, but exerts a protective action over casein, rendering that substance more or less easy of digestion. Dr. G. F. Still, of England, gives slightly different figures from those of Sebelien with regard to the percentages of casein and lactalbumin in human and cow's milk, but this difference is due, no doubt, to the variation of quality in the milks used.

Doctor Still's figures are as follows:

Human Milk.

Proteid 2 per cent. { Casein 0.6 per cent. Lactalbumin 1.4 per cent.

Cow's Milk.

Proteid 4 per cent. { Casein 3.25 per cent. Lactalbumin 0.75 per cent.

It will be observed from a perusal of these figures that when cow's milk is diluted so that the total proteids equal the total proteids of mother's milk or is diluted to a degree suitable for different ages, as shown by clinical experience, it will be found to contain a correspondingly less amount of the soluble albumin.

In making a study of the various methods of feeding babies, the only fair way is to compare the gain, with the normal gain for a child of the same age, that has been breast fed.

In examining the weight chart, which has been arranged from taking the averages of weights from thousands of breast fed babies at different ages, which is the same for artificially fed infants provided the feeding is properly done, we find that the gain varies according to the different months of age. I have, therefore, made a table from the weight curve of the normal child to compare with the gain in weight of the cases I have artificially fed.

Table Showing Normal Increases in Weight.

	Gain.	Pounds.	Ounces.
0-2 months	3.75 lbs.	1.875 per mensem	1.00 per diem
2-4 "	3. "	1.5 " "	.80 " "
4-6 "	2. "	1. " "	.54 " "
6-8 "	1.5 "	.75 " "	.40 " "
8-10 "	.75 "	.375 " "	.20 " "
10-11 "	1. "	1. " "	.54 " "
11-12 "	1.25 "	1.25 " "	.67 " "

In the fifteen cases where modified milk was used when the babies first came to the clinic, and the progress was more rapid, the average gain in weight above normal was (0.076). During the lactalbumin period which followed (when 0.53 to 1.20 grains per day were added according to the child's age), the average gain in weight above normal was the same (0.076). During subsequent modified milk period the loss was 0.48 per day. In the eight cases later (noted in Table II), where the feeding was reversed, that is the lactalbumin period coming first lactalbumin showed + 0.80 against + 0.19 for the modified milk alone, or about 300 per cent. more.

There were twenty-three cases, and of these twenty were under weight for their age when feeding was begun.

The inference to be drawn from Table I is, that although twelve of the fifteen babies were somewhat under weight for their age when placed on the modified milk diet only, Cases 1, 10, 11, 14, and 18 were so to a marked degree. In nearly all the cases the babies throve well on the modified milk, and subsequent lactalbumin period did not change the ratio between the normal and actual increase in weight. There is a suggestive difference, however, in favor of lactalbumin as regards the cases which started below par, especially Cases I and II, when lactalbumin secured a more satisfactory gain in weight.

The third period is decidedly in favor of lactalbumin in all the cases.

In Table II the babies were without exception markedly under weight, in the three last cases overwhelmingly so. In every case the lactalbumin, when added to the modified milk, produced a gain in weight above normal per diem, ranging from fifty to 800 per cent. This is striking evidence of a profound effect upon nutrition. During the subsequent modified milk period there was almost as striking a decline, both relatively as compared with the lactalbumin period and absolutely in four cases. This table demonstrates beyond doubt the value of lactalbumin in undernourished babies. In order to determine just how much of the lactalbumin we should add to a given quantity of modified milk to make it simulate mother's milk, we must know the quantity of milk used and the degree of dilution.

Taking Doctor Still's figures as a working basis, it is not difficult to determine the amount of lactalbumin to be used. Thus, for instance, we figure an ounce of liquid equals approximately 480 grains. One quart would equal 32 times 480 or 15,360 grains. There is 1.4 per cent. lactalbumin in human milk or 215 grains in one quart. In order to reduce the total proteids in cow's milk to the total proteids in mother's milk, we must dilute it one half. There is 0.75 per cent. lactalbumin in cow's milk or 115.2 grains in one quart, or 57.6 grains when the milk has been diluted one half; 215 minus 58 would equal 157 grains or the amount which theoretically should be added to make the lactalbumin in the modified

milk equal that of mother's milk. In this series of cases no attention was paid to this rule, but 80 grains of lactalbumin were added to each quart of modified milk, so that the babies got from 53 to 120 grains according to their age and capacity.

I have used the soluble or lactalbumin in powdered form instead of modifying the milk with whey, on account of the ease with which this can be done as compared with the making of whey to obtain the soluble whey albumin. Moreover, any mother can add the soluble albumin in a powdered form to the milk, and as much or little can be added as the physician desires, while it is a rather difficult matter to modify milk with whey with accuracy and can only be done in a milk laboratory or by very intelligent families.

TABLE I.

Case No.	Age, months.	Wt. Lbs.	Nor. Wt. Lbs.	Modified: Days.	Gain. Oz.	Per diem. Oz.	Norm. Oz.	Dep. Oz.	Lactalbumin: Days.	Gain. Oz.	Per diem. Oz.	Norm. Oz.	Dep. Oz.	Modified: Days.	Gain. Oz.	Per diem. Oz.	Norm. Oz.	Dep. Oz.
1.....	8	14-6	17	18	7	.40	.20	+.20	57	67	1.18	.46	+.72					
3.....	4½	13-7	14-7	28	20	.71	.54	+.17	32	19	.59	.47	+.12	19	—9	—.90	.54	—1.44
6.....	5	13-7	14-14	33	53	1.58	.54	+1.04	90	36	.40	.33	+.07					
7.....	3½	13-8	13-2	23	8	.35	.71	—.36	57	5	.09	.54	—.45					
8.....	6	17-8	15-12	49	21	.43	.40	+.03	63	57	.90	.23	+.67	28	6	.21	.54	—.33
9.....	4	14-9	14	16	17	1.06	.54	+.52	38	25	.66	.54	+.12	46	19	.41	.40	+.01
10.....	6	11	15-12	27	21	.78	.40	+.38	35	30	.86	.40	+.46	41	8	.20	.20	
11.....	2	8-13	10-12	33	10	.30	.80	—.50	47	24	.51	.62	—.11	12	—8	—.67	.54	—1.21
12.....	2	9-11	10-12	22	—3	—.14	.80	—.94	60	12	.20	.57	—.37	20	10	.50	.54	—.04
14.....	3½	10-8	13-2	57	25	.44	.61	—.17	50	10	.20	.44	—.24					
15.....	4	12-8	14	41	30	.73	.54	+.19	61	33	.54	.45	+.09					
17.....	6	14-8	15-12	43	68	1.60	.40	+1.20	34	17	.50	.30	+.20					
18.....	4	8-14	14	56	15	.27	.54	—.27	21	5	.24	.40	—.16					
19.....	3½	12-13	13-2	44	24	.55	.63	—.08	13	5	.40	.40						
20.....	2½	10-3	11-12	64	29	.45	.72	—.27	20	15	.55	.54	+.01	11	4	.36	.54	—.34

CONCLUSIONS.

The experience gained by me from the use of the powdered lactalbumin or albulactin as it is called leads me to believe that this soluble albumin when added to modified cow's milk for babies has a great field of usefulness, and especially for those who are ill nourished or under weight for their age, and who do not seem to be making satisfactory gains. This soluble albumin seems to supply that ingredient which is not present in the diluted cow's milk in sufficient quantities to produce a healthy and rapid growth in the above named class of cases.

104 WEST SEVENTY-SIXTH STREET.

A CASE OF BURN OF THE URETHRA WITH LUNAR CAUSTIC, FOLLOWED BY A COMPLETE CAST OF THE URETHRA.

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Sloughs of the urethra in the form of complete casts are not very common, because the origin of such sloughs is in itself unusual, namely, the introduction of caustic sufficiently strong to destroy the mucous membrane in its entirety for a considerable region of the urethra. The following is an example of a silver nitrate burn of the urethra, followed by a complete cast about five inches long, as shown in the photograph:

CASE. A. M. T., about twenty-eight years old, white, single, machinist. He admitted syphilis and a number of attacks of gonorrhea, which he had treated more or less successfully himself with proprietary and other means obtained through druggists' advice. He also admitted a moderate stricture. When first seen, he was engaged to be married, with the usual result of positive stimulation of his sexual appetite. In gratifying this, he acquired a gonorrhea. Realizing that his approaching marriage rendered the promptest possible cure necessary, he reported at a drug store and asked for a "bougie used to burn it out." He asserted that he showed the druggist the approximate length of the bougie. Through error or carelessness, the druggist gave the man a stick of silver nitrate, which the patient accepted after demurring and stating that he thought it might be right, but was not certain. Even this attitude of doubt did not seem to impress the druggist with the likelihood that a mistake was being made. The patient went home, introduced the caustic into his urethra, which he said was followed by excruciating pain and then by loss of sensation. The caustic did not remain in the urethra many minutes, and soon the pain began again with agonizing chordee and profuse discharge.

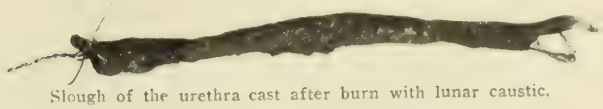
TABLE II.

Case No.	Age, months.	Wt. Lbs.	Nor. Wt. Lbs.	Lactalbumin: Days.	Gain. Oz.	Per diem. Oz.	Norm. Oz.	Dep. Oz.	Modified: Days.	Gain. Oz.	Per diem. Oz.	Norm. Oz.	Dep. Oz.
1.....	3	10-6	12-8	32	43	1.34	.80	+.54	32	43	1.34	.54	+.80
3.....	4½	9-12	13-2	23	31	1.39	.54	+.85	23	5	.22	.54	—.32
4.....	10	16-5	18	19	15	.80	.54	+.26	25	4	.16	.61	—.45
6.....	5	11-1	14-14	23	25	1.09	.54	+.55	23	15	.65	.54	+.11
7.....	8	14-10	17	22	36	1.61	.20	+1.41	7	10	1.43	.20	+1.23
8.....	9	10-9	17-8	19	34	1.80	.20	+1.60	19	12	.63	.20	+.43
9.....	8½	10-7	17-4	38	29	.76	.20	+.56	42	14	.33	.54	—.21
10.....	8½	10	17-4	39	34	.80	.20	+.60	44	10	.43	.54	—.11

When first seen, the patient presented a penis which was twice its natural size, a free discharge, at first without, later with gonococci, obstruction, through which he could barely urinate, and, in short, a pitiable condition. The lining of the canal seemed necrosed for a sixteenth of an inch in depth, including, of course, the entire thickness of the mucosa. The patient was taken to the hospital, the deep urethra was buttonholed, the bladder drained, and both these regions were irrigated two or three times a day with a weak potassium permanganate solution. Both bladder and deep urethra remained uninfected under this treatment. In about four days a slough of the anterior urethra was cast in one piece about five inches long, and is shown rather well in the photograph.

The patient thereafter made an uneventful recovery, excepting for the fact that the first four or

five inches of the anterior urethra were converted into a dense stricture, which could not be dilated above 23° F. About eighteen months after this wretched accident, partly through brooding over his condition, partly through disappointment



Slough of the urethra cast after burn with lunar caustic.

through the breaking of his engagement to be married, and partly through the syphilis the man went insane, and is to-day an inmate in one of the public institutions. The superintendent of this asylum reports as follows as to his present condition:

STATE OF NEW YORK—CENTRAL ISLIP STATE HOSPITAL, CENTRAL ISLIP, LONG ISLAND.

G. A. Smith, M. D.,
Superintendent.

T.
In re A. M. T. *November 14, 1911.*

Dr. V. C. Pedersen,
New York.

Dear Doctor—Referring to your letter of recent date regarding the above patient, would state that during his residence here he has not suffered any discomfort from his urethral condition. Over one year and a half ago, while at Ward's Island, he was treated with sounds, but this treatment has not been required here.

He is a case of dementia præcox of the paranoid type, and not a suitable patient to examine with instruments, except under an anesthetic, for he is very excitable, resistive, and assaulting.

Very truly yours,
(*Signed*) G. A. Smith,
Superintendent.

Not the least of this poor patient's calamity is the fact that his insanity has necessarily nonsuited him in his claim for damages against the druggist who was responsible for this very pathetic blunder. A remarkable feature of this case is the fact that notwithstanding the intense damage to the urethra the patient even now has comparatively little obstruction, although the first four or five inches are converted into a solid cicatricial mass.

The case seems sufficiently remarkable to merit individual publication.

45 West Ninth Street.

Paper Bag Cookery.—It is not as generally known as it should be that the distinguished inventor of paper bag cookery, Nicolas Soyer, is a genuine culinary aristocrat. He is a grandson of Alexis Soyer, to whom English gastronomes of the early Victorian era offer the most unstinting praise. To Thackeray he was "my esteemed friend," and the great novelist thus gives him immortality in the *Book of Snobs:*

If I had my way, and my plans could be carried out, dinner giving would increase as much on the one hand as dinner giving snobbishness would diminish—to my mind the most amiable part of the work lately published by my esteemed friend (if upon a very brief acquaintance he will allow me to call him so), Alexis Soyer, the Regenerator—what he (in his noble style) would call the most succulent, savory, and elegant passages—are those which relate, not to the grand banquets and ceremonial dinners, but to his dinners at home. The dinner at home ought to be the centre of the whole system of dinner giving. Your usual style of meal—that is, plenteous, comfortable, and in its perfection—should be that to which you welcome your friends as it is that of which you partake yourself.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXXII.—What medicines, dressings, etc., if any, would you recommend to equip a family medicine cabinet? Give details as to quantities, labeling, and arrangement. (Closed May 15th.)

CXXIII.—Under what circumstances do you find in advisable to prescribe the continuous use of alcohol? (Answers due not later than June 15th.)

CXXIV.—How do you treat streptococcic sore throat, in view of the possible sequelæ? (Answers due not later than July 15th.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short, if practicable no one answer to contain more than six hundred words; and our friends are urged to write on one side of the paper only.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address; both of which we must be at liberty to publish. All papers contributed become the property of the Journal. Our readers are asked to suggest topics for discussion.

The prize of $25 for the best essay submitted in answer to Question CXXI has been awarded to Dr. J. W. Miller, of Cincinnati, Ohio, whose article appears below.

PRIZE QUESTION CXXI.

HEMATURIA.

By J. W. Miller, M. D.,
Cincinnati, Ohio.

Hematuria, or the presence of blood in voided urine, is an interesting surgical problem with which we meet frequently, and always a condition of the utmost importance to physician and patient alike. The question of a correct diagnosis and treatment properly outlined, is so necessary in the majority of cases that a system properly worked out and stored in memory's pigeonhole will be of value.

Called to a case of bleeding, either free hemorrhage or urine mixed with blood, we rapidly recall our scheme for diagnosis and soon have formulated a plan of first aid, if you will, later a treatment for its complete control.

COMMON CAUSES.

A. *Penis.* 1. Stricture, blood oozes or drips; 2, injections of irritating solutions; blood usually voided with urine; 3, trauma, blood may ooze or be voided with urine.

B. *Prostate.* 1. Acute gonorrheal prostatitis; 2, acute prostatitis associated with hypertrophy of the prostate, resulting from exposure to cold, alcohol, etc. Blood may be independent of micturition, or is voided with urine, in both conditions mentioned.

C. *Bladder.* 1. Acute cystitis or trigonitis (gonorrheal). If voided in three glasses, last glass will contain the most blood; 2, stone, bleeding after exertion; 3, papillomata, bleeding may assume any form, often copious, and begins without cause or warning; 4, carcinoma, what was said in regard to papilloma applies to carcinoma; 5, tuberculosis,

not induced by jolting or exercise, and is only in exceptional cases a cause of free hemorrhage.

D. *Kidney.* 1. Acute nephritis from any cause. bleeding usually associated with other symptoms, presence of albumin in urine, puffiness of eyelids, edema of legs; 2, stone, hematuria fairly constant, often follows a renal colic; 3, trauma, history of injury; 4, malignant disease and tuberculosis, nothing characteristic as regards bleeding.

TREATMENT.

A. *Penis.* In stricture, following instrumentation, bleeding often slight, but may be profuse, even alarming. My first thought is the compound alum powder, one teaspoonful to the pint of hot water. This solution is styptic and its astringent and antiseptic properties will control hemorrhage in the majority of cases, provided we use a gallon or more of the preparation, introduced by means of an irrigator, allowing the solution to enter without any force whatever.

If this fails, an ounce syringe, filled with a solution of adrenalin, one to 5,000, or one to 2,000, is introduced, and the mixture is held in for five minutes.

If not controlled by these simple methods, a silver catheter, with or without a filiform guide, is sterilized, oiled, and introduced with all gentleness —afterward the organ is firmly bandaged.

Injections of irritating solutions, such as bichloride, carbolic acid, and silver nitrate of high concentration, are sometimes used by ill advised individuals. Here injections with a syringe are recommended, but are often impossible to use after such abuse. When one can enter, a syringeful or two of hot egg albumin water, alcohol one part in four, or normal salt solution, respectively, is recommended to counteract the inflammation due to the preparations named above in their order.

Failing to enter, rest in bed, and the ingestion of large quantities of thin gelatin jelly, ice bag to perineum, and elevation of foot of bed are to be tried.

If trauma has been caused by the introduction of foreign bodies, or rupture from falls or kicks, gentle manipulation and correction by surgical interference is promptly indicated.

B. *Prostate.* In acute prostatitis, gonorrheal, as in all conditions causing bleeding, there are usually associated concomitant symptoms which greatly aid us in the diagnosis and treatment. Hemorrhage resulting from this condition is never hard to recognize, but is sometimes hard to control. Rest, absolute rest in bed, withdrawal of all injections, instillations, or irrigations, and instrumentation. Give a hypodermic injection of morphine sulphate, one quarter grain, or suppositories of morphine or opium. A brisk cathartic and a bland diet will generally stop bleeding.

In hypertrophy of the prostate, with acute congestion, from any cause, the treatment as outlined above will answer in the majority of cases. It may be necessary to fasten a rubber catheter into the urethra for a few days. The urine is thus drawn off continuously, and lessened congestion overcomes hemorrhage. The use of belladonna and sodium benzoate is useful to overcome tenesmus and infection when a catheter is used.

C. *Bladder.* Acute cystitis or trigonitis, which is commonly gonorrheal in origin, may be associated with hematuria. A diagnosis of cystitis or trigonitis is made when there is associated with bleeding, frequency of urination, dysuria, and the presence of pus in the urine.

Treatment will depend on the cause; but where gonorrhea is suspected, and this history is often given, local therapy is most important; an opium suppository and the introduction by means of a soft rubber catheter of four or five c.c. of some appropriate antiseptic and analgetic, morning and evening.

When stone is present, bleeding occurs usually after some unusual exertion. The use of the cystoscope will allay our doubts. Rest, and injections of a five per cent. antipyrine solution, and later operative interference will be necessary.

If there are papillomata, hemorrhage may be copious. Again, the irrigation of compound alum powder solution will often control. Where clots cause tenesmus, and are not spontaneously expelled, the use of an evacuation catheter, which is as large as possible and similar to the one we use for the removal of stone fragments after lithotripsy, is required to relieve the troublesome complication.

In carcinoma, give morphine sulphate, one quarter grain, and elevate foot of bed. Repeatedly wash out the bladder through a rubber catheter, No. 24 French, using a 150 c.c. syringe, with plain, very hot water, or very hot alum solution. Evacuation of clots may cause trouble. If the clot obstructs the eye of the catheter, it is drawn out by aspiration with the piston syringe. Cystotomy may be necessary.

Tuberculosis is seldom troublesome. Very hot irrigations or large instillation of oxycyanide of mercury, one to 5,000 or one to 2,000, will stop temporarily the usual terminal hematuria of bladder tuberculosis. The use of tuberculin is highly recommended. I have seen complete recovery occur so far as pain, irritability, and hemorrhage are concerned. The gain in weight was remarkable.

D. *Kidney.* In acute nephritis, broadly speaking, urine when freshly passed, if acid, is of a peculiar smoky hue, due to the presence of a small amount of blood; when alkaline the urine presents a lighter red color. In some cases the quantity of blood in the urine is very considerable and more or less constant. With rest, quietude, and warmth many cases will end in recovery and the urine eventually clear up. Purgatives, diaphoretics, warm baths, and Fisher's solution *per rectum* will assist greatly to this end.

Hematuria is a fairly constant symptom of stone, showing itself by the presence of red cells in the urine. The presence of hematuria associated with renal colic is always suggestive of stone. Radiography has solved our diagnostic difficulties. Nephrolithotomy is strongly indicated.

As to trauma, Keyes gives four cardinal symptoms of rupture of the kidney: Hematuria, variations in the quantity of urine excreted, tumor, and pain. Blood usually flows freely for a couple of days. The treatment is immediate operation. A palliative measure to check hemorrhage is the injection of a sterile normal (horse) serum, and the

use internally of calcium lactate in ten grain doses every two hours.

In carcinoma, as in bladder papilloma, hematuria is spontaneous, usually profuse, and uninfluenced by exercise or jolting. The absence of a shadow after skiagraphy will help to differentiate from stone. Treatment is palliative or surgical.

In tuberculosis, bleeding is not particularly characteristic. Violent hemorrhage rarely occurs. Guineapig inoculation of suspected urine is important. Tuberculin test is positive. Other signs of tuberculosis are frequently associated with the hematuria. Try nephrectomy in those cases that do not respond to tuberculin and hygienic measures.

Other causes of hematuria are certain diseases, such as scurvy and purpura, drugs given in poisonous doses, as turpentine or cantharides, and febrile diseases, malaria and scarlet fever, may be mentioned. After a history of the case, and careful diagnosis by exclusion, treatment should suggest itself.

801 Livingston Building.

Dr. Maxwell L. Volk, of New York, observes:

Hematuria usually implies a condition of more or less gravity, and is significant of a lesion in some part of the delicate and susceptible genitourinary tract. It indicates that at some part of the passage, from the kidney substance to the end of the urethra, blood is escaping, either by diapedesis or through a ruptured bloodvessel. The presence of blood in the urine may be simulated by hemoglobinuria, or by urine of a brownish or pinkish color lent to it by other substances. When the case has been decided upon as one of hematuria, either by the spectrum, guaiacum, or ozonic ether test, or (the most certain of all) by the microscopical examination, its origin should command exclusive attention.

The question now presents itself: Is the hematuria renal, vesical, prostatic, or urethral? Or, does it have its origin in some constitutional disturbance? The answer to these questions is best obtained by making individual inquiry into the several probable sources.

Renal hematuria may result from congestion of the kidney, acute nephritis, renal tuberculosis, calculus, tumors, infarction, or laceration. The form of acute nephritis produced by such poisons as cantharides or turpentine is almost always accompanied by hematuria. In all such cases the admixture of blood with the urine is thorough, and the entire stream is equally colored. If the patient is made to pass the urine into separate vessels, the contents will be evenly discolored in all. Microscopical examination will reveal blood casts of the uriniferous tubules. The presence in the field of a large number of crystals of a certain variety points strongly to calculus; while epithelial cells of certain kinds may suggest a neoplastic origin.

Ureteral hematuria is significant of many of the same lesions as are accountable for renal hematuria. Tuberculosis, the passage of a calculus, tumors, and lacerations may all cause the admixture of blood with the urinary stream as it passes through the ureters. The microscope affords the only means of positively differentiating ureteral from renal hematuria.

Vesical hematuria suggests calculus, tuberculosis, tumors, injury, and ulceration, either of the bladder wall proper, or of varicosities of the vesical veins. The blood is intimately mixed with the urine, but is more abundant at the end of micturition. In a three glass test, the urine passed into the last vessel will contain the bulk of the blood, and clots will often be present. Microscopical examination may reveal special features indicative of the seat of the disease, as shreds of tumors, epithelial cells, crystals, etc. The cystoscope may help materially in exploring the bladder and ascertaining the seat of disease.

Prostatic. The admixture of blood with the urine may sometimes mean disease of the prostate. In such cases the blood passes backward to the bladder, where it becomes intimately mixed with the urine and simulates the vesical condition. Rectal examination will give a clue to the source of the mischief. It is mostly found in old men. Tumors, calculus, ulcerations, or congestion may be accountable for the symptom.

Urethral hematuria is usually significant of injury through instrumentation. It may, however, be caused also by acute gonorrhea or laceration. The blood is washed out by the stream of urine, and only the first part will be colored. Blood may flow from the urethra independently of the urinary flow.

Hematuria may occur without any disease of the genitourinary tract. It is then due to a constitutional disturbance causing the escape of blood into the urinary stream. Such cases sometimes occur in scurvy, hemophilia, and the purpuric diseases. Vicarious menstruation may produce bloody urine. Under this heading may also be mentioned those cases of hematuria where the amount of blood lost has sometimes been large enough to threaten life, and yet no lesion of the kidney substance or urinary tract could be found. They have been termed "essential hematuria," "renal epistaxis," "renal hemophilia." The exploratory operation of nephrotomy has cured the majority of these cases. Their causation remains obscure.

Hematuria is only a symptom, and the treatment should be directed to a cure of the disease causing the symptom. Astringents, styptics, and other remedies intended to stop the hematuria will be of very little avail as long as the offending agent remains. At best such measures can be effectual in only that part of the urinary tract that can be reached by local application, viz., urethra and bladder; and even there recurrence is to be expected as long as the disease remains. If the hematuria is of considerable amount, the following measures should be adopted:

Absolute rest in bed; rest of body as well as rest of mind. The recumbent posture is to be preferred, the head being low.

Diet to be light, concentrated, and nourishing.

The bowels should be emptied by enema, and daily passage secured by laxatives.

If the blood pressure is high it should be lowered by the judicious administration of aconite or veratrum viride.

Cold should be applied over the region of the hemorrhage, in the form of ice, cold water, or lotion.

Hemostatics should be administered internally to cause constriction of the vessels, or to increase the coagulability of the blood. Of these opium is by far the best, as it secures peace of mind and of body, aside from its action as a hemostatic. Ergot, turpentine, calcium chloride, acetate of lead, etc., may all be used.

In most cases the foregoing measures will help to arrest the hemorrhage. If the cause had been only slight or entirely removed, then a few days of treatment along the plan laid out above will suffice to cause a permanent cure of the symptom. But if the causative factor remains, recurrence of the hemorrhage is to be expected. The causes of hematuria should each receive proper attention, as soon as the bleeding has been quieted. When the hematuria is vesical or urethral, local treatment should be instituted whenever practicable. Crushing of calculus, removal of tumors, cauterization of bleeding and ulcerated spots, are all measures positively curative of the condition and the symptom.

In those cases caused by constitutional disease, as scurvy, hemophilia, the treatment is to be wholly internal, and directed to the relief of the underlying disease. Here, such remedies as gelatin, acetate of lead, and calcium chloride, combined with rest and a judicious diet, will cause an abatement of the symptom in a majority of cases. In cases of "essential hematuria," if all have proved futile, nephrotomy with splitting of the capsule should be tried.

(To be continued.)

Correspondence.

LETTER FROM EDINBURGH.

Proposed Degree in Education at Edinburgh University.—Scottish Advisory Committee on National Insurance.—The "Milne" Treatment of Scarlet Fever.—Edinburgh Doctors at the Rome Tuberculosis Congress.

EDINBURGH, *May 16, 1912.*

A proposal has been made to the General Council of Edinburgh University to institute a degree in education. Teaching is a profession for which the Scottish universities do not provide special study, and it is suggested that a special curriculum might be instituted, with a degree of Bachelor of Education, the course including such subjects as logic, psychology, education, school systems, modern languages, etc. It is agreed that such a course would incur no extra expense, as the teaching power required for nearly the whole course is already provided by the university.

In my last letter I mentioned that the joint advisory committee under the National Insurance Act had been formed, and the names were given of the medical members of that body. In addition to, or rather in conjunction with, this joint committee, three "national" advisory committees are being set up for England, Scotland, and Wales respectively. The Scottish committee consists of fifty-seven members, and represents the interests of employers, of insured persons, and of the medical and allied professions. In addition to the three Scottish medical members mentioned last month as belonging to the joint committee (who are also in the Scottish body), this committee includes medical men from Glasgow, Dundee, Lochgelly, Dumfries, Inverness, Stirling, and a woman doctor from Aberdeen.

About a year ago, Dr. Robert Milne read a paper to the Royal Society of Medicine, London, on the treatment of measles and scarlatina by application of antiseptic oils. His process is, briefly, as follows. During the first four days, beginning at the earliest possible moment, pure eucalyptus oil is gently rubbed in, morning and evening, all over the body. Afterward this is repeated once daily until the tenth day of the disease. The tonsils and pharynx are swabbed with ten per cent. carbolic oil every two hours for the first twenty-four hours, very rarely longer. Doctor Milne spoke very enthusiastically of this treatment, but little more was heard of it until some weeks ago, when Doctor Aitken, medical officer of health for Bo'ness, near Edinburgh, stated in his report to the local government board that he had introduced the Milne treatment at home and in the hospital. His experience with the treatment so far agreed with that of others in being quite satisfactory, it having the merit of economy, with apparent efficiency. Since the introduction of that method patients were kept in hospital for four weeks, and then, if no complications were present, were discharged, although desquamation might not be complete. No return due to hospital cases had occurred. Even under the care of skilled nurses, the Milne treatment did not entirely prevent complications, although it seemed to lessen their number and severity. In one instance, a working man, residing with his family in a two roomed house, was taken ill with scarlet fever. As he desired to remain at home, he was isolated in the bedroom, where he was nursed by his wife. A liberal quantity of eucalyptus and carbolic oils was supplied, and instructions were given as to the manner in which they were to be used. His wife continued to occupy the same apartment, and although she stated that she had had the disease when a girl, she also became affected. The failure to prevent infection might have arisen from a want of thoroughness in applying the remedies, especially in the treatment of the throat. It appeared, therefore, that where untrained nurses were in charge the treatment could not be depended on as an absolute preventive against infection.

At the International Tuberculosis Congress, held at Rome last month, Dr. R. W. Philip, of Edinburgh, delivered an address on Tuberculization and Detuberculization. The address met with a most favorable reception, and was largely commented on by the Italian press. Doctor Philip is the father of what is known as the Edinburgh coordinated system of treating the disease. Referring to this, the Rome correspondent of the *Scotsman* makes the following remarks: "It was apparent (during the Congress) that in Great Britain we have the most perfect system of notification, and it was curious to hear speakers from other countries bringing forward arguments against notification and citing disadvantages, such as we heard of ten years ago in Edinburgh, but which time has proved to be purely mythical. Many at the Congress were surprised to learn that over sixty per cent. of the population

of Scotland is under compulsory notification. The great activity against tuberculosis in the United Kingdom, and the rapid spread of what is now generally known as the Edinburgh coordinated system, aroused very great interest, and for the next three years Britain will be watched with the keenest interest by all countries who have taken up antituberculosis work."

Dr. Leslie Mackenzie, of the local government board of Scotland, presented the British address of welcome to the king of Italy, who showed great interest in British antituberculosis work, receiving Doctor Mackenzie and Doctor Philip at the palace at a private audience on one of the days of the congress.

Therapeutical Notes.

Treatment of Acute Rheumatism.—B. Sydney Jones, surgeon on the steamer *Mauretania,* describes in *Practitioner* for February, 1912, the measures he resorts to in cases of rheumatism coming under his care while at sea. In chronic and subacute cases he eliminates from the diet all sugars, meat extracts, vinegar, tea, coffee, cocoa, and all wines and beers, and advises the ingestion of plenty of cooked green vegetables, celery if easily digested, a moderate amount of fresh meat (white preferably), and an apple a day. In acute cases the diet is limited to milk. If the patient is able to be about, acetylsalicylic acid is prescribed in doses of five grains every two or four hours, according to the severity of the symptoms; with these doses sweating is not usually produced. Where the patient is confined to bed, however, ten grain doses every four hours are given. In those few acute cases which do not show satisfactory improvement with acetylsalicylic acid, Jones uses a mixture made up of sodium salicylate, grs. xx; potassium iodide, grs. v; and potassium bicarbonate, grs. x; in an ounce of water, given every four hours until symptoms of salicylism appear (the pulse being carefully watched), and on their subsidence reverts to acetylsalicylic acid.

Treatment of Recurring Herpes of the Tongue.—Plicque, in *Bulletin médical* for March 9, 1912, states that in nineteen cases out of twenty, sufferers from this type of herpes are syphilitic. While mercurial treatment would, in consequence, seem to be indicated, it only aggravates the condition when it is actually attempted. Irritating substances such as alcohol, spices, mustard, and especially tobacco, are likewise harmful and should be forbidden. A bland diet, consisting of milk, vegetables, cooked fruit, and thoroughly cooked white meats, should be ordered. As for local treatment, emollients alone are indicated in the inflammatory stage. A decoction of althea, used as a tepid local wash, and alkaline solutions, such as Vichy water or a 0.5 or one per cent. solution of sodium bicarbonate are particularly useful. As the inflammatory process subsides, mild astringents, such as a one or two per cent. decoction of strawberry root, may be employed, while during the intervals between attacks gambir is suitable.

Where ulceration is present, Plicque applies camphonaphthol in minute quantities or uses Vidal's formula, which is as follows:

℞ Powdered sodium borate, ...10 grammes;
Cherry laurel water, ...25 grammes;
Neutral glycerin, ...15 grammes.
M. ft. lotio.

If there is marked pain, a two or three per cent. solution of cocaine hydrochloride should be painted over the lesions, more particularly before meals.

General treatment should include the administration of codliver oil, phosphorus containing preparations, and sulphur baths to patients of the lymphatic type, and of alkaline preparations internally and bicarbonate baths to those of the arthritic or lithemic type. In the latter class, wine of colchicum in small doses, five grammes a day, tends to shorten the period of inflammation. Psychic encouragement to the patient is very necessary, as he is often much depressed in spirits.

Treatment of Scabies.—A. Gilbert (*Paris médical,* February 10, 1912) recommends the use of Helmerich's ointment in scabies. This consists of

℞ Sublimed sulphur, ...10 grammes;
Potassium carbonate, ..
Distilled water, ... } .....of each, 5 grammes;
Poppy oil, ...
Lard, ...53 grammes.
M. Ft. unguentum.

Washed sulphur should on no account be substituted for the sublimed variety, as the latter contains impurities, in particular sulphurous and sulphuric acids, which enhance its antiparasitic activity.

In applying the treatment the patient first receives a bath in the evening, with free use of soap and thorough scrubbing. The ointment is then applied and left on over night. Next day another bath is taken to remove the ointment, and the discarded clothing suitably disinfected. The final measure of the treatment consists of daily, then biweekly, emollient baths of starch (500 grammes added to the bath water) or of bran (1,000 grammes).

Treatment of Articular Rheumatism.—Scharff, in *Therapeutische Monatshefte* for February, 1912, states that he has found the following combination very satisfactory in the external treatment of light forms of rheumatism, as well as in gouty attacks, sciatica, and neuralgias in general:

℞ Salicylic acid, ...10 grammes;
Oil of turpentine, ...50 grammes;
Precipitated sulphur, ...40 grammes.
M. ft. lotio.

The salicylic acid is dissolved in ten grammes of the turpentine, and the sulphur mixed with the remainder; the two portions are then mixed. Upon application to the skin the preparation is covered with a layer of impermeable tissue held in place by a bandage. The salicylic acid and oil are rapidly absorbed from the skin, soon appearing in the urine. If the dressing is allowed to stay three or four days, the epidermis, on its removal, will be found to have become macerated and detached from the deeper layers. If the patient is not very sensitive the salicylic acid preparation may then be reapplied. In other cases a zinc paste should be used.

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THE AIRMAN AND GREAT ALTITUDES.

The influence of great altitudes, which means the effects of low atmospheric pressure, upon the oxygenation of the blood, has assumed greater importance since aerial navigation has appeared upon the scene as a practical entity. The greatest altitude reached so far with an aeroplane, about 12,000 feet, will probably never be adopted for common traffic, at least in times of peace; but war will render such a distance from the earth an advantageous factor, since it will greatly diminish the chances of being struck by a hail of projectiles from below, while in no way preventing the launching of explosives to earth by the air craft. The effects of great altitudes on the pilot or crew of the latter and the manner in which the morbid phenomena produced may be prevented, thus combine to create a legitimate, up to date problem.

The summit of Pike's Peak, Colorado, which is 14,109 feet above sea level and where the barometric pressure is about eighteen inches (457 mm.), affords a fair idea of the effects of such levels on man. Four well known scientists who recently ascended the mountain, Doctor Douglas and Doctor Haldane, of Oxford, Doctor Henderson, of Yale, and Doctor Schneider, of Colorado College, have published (*Proceedings of the Royal Society*, Series B, April 12, 1912) preliminary observations and conclusions which suggest clearly that the aeroplanist would do well to remain closer to earth. While they found that after two or three days on the summit of Pike's Peak very distinct signs of acclimatization occurred, their faces and lips became blue, and they suffered from nausea, intestinal disturbance, headache, fainting in some instances, periodic breathing, besides great orthopnea on exertion, or on holding the breath for a few seconds. An acclimatization would be out of the question with the aeroplanist, prophylaxis would simply impose in time of war closer proximity to earth and its consequences. The comfort which the pilot would need to carry on his nerve racking steering with safety would in fact hardly be procured above 6,000 or 7,000 feet. How avoid this dangerous necessity—dangerous in the sense that such a distance is readily covered by modern weapons?

As the above mentioned observers state, all the symptoms are referable directly or indirectly to want of oxygen. Oxygen inhalations at once suggest themselves, a tank of this gas and an attachable inhaler being readily transportable. But, as recently shown by Buckmaster and Gardner (*ibidem*, p. 56), "the inhalation of oxygen does not materially augment the quantity of this gas in the blood." Indeed, as Douglas, Haldane, Henderson, and Schneider imply by the statement that "acclimatization to great altitudes is due mainly to the increased secretory activity of the alveolar epithelium," another factor prevails through which the capability of the blood to take up more oxygen is enhanced. We cannot concur with them as to the secretory activity of the alveolar epithelium—a theoretic factor imposed by Bohr's aerotonometric observations,—but the fact remains that some such oxygen absorbing agent is necessary to account for the morbid effects witnessed and also, we might add, to afford a solid foundation for active measures calculated to prevent them.

Our own view that the adrenal secretion is the agent which in the alveolar epithelium takes up the atmospheric oxygen furnishes, perhaps, at least a groundwork for study by the aeroplanists—particularly those of the War Department—and mountain climbers. The ingestion of desiccated adrenal gland, or—more durable as to effects—pituitrin, prior to great altitude flights, by increasing the capacity of the blood to take up oxygen, plus oxygen inhalations when harmful altitudes are approached, might bring on an artificial acclimatization—a process which we ourselves attribute to increased activity of the adrenals brought on reflexly by low atmospheric pressures.

TREATMENT OF INCIPIENT SENILE CATARACT.

For ages, a method has been sought to arrest the progress, or secure the retrogression of an immature senile cataract. Patent medicine promoters have made fortunes by the sale of eye drops alleged by them to cure cataract. Electricity has been used in various forms. Every few years, some reputable physician has come forward with a means to secure this much to be desired result. Investigations as to the nature of cataract have been prosecuted for many years and are still being prosecuted in the hope that we may eventually learn conclusively the nature of this change in the senile lens, and perhaps how it can be treated successfully without an operation. Up to the present time these efforts have not been crowned with success. Several factors operate to mislead observers who are seeking improvement by medicinal treatment. Some forms of cataract are remarkably slow in their development, and may be supposed to be arrested at the very time that they are following their normal course. A frequent sign of beginning cataract is the so called second sight, in which an elderly person is enabled to lay aside his presbyopic glasses, probably because of an increased index of refraction of the nucleus of the lens; in the degeneration of the lens fibres small, clear spaces may be formed, through which the eye sees as through a stenopeic slit, and there is subjective improvement. The latest writer to claim our attention in regard to this subject is Lieutenant Colonel Henry Smith, I. M. S., who, in the *Indian Medical Gazette* for April, describes the visual improvement following subconjunctival injections of twenty minims of a one to 4,000 solution of mercury cyanide in nine cases of incipient cataract. This author deserves attention when he writes concerning cataract, for he has won world wide reputation as the deviser of a new and efficient operation for its intracapsular extraction, but it should be noted that the results given in his article, gratifying as they are from the immediate visual standpoint, leave much to be desired, because no data are given as to the actual condition of the lenses before and after treatment. Although several were under constant observation, no note is made of any restoration of the disintegrated lens fibres, or of any true retrogression of the cataractous opacities. These are the important points to be considered in the treatment of incipient cataract, for otherwise the sources of error that have been mentioned may lead the patient and the physician to believe that improvement has taken place, when the progress of the cataract has in reality been continuous, and the apparent improvement has been due to an incident in that progress.

THE ACTUAL VALUE OF ANTITYPHOID VACCINATIONS.

II.

The French, and particularly their military surgeons, seem to be strongly opposed to typhoid inoculation, for the Academy of Medicine voted against it, though they later recommended it to reduce the number and gravity of cases in the colonies where sanitation is impossible. A few still seem to think that it is dangerous in contacts in the belief that it may hasten an infection which was being overcome in the usual way of the vast majority who swallow live bacilli and in whom fever does not develop, a theory which the advocates strenuously deny. It might be well also to determine whether such an inoculation could bring out latent tuberculosis, as this disease far too often follows typhoid fever. Hachtel and Stoner (*American Journal of Public Health,* March, 1912) mention one case in which developed a fever of two weeks, and all the signs of tuberculosis of the lungs.

British and American army surgeons are under military orders to push the inoculations, and must be reluctant to oppose the authorities, for scarcely any opposition appears in English medical literature. The civil medical profession, the world over, seems to be awaiting conclusive facts.

The exclusion of typhoid from the Texas maneuvre camps last year may be credited to the same wonderful sanitation as in India, and as in other camps freed of typhoid in seriously infected territory years ago before inoculations were tried. It is a question whether there was enough infection to count as a danger in that sparsely settled land, where troops have campaigned for nearly a century without either typhoid or sanitation. Sanitation kept down all other infections, too, though the low sick report may have been partly due to the fact that the chronics who keep rates up were all left at home. Nor was it the season for typhoid and the camp was broken up when it was threatened with disease. The bad result at Jacksonville, in 1898, with which Col. J. R. Kean compares it, was largely due to the fact that the camp was not established until the typhoid season began, was in badly infected territory, and no sanitation was practised. If we remember aright, the disease was diminishing when the camp was broken up at the end of the typhoid season. Sanitation surely prevented typhoid in Texas in the early weeks before inoculation was completed, for there are always "carriers" present.

We cannot accept, therefore, the editorial opinion of the *Journal of the A. M. A.* (August 26, 1911) that the value of preventive inoculation

"has been demonstrated," but think it safer to follow Metchnikoff, who is quoted as saying that "this chapter of human vaccination is still far from being definitely settled."

The matter should be settled, but it will not be until it goes through the purifying fires of bitter criticism to burn out its errors. The truth will remain unharmed. Until then we must withhold judgment, for the only safe opinion at present is based on the general proposition that if an infection with innumerable living bacilli will not confer a lasting immunity, we cannot expect far fewer dead ones to do more than confer a minor grade of evanescent immunity on a certain percentage and at the same risk of any other toxemia. Whether it is to be recommended where sanitation is good, remains to be determined, but it seems unnecessary. Whether it is to be given to contacts or to travellers who are to go to filthy places where typhoid is difficult to avoid, must be decided in each case and on general principles.

THE LAWS GOVERNING VACCINATION.

Assistant Surgeon General J. W. Kerr, of the Public Health and Marine Hospital Service, has compiled a pamphlet on vaccination, which appears as *Public Health Bulletin No. 52,* and contains so rich a mine of information that we may be pardoned for calling the attention of our readers to this very valuable addition to medical literature. After a short introduction by the author, we find the State and Territorial laws and regulations relating to vaccination, court decisions, and a summary of some foreign vaccination laws, among them those of Cuba, England, France, Germany, Italy, and Japan.

From the introduction we learn that the first national legislative step in the United States in regard to vaccination consisted in the passage of the act of February 27, 1813, whereby the President was authorized to appoint a vaccine agent to furnish vaccine matter through the post office to any citizen who might apply for it. This act was repealed on May 4, 1822. On May 5, 1832, another act was passed providing means to extend vaccination among the Indians through the War Department. Under the Federal Quarantine Act of February 15, 1893, rules and regulations have been issued by the secretary of the treasury, requiring vaccinations, under certain conditions, of persons arriving from foreign ports and places. Finally, on July 1, 1902, the law regulating the sale of virus, etc., in interstate traffic was enacted.

As to State legislation, we find that Massachusetts, in 1809, was first to enact any law relative to vaccination. Connecticut followed in 1828, Maine about 1840, and a number of other States in the following years; New York had laws passed in 1885, Pennsylvania in 1889, and the last State, Alabama, in 1907.

The provisions relative to vaccination are many and varied, and compulsory general vaccination can be said to exist by law only in the States of Kentucky and New Mexico, and in Porto Rico, while there is an express direction in the Louisiana statutes forbidding compulsory vaccination, except in the case of children attending schools in a parish where smallpox prevails.

The pamphlet thus gives a very good review of the laws and statutes referring to vaccination.

CONCERNING PIE.

It is difficult to account for the ridicule of pie as an article of diet among the American people, unless a gradual and sensitive awakening to European customs, which do not include pie in its American form as a course either of the *déjeuner* or dinner, may serve to explain it. In its proper place pie is not only a palatable but a nutritious staple, an excellent vehicle of carbohydrates and fruit. It is not essentially indigestible, and demands only proper mastication and insalivation to insure lack of discomfort after its ingestion.

Pie crust contains only flour and lard, the latter being replaced, usually, by chicken fat by those who object to any form of pork. Delicacy of manipulation is required in the making of the crust, and such delicacy depends, paradoxically, upon great digital strength, for only the strong have a genuine lightness of touch. This is seen in the great pianists and violinists, and is one reason why women do not make good surgeons. A soggy paste, however, made by frail fingers, is only esthetically objectionable, for resolute chewing will deprive it of its terrors. We refer obviously to the homemade pie, with whose composition we are familiar, and not to the vast factory product, which bears evidences of mechanical methods in its composition, and must necessarily be put together without the personal touch indispensable in a work of art—even culinary art.

Pie has been credited with indigestibility because of its usual place in the *menu.* It is eaten generally after a meal which has already furnished complete nourishment; several ounces of carbohydrates and fat, together with the customary liberal sprinkling of sugar, are a serious addition to a meal and not a mere *entremets.* If a piece of cheese, almost pure protein, is added, there is a complete meal in itself, too frequently a superfluous one.

Pie and cheese, supplying all the necessary elements of nutrition, make by themselves an admirable luncheon for a business man or other worker; they are said to make even a good breakfast in certain sections of the country, among them one which prides itself on its intellectuality. This is very likely quite true, and derision arises only from folk custom elsewhere, always intolerant of the new and strange.

In a scientific journal discussion of the golden splendor of custard pie, or of the solid worth and respectability of mince pie (another complete meal) would be out of place, as well as tributes to other excellent varieties. But no physician need eliminate pie from the diet list of any patient to whom he allows fats and starches, if he will but counsel judicious mastication, and call the patient's attention to its highly nutritious qualities, which demand that it be led up to by great moderation in the earlier courses of the meal of which it thus becomes the crown and glory.

HOW TO SAVE THE BABIES.

Dr. H. L. K. Shaw has written a small pamphlet on the saving of babies, issued by the New York State Department of Health. It is an admirable little pamphlet, written in a style easily understood by any one reading English. It must be remembered that in New York State, during 1911, 25,152 infants died under one year of age, and 10,694 children between the ages of one and five. Dr. E. H. Porter, the State commissioner of health, in a letter accompanying the pamphlet, remarks that it is estimated that one half of these children died under preventable conditions. The booklet is at the free disposal of the mothers of the State of New York to assist them in the care of themselves during pregnancy and in the care of the baby afterward. Copies may be obtained through the local health officer or registrar, or direct from the State Department of Health at Albany, New York.

"It is not the babies born, but the babies saved, that count."

PERIOD OF INFECTION IN SCARLET FEVER.

Professor A. Baginsky, of Berlin, in *Deutsche medizinische Wochenschrift* for April 18, 1912, quotes a paper which appeared in the *British Medical Journal* for October 28, 1911, under the title, Return Cases of Scarlet Fever. The author, Doctor Moody, demonstrated that the danger of infection in scarlet fever did not consist in desquamation only. Doctor Baginsky agrees with the English author and remarks that he has observed the correctness of his view for a number of years. He cites forty-five cases from which he shows that even if these patients are kept in the hospital for forty-two days and then leave without showing any anomalies, infection in their families may be the result. These patients no longer showed desquamation; there was no nephritis, no abnormal discharge from the nose, no affection of the throat; in short, the children seemed to be well. The six weeks' seclusion of scarlet fever patients is therefore hygienically not correct, although the author is not able to say when all danger of contagion is passed, and states that this question needs thorough investigation.

EYE STRAIN.

Cobbledick, in the *Practitioner* for May, 1912, defines eye strain as an effort, mostly unconscious, entailed in struggling against a refractive error or defective muscle balance, which must be regarded as an undue wear and tear of the eyes, in as much as it prevents the optical apparatus from working at the greatest mechanical advantage. The headache caused by it is most likely to be confounded with that due to toxic absorption, neurasthenia, hyperesthesia of the nasal septum, or obstruction of the middle nasal fossa. In many cases the general health must receive attention, in addition to the correct fitting of glasses.

Medical Law.

X. THE PHYSICIAN AS WITNESS.

In the case of St. Louis So. Ry. Co., of Texas, v. Horne, an action had been brought to recover for injuries sustained by defendant in error, who, while standing on the coach platform, preparatory to descending the steps, was thrown against the platform railing by the sudden starting and stopping of the train.

Upon the trial, a physician testified to an examination of the defendant in error made by him approximately a month after the accident, and to his finding at that time a bruised place on her hip, about three inches square, and that her right ovary was very sensitive and tender, and her womb considerably enlarged and inflamed. He further testified that such a bruise in that region would, as a natural result, produce the conditions he found in the womb and ovaries.

Upon the trial a verdict was returned for the injured woman. The railroad company took an appeal, urging that it was only by the doctor's testimony that any proof was made that the condition of the womb and ovaries testified to, was produced by the hurt received in the accident, and that such testimony was without any probative force.

Mr. Justice Phillips, speaking for the court, treated this contention as follows:

> While the witness's examination of the defendant in error did not take place until nearly a month following the accident and after the suit had been filed, his testimony is that the bruise was evident at that time. That basis of his opinion was the objective conditions that, according to his testimony, then existed. It cannot be said to have been founded entirely upon subjective conditions, as urged by plaintiff in error. The contention that the witness was originally called to examine and treat the

defendant in error for the purpose of testifying as a witness in her behalf relates to his credibility. The probation force of his opinion has to do solely with the weight to be given his testimony. The jury, not this court, were the judges of both. The evidence was clearly admissible. Having been properly admitted, it raised the issue. The question then became one for the jury's determination alone; and there being evidence to sustain their finding, under the well settled rule it is conclusive upon this court.

The opposite phase of the question presented to the court in the foregoing case is shown in the case of John J. Radel Co. v. Borches, 145 Southwestern Rep. 155, where the plaintiff had been injured by being thrown out of a carriage, owned by defendant, and in the custody of its employees.

In this case, about two months after the injury was sustained, a doctor testified that he saw the plaintiff for the first time and that she exhibited to him a scar about two inches long across the top of her head, which, she said, had been received by her being thrown out of the carriage on to a spike; that she complained that since the accident, she had suffered from various nervous manifestations, dizziness, headaches, and the like. The witness further testifying said that a physician could not prove whether a woman was sleepless or dizzy, and that he had to rely upon her statements for that. This testimony, the court held to be improper and its admission error.

XI. PRIVILEGED COMMUNICATIONS.

In the case of Trieber v. N. Y. & Q. C. Ry. Co., 134 New York Supp. 267, the plaintiff, as executrix, brought an action to recover for injuries to her deceased husband, and recovered a judgment of the sum of $15,000 and costs.

Upon the trial of the case the defendant called a physician who had attended decedent some five or six years before the accident, and asked him this question, "You have testified that in 1902 or 1903 you treated Mr. Trieber. Will you state what you treated him for at that time?" The witness refused to answer, contending that it would be improper to disclose information acquired by him in his professional capacity. The court declined to compel the witness to answer unless there was an express waiver by the plaintiff. Upon the appeal, it was urged that the court below erred in not compelling the witness to answer the question. In passing upon this question, Mr. Justice Carr, speaking for the Appellate Court, said:

> While no formal objection was made by the plaintiff, there was at the same time no express waiver made, and the question remained unanswered. It is true that the privilege claimed by the physician did not belong to him, but to the patient, and could have been waived by the personal representative, the plaintiff. . . . At the same time, though technically the physician was claiming a right which he did not possess, yet a refusal by the court to compel him to answer would not, even on a trial where there had been an express waiver, be a reversible error, unless it appeared that the evidence sought was material to the question to be determined. . . .
>
> Here the question related to a condition existing some five or six years before the accident. The question was not specific enough to appear material on its face. If it was sought to show that the decedent was then permanently impaired in health, the question should have so indicated. As the question was put, the answer might disclose something of no importance whatever to the question of damages. To say that the failure of the court to compel the witness to answer this question was against the ends of justice on this inquisition of damages, would require some speculation as to what the answer would have been, and we are not at liberty to resort to speculation in order to reverse the decision of the court which presided over the inquisition.
>
> Moreover, there was here no express waiver. Some colloquy took place between the respective counsel, but it is clear that the plaintiff and her counsel did not intend to waive the provision of section 834 of the Code of Civil Procedure.

XII. MISCELLANEOUS REGULATIONS AND MATTERS.

In the case of Modern Woodmen of America v. Miles, 97 Northeastern Rep. 1009, the payment of a benefit was contested on the ground of an untruthful answer to one of the questions contained in the application, which was signed on September 27, 1906. Question (14a) was, "Have you, within the last seven years, been treated by, or consulted any person, physician, or physicians in regard to personal ailment?" To which the decedent answered, "no."

The uncontradicted evidence showed that in June, 1906, decedent called at a doctor's office and told the doctor he had a headache, and the doctor gave him a dozen antikamnia tablets, for which he made a charge of fifteen or twenty cents. The doctor made no examination of decedent, and asked him no questions about the headache complained of. On cross examination, the doctor said that decedent frequently came to his office to get medicine for other members of his family, and he did not remember whether or not it was on one of such occasions that he complained of headache, and received the tablets. The doctor further testified that every one had headaches more or less, and anything that puts the circulation out of order will cause them.

The society contended that decedent's answer to this question was false and constituted a breach of one of the warranties. The trial court was not seriously impressed by this contention and gave judgment for the beneficiary from which the society appealed.

The Appellate Court, after examining the definitions of the words "ail," "consult," and "treat," expressed the opinion that the facts shown by the testimony did not constitute a treatment for an ailment. Moreover, the court, after considering other features of the contract, stated: "We are of the opinion that the correct rule applicable to questions of this character is that the disorder, to constitute a breach of warranty, must be of a substantial nature and not a mere temporary functional indisposition; and consequently the lower court did not err in its decision of this question."

News Items.

Changes of Address.—Dr. John Randolph Page, to 127 East Sixty-second Street, New York.

Dr. Henry Iskowitz, to 58 West Fifty-eighth Street.

Personal.—Dr. David Reisman and Dr. Joseph Sailer have been appointed professors of clinical medicine in the University of Pennsylvania.

Dr. Frederick H. Pratt, of Boston, has been appointed professor of physiology in the medical department of the University of Buffalo, to succeed Dr. F. C. Busch, who resigned recently.

Passed Assistant Surgeon R. W. McDowell, U. S. N., has been detailed to take charge of physical training and athletics at the Naval Academy, Annapolis, succeeding Surgeon J. A. Murphy.

The American Academy of Medicine will hold its thirty-seventh annual meeting in Atlantic City, N. J., on Friday, Saturday, and Sunday, May 31st, and June 1st and 2d, with headquarters at the Hotel Denis. An interesting feature of an excellent programme is a symposium on the medical problems of immigration, which will be held on Saturday morning. The officers of the organization are: Dr. Alexander R. Craig, of Chicago, president; Dr. W. Blair Stewart, of Atlantic City, Dr. Albert Goldspohn, of Chicago, Dr. Ray Lyman Wilbur, of San Francisco, and Dr. Arthur E. Hertzler, of Kansas City, Mo., vice-presidents; Dr. Charles McIntire, of Easton, Pa., secretary and treasurer.

The Railway Surgeons' Association, of Pennsylvania Lines East of Pittsburgh will meet in annual session at the Hotel Marlborough-Blenheim, Atlantic City, N. J., on Friday and Saturday, May 31st and June 1st. The programme includes papers by Dr. John B. Murphy, of Chicago, Dr. J. William White, of Philadelphia, Dr. J. B. McCurdy, of Pittsburgh, Dr. S. L. Olsho, of Philadelphia, and Dr. H. T. Lemon, of Washington, D. C. The association's annual banquet will be held on Saturday night. The officers of the organization are: President, Dr. L. T. Bremerman, of Downingtown, Pa.; vice-presidents, Dr. E. B. Heckel, of Pittsburgh, and Dr. A. C. Harrison, of Baltimore; secretary, Dr. A. W. Colcord, of Clairton, Pa.; treasurer, Dr. E. H. James, of Harrisburg, Pa.

American Medicopsychological Association.—The sixty-eighth annual meeting of this organization, which was formerly called the Association of Medical Superintendents of American Institutions for the Insane, will be held at the Marlborough-Blenheim Hotel, Atlantic City, May 28th, 29th, 30th, and 31st, under the presidency of Dr. Hubert Work, of Pueblo, Colo. A short executive session will be held each morning at 10 o'clock, and the rest of the time will be devoted to the reading and discussion of scientific papers. An interesting feature of an excellent programme is an exhibit of photographs and work of patients in the reeducational classes at various State hospitals. Dr. James T. Searcy, of Tuscaloosa, Ala., is vice-president, and Dr. Charles G. Wagner, of Binghamton, N. Y., is secretary and treasurer.

Clinical Conference at Randall's Island.—The attending staff of the Children's Hospitals and Schools on Randall's Island held a clinical conference on Monday afternoon, May 20th, to which practitioners were invited. Several cases of idiocy were shown, including microcephalics, hydrocephalics, mongols, and cretins, and a demonstration was made of the ocular findings in amaurotic family idiocy and in cretinism. An imbecile was shown with paralysis caused by an attack of poliomyelitis, also several cases of cerebral diplegia which had been improved by dorsal root sections. Some of the fallacies of the high enema were exposed, and a paper on the morbidity and mortality of the feebleminded was read. A case of empyema of the accessory nasal sinus in a child, with operation and recovery, was shown. Several cases of Pott's disease of the spine were presented, in braces and plaster jackets, and on Bradford frames. Many showed most satisfactory results. A case of onychogryphosis in a child was shown and an extensive tuberculosis of the skin. The conference lasted two hours and was followed by a collation.

Dinner to the Staff of the German Poliklinik.—On its twenty-ninth anniversary the board of trustees gave a dinner to the staff of the German Poliklinik, Saturday, May 17th, in the Café Boulevard; fifty-four attended and Dr. Ludwig Weiss presided. Of the trustees present there were Dr. Ludwig Weiss, president; Dr. H. J. Boldt, vice-president; Dr. Louis Haupt, treasurer; Dr. S. Breitenfeld, secretary; and Doctor von Ramdohr, Doctor Mathews, Doctor Busche, Doctor Pfister, Doctor Kreuder, Doctor Schwerd, Doctor de Kraft, Doctor Rottenberg, and Doctor Bennecke. The president, acting as toastmaster, related the history of the institution, and how from a small beginning had developed one treating 75,000 patients annually, and of great financial strength. This Doctor von Ramdohr said, was because the institution was managed by physicians. Great work by the Ladies' Auxiliary had been accomplished under the able administration of its honorary president, Mrs. Ludwig Weiss, who received a vote of thanks. Doctor Bassler said that the great wealth of clinical material should be employed for instruction; under the charter possessed, this could be done as an undergraduate or postgraduate school, or in affiliation with one of the teaching institutions.

Civil Service Examinations.—The New York State Civil Service Commission will hold an examination on June 15th for the position of medical interne, State hospital service; salary, $600 and maintenance. There will also be an examination for the position of health officer and inspector, Canandaigua village service; salary, $400 per annum.

The American Otological Society will hold its forty-fifth annual meeting at Atlantic City, N. J., on June 10th and 11th, with headquarters at the Hotel Chelsea. Thirty papers are listed on the programme, and the meeting gives promise of being interesting and instructive. Dr. Edward B. Dench, of New York, is president of the society; Dr. Charles W. Richardson, of Washington, D. C., vice-president, and Dr. James F. McKernon, of New York, secretary and treasurer.

Northern Medical Society of the City of New York.—A meeting of this society will take place at 12 Mount Morris Park West (near 121st Street) on Tuesday, May 28th, at 8:45 p. m. sharp. The following papers will be read: True Neurasthenia from the Freudian Point of View, by S. A. Tannenbaum, M. D.; Rice in the Dietary of the Diabetic, by Heinrich Stern, M. D.; Gonnorrhea *vs.* Tobacco, Alcohol, and Sexual Intercourse, by William J. Robinson, M. D. De Witt Stetten, M. D., secretary, 115 West Eighty-seventh Street.

American Society of Tropical Medicine.—A preliminary programme has been issued for the ninth annual meeting of the American Society of Tropical Medicine, which will be held in Atlantic City on Monday, June 3d, with headquarters at the Hotel Rudolf. There will be two sessions, one in the morning and one in the afternoon. The first item on the programme is the address of the president, Dr. Joseph H. White, of New Orleans, his subject being The Eradication of Malaria. The chief feature of the afternoon's programme will be a general discussion on beriberi.

Annual Meeting of the National Tuberculosis Association.—Preliminary programmes have been issued for the eighth annual meeting of the National Association for the Study and Prevention of Tuberculosis, to be held in Washington, D. C., on May 30th and 31st. These programmes will be sent upon request at the office of the association, 105 East Twenty-second Street, New York. The National Conference of Tuberculosis Secretaries will have a special session on Friday afternoon devoted entirely to problems confronting the various field workers in the antituberculosis campaign. There will be two interesting sessions of the Sociological Section, two sessions of the Clinical Section, one of the Pathological Section, beside what promises to be a very helpful session of the Advisory Council. The officers of the association are: Dr. Mazyck Ravenel, of Madison, Wis., president; Mr. John M. Glenn, of New York, and Dr. G. Walter Holden, of Denver, vice-presidents; General George M. Sternberg, treasurer; Dr. Henry Barton Jacobs, of Baltimore, secretary; Sir William Osler and the Hon. Theodore Roosevelt, honorary vice-presidents. Dr. Livingston Farrand, of New York, executive secretary; Dr. Philip P. Jacobs and Dr. Thomas Spees Carrington, assistant secretaries.

American Laryngological, Rhinological, and Otological Society.—More than two hundred specialists in the treatment of diseases of the ear, nose, and throat, attended the eighteenth annual convention of the American Laryngological, Rhinological, and Otological Society, in Philadelphia, on May 13th, 14th, and 15th. In addition to an excellent programme of papers, which brought out very interesting discussions, a number of clinics were held for the visitors in the Philadelphia hospitals. Among these was one by Dr. Greenfield Sluder, of St. Louis, at the Polyclinic Hospital, where he demonstrated his method of tonsillectomy by means of a guillotine, and one by Dr. James A. Babbit, of Philadelphia, at the Children's Hospital. Officers were elected as follows: President, Dr. H. Holbrook Curtis, of New York; secretary, Dr. Thomas J. Harris, of New York; treasurer, Dr. Ewing W. Day, of Pittsburgh; council, Dr. G. Hudson Makuen, of Philadelphia; Dr. E. Fletcher Ingalls, of Chicago; Dr. Harris P. Mosher, of Boston; Dr. James F. McKernon, of New York; Dr. Joseph A. White, of Richmond, Va.; Dr. Norton L. Wilson, of Elizabeth, N. J.; Dr. Chevalier Jackson, of Pittsburgh; Dr. Max A. Goldstein, of St. Louis; Dr. Arthur B. Duel, of New York.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL

May 9, 1912.

1. W. W. Keen: Influence of Antivivisection on Character (Concluded).
2. Maurice Veljux Tyrode: Technique of Gastrointestinal Therapy.
3. George King: Intensity of Acidity of Urine in Children.
4. Newell B. Burns: Respective Significance of Rest and Exercise in Phthisis.
5. Carl C. MacCorison and Newell B. Burns: Recording Exercise Data in Sanatorium for Consumptives.
6. Arthur L. Grover: Value of Russo's Typhoid Fever Test.

2. Gastrointestinal Therapy.—Tyrode has developed a systematic method of treatment which includes dietetic, physical, medicinal, and psychical therapeutics. The first two are the most important, the medicinal third. Fixed diet lists are impracticable; the main principles in the diet are to increase or decrease body weight according to the state of nutrition; to relieve the irritation of certain parts or the whole of the gastrointestinal tract; to increase or decrease the bulk of fecal residue and watery contents of the same; and to change the nature of bacteriological action in the intestines, i. e., to check a pathological putrefaction or fermentation. After a thorough physical examination has been made, the twenty-four hours' quantity of urine and feces on a known diet is collected and examined; sometimes the stomach test is made after a test meal, and then the character of the diet, hours, exercise, baths, etc., are prescribed in accordance with the findings. Considerable space is given to a consideration of the food. Physical therapy includes exercise, massage, baths, injections, suppositories, and electricity. Psychotherapy is needed to dispel fear, instill hope, and counteract prejudices. Drugs considered are bromides, narcotics, local anesthetics, atropine group, alkalies, salts, astringents, intestinal disinfectants, laxatives, oil and petroleum agaragar, gelatin, acids, and tonics. Then follow examples of prescriptions, explanatory notes, and a copy of the régime blank. The article should be read in the original.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

May 11, 1912.

1. S. J. Meltzer: Pharyngeal Insufflation, a Simple Method of Artificial Respiration.
2. Martin F. Engman: Pathogenesis of Placental Syphilis.
3. William A. White: Study of Mind in Medical Education.
4. F. Kreissl: Relation of Chronic Gonorrhea and Other Infections in Urinary Tract to Joint Disease.
5. Richard Cole Newton: Present Nonmedical Treatment of Tuberculosis not New.
6. Charles W. Duval and Creighton Wellman: New and Efficient Method of Cultivating Bacillus Lepræ from Tissues. Different Strains of Acid Fast Bacilli Found in Leprous Lesions.
7. John B. Murphy: Contribution to the Surgery of Bones, Joints, and Tendons (*Concluded*).
8. James W. Sever: Tendon Transplantation and Silk Inserts.
9. Charles A. Powers: Ischemic Paralysis and Contracture of Volkmann.
10. W. F. Beerman: Meningeal Carcinomatosis.
11. Robert E. Soule: Arthrodesis of Some Smaller Joints in Treatment of Paralytic and Acquired Deformities.
12. Miles F. Porter: Possible Dangers of Vertical Rectus Incision.
13. Micajah Boland: Rudimentary Clavicles.
14. Carl H. Davis: New Blood Pressure Manometer.
15. R. C. Bryan and F. R. Ruff: Modification of Crile Transfusion Cuff.
16. Frank J. Hirschboeck: Supernumerary Axillary Mammary Gland.

1. Pharyngeal Insufflation.—Meltzer has evolved, after a series of experiments on four species of animals, a new and simple method of artificial respiration. The method consists in, 1, the introduction of a catheter (22 F.) into the pharynx; 2, the introduction of a tube into the stomach; 3, pulling out the tongue; 4, pressing the suprahyoid region against the roof of the mouth; 5, connecting the pharyngeal catheter with a bellows. The pharyngeal catheter should be introduced after the introduction of the stomach tubes, about 5.5 inches behind the teeth. The tongue should be pulled out and held by a tongue forceps. Then a pad about one inch long and one inch thick, made of gauze, cotton, or other material, should be placed under the chin on the suprahyoid region and pressed upward by means of a bandage or a folded handkerchief, tied at first only moderately firmly, over the head. The bandage over the head should be tied about over the posterior part of the parietal bones. The stomach tube should not be too small in diameter, should have two lateral openings near its end, and should be introduced at least sixteen inches behind the teeth (instead of the stomach tube a weight of twelve or thirteen pounds over the abdomen may be used; or, both tube and weight may be used together). The bellows is now connected with the pharyngeal catheter and compression begun, making from ten to twelve compressions a minute, and beginning with gentle compressions. The compression of the suprahyoid bandage should be adjusted so that the escape of air from the mouth becomes possible and easy.

2. Pathogenesis of Placental Syphilis.—Engman is of the opinion that the latent syphilitic mother is a spirochete carrier. These spirochetes appear, now and then, in the blood stream, and settle at various points of physiological or pathological disturbance. This explains the phenomena of parental syphilis. Paternal inoculation of the embryo does not appear probable to the writer, who does not entirely dismiss this theory, as the semen, in some instances, has been found to contain spirochetes.

3. Study of Mind in Medical Education.—White desires to emphasize the necessity for the study of mind as a preparation for the practice of medicine. He believes that the student should know as much about the human mind as he does of any organ in the body, and that the mind comports itself very much the same as any organ. The good results of the charlatan and mountebank are obtained by an effect on the minds of their patients. The general practitioner neglects this fertile and profitable field, because he refuses to acquaint himself with psychotherapeutic means and measures, and further because the medical schools have neglected to teach him the structure and functions of the mind.

5. Present Nonmedical Treatment of Tuberculosis not New.—Newton has proved his statement by quoting from the writings of Celsus in the first century A. D., from Thomas Sydenham (1624) and his nephew Lawrence, Brady, Buchan, Beddoes (1799), Barry (1726), and others. With Sydenham he finds that "the new things in medicine are the things that have been forgotten."

8. Tendon Transplantation and Silk Inserts.—Sever gives a description of the present methods for restoring tendons, tendon transplantations and silk inserts, the operative technique of each, and the causes of failure. He finds that tendon transplantation *per se* is at times useful, but that when the ten-

dons are lengthened or reinforced with silk they are stronger and can be used to better advantage These inserts are made with silk or linen thread, through which the growth of new tissue will penetrate and permeate only slightly (in some cases not at all), without absorbing it. It has been found that some foreign body, to serve as a director for the new growth, is necessary when the peritendineum and tendon sheath have been removed; when the latter are present and sutured no foreign body is needed, and in this case the new growth is true tendon tissue, which is not the case in the former instance. When silk has been used to replace the restricted portion, the new "tendons" are apt to be larger and stronger than those resected. In these operations adhesions are usually avoided, provided the sheath and the peritendineum are preserved and early function is allowed. Without the sheath, adhesions are more frequently seen.

11. **Arthrodesis of Smaller Joints in Treatment of Paralytic and Acquired Deformities.** — Soule defines arthrodesis as a transforming a movable into an immovable articulation by ankylosing the contiguous bones after removing the articulating surfaces. He advises this operation only when the deformity is permanent, and not due to temporary paralysis or muscle strain. Operation should not be done on a patient under eight years of age, and in operating the contiguous bones should be mutilated as little as possible. A curette should not be used. Make a flush joint, correcting the deformity, and apply a fixed dressing which shall allow of little or no separation of the opposed denuded bony surfaces.

MEDICAL RECORD.

May 11, 1912.

1. Henry W. Berg: Some Clinical Features of Scarlatina.
2. Ira Van Gieson and H. L. Lynah: Creosote and Calcium Medication in Respiratory Affections in Children and in Pulmonary Tuberculosis. Russell's Generalizations in Tuberculosis.
3. B. G. R. Williams: Oxaluria Dolorosa.
4. C. N. Haskell: Mortality of Indifference.
5. James R. Mitchell: Basic Cause of Flatfoot.
6. E. Mather Sill: How May We Better the Condition of the Growing Child?

1. **Some Clinical Features of Scarlatina.**— Berg calls our attention to the aid that clinicians receive from the consideration of the temperature, pulse, and respiration in scarlet fever. The temperature curve reveals not only the severity of the infection, but the approximate day of the disease during the eruptive stage, and furthermore the presence of a complicating condition. The reliability of these characteristic temperature curves in uncomplicated cases demonstrates the importance of making an accurate graphic record of the febrile movement, because any extensive rise or fall from the level maintained during the fastigium, or a rise interrupting the progressive lytical resolution indicates an intercurrent or complicating condition and not an essential part of the scarlatina pyrexia. Lysis in scarlatina begins on the fifth or sixth day, so that if a febrile case shows the beginning of lysis on the second day thereafter, we know that the case was four days old on admission. Again, the existence of a complication is revealed by a sudden rise during the lytical stage, the character of the complication being frequently revealed by the temperature curve, and the changes in the pulse and respiration rate. A somewhat septic curve with increase in pulse and respiration would point to bronchopneumonia; a cardiac complication would be suspected from a suspension of the lytical temperature curve with greatly increased pulse rate and a moderate increase in respiration; a meningitis or meningismus attending an otitis media or mastoiditis is frequently indicated through an interruption of the stage of lysis by an increase of fever of septic character coupled with a lower pulse rate than is usual at the height of the fever, although it might also indicate the presence of an acute glomerular nephritis. Nephritis is not as frequent in hospital cases as in private practice for two reasons: The patient is kept strictly in bed until desquamation is almost complete and is kept on a fluid diet until he has well passed the stage of acute symptoms.

5. **Basic Cause of Flatfoot.**—Mitchell finds that flatfoot has been steadily on the increase until at the present time one half the adult population is affected in a lesser or greater degree. Of 123 army candidates recently examined, only twenty-two had normal feet. The United States Army rejects more men for flatfoot than for any other single cause, indeed it constitutes forty per cent. of all causes. The premonitory signs of this affection are clues to the cause. Pain and stiffness in the calves of the legs, much worse in the morning on arising, lasting perhaps for a half hour, and disappearing entirely after a short walk. This pain, often treated as rheumatism, is a symptom of a broken arch. An examination of the foot reveals an inability to flex it to more than a right angle to the long axis of the tibia. This pain and resistance depend upon a rigid gastrocnemius—an attempt by Nature to enforce rest of the foot by spasticity of muscle. An outline of the foot on greased paper confirms the diagnosis, while slight displacement of the bones may be shown by an x ray picture. The basic cause of this condition is a slow absorption of calcium salts from the bones of the foot, an evidence that the nation is suffering from lime starvation. Bones are subject to mineral abstractions according to the necessities of the blood. The blood needs calcium in a certain proportion (one to 10,000, Ringer) to maintain the heart beat, and if the ingested food furnishes to the blood sufficient lime to replace the amount lost daily in the urine, etc., the tissues remain intact, otherwise the blood takes it up from the bones, teeth, or nerves. The blood comes first and the heart beat exceeds in importance the integrity of the other tissues. Cure in the late stages is impossible. Our only hope is in prophylaxis. A diet rich in lime salts, the avoidance of decalcifying acid food, and the drinking of water known to contain the physiological minerals.

LANCET-CLINIC.

April 6, 1912.

1. W. S. Harpole: Preventive Vaccination against Typhoid Fever.
2. D. M. Hall: Importance of Early Diagnosis of Chronic Kidney Inflammations.
3. L. D. Brose: Supraorbital Pain: Its Significance.
4. A. Ravogli and Charles Goosman: Histopathological Studies on the So Called Osteoma Cutis.
5. W. W. Vinnedge: Protracted Intervals between Births of Twins.

April 13, 1912.

6. L. H. Newburgh and Paul G. Wooley: Effects Produced by Numerous Injections of Indol and Tyrosin in Experimental Animals.
7. William Fuller: Features Essential to Success in Operative Treatment of Fractures.
8. J. C. Larkin: Clinical Experiences with Typhoid Fever.

9. L. K. Hirschberg: Prophylactic and Anaphylactic Medicine.
10. Tom. A. Williams: Crossed Hemidysergia and Tremor, with Asynergia of Binocular Movements.

April 20, 1912.

11. Bransford Lewis: Diagnosis of Prostatic Obstruction.
12. Robert C. Bryan: Cancer of Prostate.
13. Truman W. Brophy: Cleft Palate.
14. Wm. Britt Burns: Gunshot Wound of Spinal Cord.
15. David A. Willmoth: Diagnosis in Important Surgical Conditions in Upper Abdomen, with Special Reference to Gastric and Duodenal Ulcers.
16. W. T. Thackeray: Patent Laws of the United States as They Apply to Medicines and Chemicals.

April 27, 1912.

17. Hugh Cabot and George G. Smith: Influence of Stricture of the Urethra on Development of Hypertrophic Changes in Prostate.
18. Thos. D. Coleman: General Management of Tuberculosis.
19. L. K. Hirschberg: Artificial Immunity to Spermatozoon of Same Species in Guineapig.

2. Early Diagnosis of Chronic Kidney Inflammations.—Hall impresses the fact that there are some cases of chronic nephritis curable if diagnosis is made sufficiently early, and if properly treated. The percentage of curable cases, although small, is more than most authorities are willing to allow. In chronic parenchymatous nephritis the interstitial tissue changes consist in the presence of little foci of productive exudate rich in cells scattered throughout the intertubular connective tissue, unequal in distribution, areas of normal kidney tissue being in juxtaposition with diseased portions. Some of the glomeruli and tubules are also found in a nearly normal condition, and in many instances actually hypertrophied. A histological examination of the kidney shows that each glomerulus with its tubules and vascular supply is to all intents a completely independent excreting apparatus, the activity of whose function is not affected by any change going on in its neighbor. Again, it may be taken as axiomatic that no organ in the body is normally taxed to its utmost working capacity. Therefore, it is reasonable to suppose that the healthy portion of a kidney can take up and do the work of the diseased portion, providing the diseased portion is small in extent. The capacity of the kidney for double work is shown after surgical removal of one kidney, the other doing the work of both as evidenced by the patient's health. There is a limit to the amount of work each organ can do, and passing beyond this limit, it fails. Early diagnosis is therefore important, while much healthy tissue still remains. Those with autointoxication of intestinal origin should adhere to a rigid diet, never overeating or eating anything indigestible, keeping the bowel clean by the use of saline purgatives, avoiding the use of alcoholics in all forms. A regular life, with moderate daily exercise and a care against exposure to cold or dampness conclude the recommendations.

13. Cleft Palate.—Brophy insists that congenital cleft palate is not the result of arrested growth of the palate, nor absence of a portion of the palatine tissue. He recognizes two causes operating at times singly, sometimes together: Heredity, and force in embryonal life and the presence of supernumerary teeth. Regarding force, it is easy to see, in a case of congenital cleft palate, together with hare lip, that the mandible, which serves as a wedge, making pressure against the inclined planes forming the arch of the maxilla, and forces the bones apart. In the preparation of a patient for palatal operation, adenoids and hypertrophied tonsils should be removed and the parts allowed to get entirely well and the pharyngitis to subside, after which the viscid secretions about the nose and pharynx are removed by antiseptic solutions used in spray or by irrigation. The operation is done in three stages in complete cleft of the palate with single hare lip. First the bones are closed within the first three months, preferably within the first month. The second step consists in closing the lip from four to eight weeks later. Last, the soft palate is closed at fourteen to sixteen months of age (this applies in case of cleft palate unaccompanied by hare lip). Avoid all materials for sutures that are absorbent or retain secretions, and use only silver wire, lead plates, and horse hair.

17. Influence of Stricture of Urethra on Development of Hypertrophic Changes in Prostate.—Cabot and Smith divide their cases into three groups. In thirty-one cases out of forty-seven their evidence depends upon the demonstration of stricture by operation and the evidence of instrumental and digital examination that the prostate was not enlarged. In thirteen cases operation demonstrated the presence of stricture, and the absence of hypertrophy was inferred from an entire relief of symptoms which had been present for several years. A third group of three cases of stricture proved at operation and the presence of some enlargement of the prostate demonstrated by autopsy or cystoscopy. The writers explain how the presence of urethral obstruction due to stricture may act in preventing hypertrophy. Dilatation of the urethra occurs behind every stricture sufficiently narrow to cause marked obstruction to urination, being most marked in the more distensible portions, such as the bulb, and least marked in portions surrounded by muscular tissues constantly in a state of tonic spasm, as the cut off muscle and the prostatic urethra. Behind these strictures there is always residual urine, the partial decomposition of which causes a catarrhal urethritis and, as a sequence, a catarrhal prostatitis, which, acting together, tend to produce round cell infiltration, scar tissue, and finally a fibrous contracted condition. The high percentage of atrophied sclerosed prostates and the comparatively frequent contracture of the neck of the bladder are accounted for in this way. As in the development of prostatic hypertrophy the presence of stricture is antagonistic by reason of the chronic prostatitis which it causes, the absence of prostatic hypertrophy may be inferred in any case of stricture of the urethra in later life; the recognition of this fact, although insufficiently understood, is important in the treatment of retention of urine in later life; the management of retention of urine due to stricture, and that due to prostate, is radically different and has a markedly different prognosis.

BRITISH MEDICAL JOURNAL

May 4, 1912.

1. W. A. Lane: Chronic Intestinal Stasis.
2. L. G. J. Mackey: Infection of Urinary Tract by Bacillus Coli.
3. E. S. Bishop: Correlation and Distinction between Certain Symptoms in Some Abdominal Diseases.
4. E. Owen: Appendicitis—and Quickness.
5. F. D. Telford: Retroperitoneal Perforation of the Duodenum

6. H. T. Gray and L. Parsons: Mechanism and Treatment of Shock (*Lecture I; Part 2*).

1. Chronic Intestinal Stasis.— Lane gives us a further discussion of evidence of the far reaching deleterious effects of chronic stasis, in which he expresses the opinion that both tuberculosis and rheumatoid arthritis are in great measure dependent upon its existence for their development and progress. As a result of his operation for short circuiting the intestinal contents he has seen the most remarkable benefit in these diseases, both local and general. The benefit seems to be proportionate to the duration of the disease and the presence of organisms other than those peculiar to each. Nothing is more striking than the way the patients gain in weight after the operation when the action of the intestinal tract becomes efficient. The mechanism of the stasis is the production of a kink at or near the ileocecal junction through adhesions formed in the peritoneum, a ligamentous action of the appendix, or through overloading of the atonic small intestine, which falls into the pelvis and is constricted as it passes up over the brim to reach the cecum. The obstruction to the passage of the intestinal contents from the ileum produces a train of secondary effects, among which may be mentioned excessive absorption of toxic material, degeneration of remote tissues from the action of these toxines, damming back of the contents, and obstruction to the duodenum by the drag of the overloaded jejunum, ulceration of the duodenum as a result of the chronic engorgement, and infection of the pancreatic and biliary ducts with the formation of gallstones, the development of pancreatitis, and even of cancer of the liver, gallducts, pancreas, stomach, or duodenum. The remedy for this chronic intestinal stasis is the relief of the condition causing the kink, usually surgical. The means to be adopted have been described in full in previous papers by Lane and others.

2. Infection of Urinary Tract by Bacillus Coli.—Mackey has made careful bacteriological studies upon the identity of the various organisms which belong to the coli group and which are to be found in infections of the urinary tract. He finds that there are four main groups: *Bacillus acidi lactici, Bacillus coli, Bacilli Friedlaenderis* and *neapolitanus,* and *Bacilli clocæ* and *lactis aerogenes.* Of these four types there are many different strains, difficult to differentiate, but to be distinguished by elaborate cultural means. Clinically, however, it is to be noted that all produce much the same train of symptoms, which is now so well known. The importance of these observations lies in the fact that they serve to explain the failures of vaccine treatment in so many cases in which stock vaccines have been employed. Further, Mackey observes that the organism present is in the great majority of cases in pure culture, hence the preparation of autogenous vaccines becomes a simple matter. In any case it is better to make a vaccine from the organism or organisms grown from the patient's own urine, even though the precise identity of the infecting agent cannot be readily made. Mackey reports the results of vaccine treatment of some 10 acute and 29 chronic cases of colon infection, in the majority of which the outcome was very favorable.

6. Mechanism and Treatment of Shock.— Gray and Parsons continue their lectures with a discussion of shock values and shock index. The actual height to which the blood pressure rises as a result of the stimuli of an operative procedure, is not the main factor in controlling the onset of pressor fatigue, though it is to a certain extent an indication of the violence of the stimulus. If a given series of stimuli is applied in a region in which the pressor fibres are in excess of the depressor, the blood pressure will show a step ladder rise, whereas the same stimuli will produce a temporary rise followed by a more marked fall (the phenomenon of "spikes") in the blood pressure curve, if applied in a region in which the depressor fibres preponderate. Therefore, to each region or organ may be assigned a "shock value" dependent upon the relative preponderance of one or the other of the two types of afferent vasomotor fibres. A study of the shock values of the several regions and tissues of the human body has led the authors to the observation that, "those parts which are physiologically the most active, contain the largest proportion of depressor fibres in their nerve supply, are the most immune from bacterial infection, and show the highest shock value; such structures are deep seated, and anatomically protected against injury. The converse is equally true." The total rise in blood pressure under the influence of repeated stimuli gives some idea of the resistance of a structure to pressor fatigue, and the number of spikes observed in the pressure curve gives some idea of the likelihood of depressor stimulation. As the stimulus of a given operation, however, is not a fixed quantity, but varies with the individual surgeon, this must be represented by the variable x. The duration of the stimulus increases the shock value of an operation. From these factors a rough shock index may be worked out for any given operation; thus x multiplied by the number of depressor spikes, multiplied by the duration, is to be divided by the total rise in pressure, multiplied by 100. Thus an operation for the cure of hernia gives an index of $0.003x$, while that for excision of the hip joint gives $0.09x$ in cases observed. The index for the same region of the body may vary, depending upon the violence of the stimulus and its duration. In the consideration of regional shock values Gray and Parsons find that lumbar puncture with the removal of fluid, and the opening of the cranium below the tentorium, cause a rise in blood pressure from stimulation of the cerebral vasomotor centres due to the inrush of blood into the cerebrum and the improvement of the cerebral circulation. This sudden stimulation may be excessive and result in the production of respiratory failure. Above the tentorium the fall in blood pressure which results from the relief of endocranial pressure is purely a passive mechanical vascular phenomenon and is not related to true shock. A pressor type of blood pressure response accompanies injuries to the protective coverings of the brain or operations involving them; viz., the scalp, skull, and membranes. The relationship of the resistance to infection and the shock value does not hold good in the case of the scalp, for this structure seems to have acquired a particularly high resistance to infection.

LANCET

May 4, 1912.

1. C. A. Gibson: Cardiac Debility and Cardiac Dilatation.
2. E. E. Goldmann: Cellular Activity.
3. G. R. Murray and F. A. Southam: Ligneous Thyroiditis.
4. M. Smart: Treatment of Muscular and Joint Injuries by Graduated Contraction.
5. W. Armstrong: Spa Treatment of Neuritis.
6. Mary A. Williams: Temperatures of One Thousand Children.
7. G. S. Banks: Family Susceptibility and Virulence in Scarlet Fever.
8. R. A. Lyster: Organization of an Antituberculosis Crusade.

2. Cellular Activity.—Goldmann has applied the methods of *intra vitam* staining, in improved form, to a study of certain phases of cellular activity in the maternal and fetal tissues of pregnant rats. He has employed such stains as isamine blue, which has affinities for certain granules of certain specific cells, wandering and associated with the production of new fibrous tisue and with phagocytic powers; osmic acid for the differentiation of hemoglobin; and others. The methods are given in detail. By following the blue stain and correlating the results of chemical tests of the nature of the contents of the stained cells with their locations he has been able to trace the mode of transfer of some of the nutritive materials from the mother to the fetus in the placenta. He finds that glycogen is transferred in two ways. First, through the agency of the specifically staining cells mentioned above, which are abundant in the vitelline membrane. The villi of this membrane float in the blood spaces of the placenta and the cells take up the glycogen from the maternal blood. This he terms the direct method. The indirect is through the agency of specially formed glycogen carrier cells, which arise from the elements of the uterine bloodvessels, wander into the substance of the placenta, and give up their glycogen to the fetal cells that form an inner coat to the maternal blood spaces and an outer one to the fetal capillaries. In both cases the glycogen undergoes some modification in the fetal elements of the placenta before it enters the fetal circulation. Fat is brought to the placenta by the blood stream and is not formed there as has been held. The fat which thus finds its way into the blood spaces is taken up by the fetal cells which form the walls of the spaces. Here the fat undergoes a metamorphosis, but it can be traced into the fetal capillaries, where it is found in droplets lining their walls, and also encased in the same cells which played so important a rôle in the carrying of glycogen. Thus fat as well as glycogen is transferred from the mother to the fetus through the agency of those cells which take up the blue stain *intra vitam*. Minute iron granules can be found in the nucleated red cells of the fetus wherever hemoglobin is beginning to form. This is seen chiefly in the fetal capillaries of the inner layers of the placenta. From studies of this location with the aid of osmic acid, Goldmann has come to the conclusion that fetal hemoglobin is derived from the maternal, but is manufactured in the placenta, carried thence by the young red cells, and given up to the fetal tissues, the red cells returning to the placenta much paler than when they left it. He has even carried his studies to the question of the distribution of the nutritive materials in the formative period in the embryo. He finds that so soon as the traces of the heart begin to appear, the glycogen is attracted to the primitive cardiac musculature where it is deposited. The epithelial cells of the primitive respiratory alveoli also exert an attraction for the glycogen. In the later stages glycogen is seen to be a staple component of certain tissues as the protoplasm of ossifying cartilage and that of striped muscle, whereas the hematopoietic organs, such as the liver and spleen, do not take up much glycogen until a later period. Such *intra vitam* methods of study opened up new fields outside the realm of the embryo, and Goldmann has entered some of these. He is able to show that there is a fundamental difference between the avian and bovine tubercle bacilli by staining in the injected mouse. Their distribution is different, and upon this in part depend the differences in their virulence. Open lymphatic connection can be shown to exist between the peritoneal cavity and the lymph spaces in the liver and spleen. In injuries, inflammations, and about neoplasms, the wandering cells which have the blue granules are abundant. These cells contain an abundance of glycogen and it can be shown that by the production of liver lesions in mice which decreases the animal's supply of glycogen the growth of neoplasms can be largely inhibited, suggesting that these wandering cells may be the means of carrying the nutriment to the cancer cell or to the healing tissue in the case of injuries.

6. Temperatures of One Thousand Children.—Williams has compiled her statistics from observations of school children subjected to examination as a routine measure. The diagnosis was made in each case without the knowledge of the temperature of the child. The temperatures were all very carefully taken, the thermometers being held in the mouth for ten minutes. Of the entire 1,000 the maximum percentage of the children had a temperature of 100° F.; the next highest percentages were those with 99.6° and 99.8° F. Only 13.5 per cent. had temperatures under 99°, while 55.5 per cent. had temperatures not under 99.6°. Among the children not suspected of having tuberculosis, rheumatism, or tonsillitis, the maximum percentage had temperatures of 99°, with the two next at 98.4° and 99.2°. Among those with definite clinical signs of pulmonary tuberculosis, the highest percentage of children had temperatures at 100°, and only 11.3 per cent. below 99.4°. In the group having rheumatism the greatest percentage is again found to be those having 100°, as many as twenty-nine per cent. of all the rheumatic children having a fever of 100°. In this large series there is very little difference between the sexes Summing up, then, in a series of 1,000 school children 55.5 per cent. have temperatures at or above 99.6° F., and this seems to be a constant condition.

AUSTRALASIAN MEDICAL GAZETTE.

March 20, 1912.

1. F. Tidswell: Present Situation as Regards Infectious Protozoa.
2. Macneill Simpson: Onset of Auricular Fibrillation.
3. Sydney N. Rorke: Interesting Gynecological Condition.
4. F. S. Stuckey: Double Uterus and Double Vagina.

April 6, 1912.

5. H. L. Maitland: Cancer and Its Treatment
6. J. P. Hastings: Salpingooophorocele and Allied Conditions.

PARIS MEDICAL.

May 4, 1912.

1. R. Grégoire and Heitz-Boyer: Urology in 1912.
2. P. Lereboullet and E. Chabrol: Kidney Disease in 1912.
3. Legueu: Age for Prostatectomy.
4. Michon: Indications for Nephrectomy in Renal Tuberculosis.
5. Desgrez: Estimation of Urea in Urine and Blood
6. Ormison: Surgical [illegible]
7. Pasteau: Vesical Calculi and Prostatectomy.

3. Age for Prostatectomy.—Legueu says that delay has always been a drawback to good results in this operation, and that the abdominal form should be done as soon as definite signs of hypertrophy are present. An enlarged prostate is now thought to have a toxic influence on the organism and the suprapubic route has none of the disadvantages of the perineal.

PRESSE MÉDICALE

April 30, 1912.

This issue contains a report of the Seventh Annual International Congress on Tuberculosis, held at Rome, April 14 to 20, 1912; of the Twenty-second Congress of the Alienists and Neurologists of France and French Speaking Countries, held at Tunis, April 1st to 7th; and of the Seventh International Congress of Dermatology and Syphilography held at Rome, April 8th to 13th.

May 1, 1912

L. Landouzy, H. Gougerot, and H. Salin: Demonstration and Pathogenesis of Serous and Congestive Bacillary Arthropathies.

SEMAINE MÉDICALE

May 8, 1912.

L. Ambard and Andre Weill: Renal Secretion of Chlorides.

Renal Secretion of Chlorides.—Ambard and Weill conclude from a careful study that this complex process is well worthy of attention. The process differs from ureic excretion by the interposition of electrolytic dissociation, and by the unavoidable secondary intervention of salts other than chlorides. The problem opens the way to a study of the complex chloride changes in the organism, of which renal excretion is but a phase.

CENTRALBLATT FÜR ALLGEMEINE PATHOLOGIE UND PATHOLOGISCHE ANATOMIE

March 15, 1912.

1. E. Schwalbe: Dermoids and Their Origin.

March 31, 1912.

2. M. Lissauer: Experimental Endocarditis.

2. Experimental Endocarditis.—Lissauer first reviews the various experiments of many observers in causing an endocarditis after injury to the valves and the injection of pyogenic organisms, one of the important questions being the method by which the infection takes place, whether by direct inoculation or by septic emboli and thrombi in the vessels of the leaflets. His results agreed with those of Ribbert, Orth and others, that the cocci were deposited upon the leaflets from the circulating blood and not within them as emboli. The possibility of an embolic origin of endocarditis in man is not denied, yet none of the experiments furnishes any basis for such a belief.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT

April 2, 1912.

1. Czerny and Caan: Treatment of Malignant Ulcers with Mesothorium and Thorium X.
2. Falta and Freund: Treatment of Internal Diseases with Radium Emanation.
3. Weber: Röntgentherapeutics in Gynecology.
4. Kelen: Röntgentherapeutics of Chronic Metritis.
5. Hering: Sudden Death from Heart Tremor (*To be concluded*).
6. Grützner: Two Simple Apparatus for Blood Examinations.
7. Groedel: Carbon Acid Bath in Atrioventricular Interruptions.
8. Mohr: Thrombosis of the Veins of the Arm from Blood Pressure Measurements.
9. Häberle: Treatment of Infective Abortion.
10. Franck: Scopomorphine Toxication.
11. Kolb: Experience with Gurita.
12. Krönig and Gauss: Castration by Operation or Röntgen Treatment of Myomata.
13. Autenreith and Funk: Colorimetric Estimation of Grape Sugar and Indican in the Urine and of Iron in the Blood (*Concluded*).

April 9, 1912.

14. Payr: Technique of Arteriovenous Transfusions.
15. Kappis: Anesthesia in the Region of the Abdomen, Thorax, Arm, and Neck Produced through Injections into the Foramen Intervertebrale.
16. Stierlin: Röntgenological Experiences on Spasms of the Stomach (*To be concluded*).
17. Fischer and Meyer-Betz: Action of Hemibilirubin in the Normal Patient and in One Suffering from Liver Trouble.
18. Bessau: Distinction of Bacterial Toxines.
19. Bickel: Complement Combinations, Alexin Titre.
20. Berger: Statistical and Clinical Information Concerning Salvarsan Therapeutics in Syphilis.
21. Gennerich: Collargol Treatment of Gonorrheal Rheumatism and Other Acute Sequelæ of Gonorrhea.
22. Weber: Very Highly Sensitive Membrane for Registration of Heart Sounds.
23. Rieck: Pituitrin Not to Be Recommended as a Labor Producing Remedy in a Private House.
24. Asam: Fatal Danger from Anaphylaxis.
25. Lebsche: New Surgical Hook.
26. Hering: Sudden Death from Heart Tremor (*Concluded*).

April 16, 1912.

27. Much: Changes in Animals Produced by the Bacillus of Leprosy.
28. Kehrer: Surgical Treatment of Post Partum Hemorrhages.
29. Führer: Pituitrin and Its Important Ingredients.
30. Winternitz: Morphine Free Pantopon and the Effect of the Accessory Alkaloids of Opium in Man.
31. Hata: Treatment with Salvarsan of Diseases Resulting from Rat Bites in Japan.
32. Dehler: Treatment of Typhoid Bacilli Carriers.
33. Janssen: Diagnosis of Prostatic Hypertrophy and Stone in the Bladder.
34. Zahn: Technique for Securing Larger Quantities of Blood in Animal Experimentation.
35. Foerster: Diagnosis and Therapeutics of Methyl Alcohol Poisoning.
36. Kölle: Scleroderma.
37. Hamm: Can We Prove Bacteriological Indications in Treatment of Septic Abortion?
38. Ringel: Feminine Pseudohermaphroditism.
39. Gräf: Treatment of External Anthrax.
40. Hoehne: Intraperitoneal Use of Camphorated Oil.
41. Porges and Leimdörfer: Is Uremia an Acid Intoxication?
42. Kofmann: Extraanal (Bloodless) Treatment of Hemorrhoids.
43. Stierlin: Röntgenological Experiences in Gastric Spasms (*Concluded*).

1. Treatment of Malignant Ulcers with Mesothorium and Thorium X.—Czerny and Caan remark that the importance of mesothorium in the treatment of malignant tumors equals that of radium, and that the former has even greater influence than the latter in superficially situated tumors. The same can be said of thorium x, which is a product of mesothorium. The authors hope that we will find in these two elements a great help in the treatment of malignant growths, especially when the apparatus and technique have been improved.

18. Distinction of Bacterial Toxines.—Bessau distinguishes, based upon the reaction of the organism, three bacterial toxines, the toxine proper, endotoxine, and anaphylactic toxine. The toxine proper releases in the organism antitoxic immunity; the endotoxine an endotoxicity exhausting immunity; the anaphylactic toxine the condition of anaphylaxis. The author demonstrates, through some examples, how it is possible to recognize and distinguish through these reactions bacterial toxines.

23. Pituitrin Not to be Recommended as a Labor Producing Remedy in a Private House.—Rieck warns against the use of pituitrin or pituglandol in a private house where the obstetrician has very often to depend upon himself alone. From his own experience and from the literature the author finds that serious complications may occur from the use of these drugs, which would necessitate immediate interference only to be promptly made in a hospital.

30. Morphine Free Pantopon and the Effect of the Accessory Alkaloids of Opium in Man.—Winternitz has used in his hospital morphine free pantopon, which he calls *opon* to avoid confusion with pantopon. It is a brown powder, soluble in water, of intensely bitter taste, containing all the accessory alkaloids of the opium in salty acid combinations without the impurities; but as we know so very little of an exact quantitative analysis of

the ingredients of opium, it is impossible to analyze correctly the morphine free pantopon. Winternitz found that from 0.5 to one gramme of opon will produce hypnotic effects. He has used it for several days and the patients did not object to the drug, with the exception of the bitter taste. Constipation was not observed, but vomiting was produced in three cases. The large volume of an effective dose and the bitter taste do not favor the introduction of opon.

ZENTRALBLATT FÜR INNERE MEDIZIN.

April 20, 1912.

1. URRUTIA: Acute Gastric Dilatation.

April 27, 1912.

2. R. VON JAKSCH: Vaquez-Osler Disease.

2. Vaquez-Osler Disease.—Von Jaksch remarks that "redness of the skin" is more applicable to this affection than cyanosis, as the latter implies an excess of carbon dioxide in the blood, which is not present. He reports a case in which marked variations in the number of red cells took place. During x ray treatment the red cell count showed a pronounced fall. Though this effect has not yet been reported as resulting from such treatment in this disease, and the leucocytes in the present case showed no simultaneous decrease, the x rays were apparently responsible for the diminution in red cells. Estimations of the total nitrogen content of the blood serum, made with a modified Kjeldahl method, showed a larger amount than normal; this was accounted for by the fact that the serum contained hemoglobin in solution. It was also found that the whole blood is richer in nitrogen in this disease than normally, and that the variations in the nitrogen of the whole blood depend upon the number of red blood cells, a fall in the red cell count being followed by a fall in the nitrogen. The red cells themselves, separated from the rest of the blood, proved poorer in nitrogen than normally, and the greater their number, the lower their nitrogen content. The disorder may thus be designated an *hypoalbuminæmia rubra.* These findings, taken together with the fact that no normoblasts could be found in the blood in spite of repeated search, lead von Jaksch to conclude that the Vaquez-Osler disease does not arise through an increased production of young red cells, but involves rather the presence of physiologically deficient cells, perhaps abnormally old cells which have resisted the normal process of destruction.

AMERICAN JOURNAL OF OBSTETRICS.

April, 1912.

1. J. G. HOPKINS: Experimental Poisoning with Chloral Hydrate. Effect on Liver and Kidneys.
2. A. P. LEIGHTON: Lymphangioma of Fallopian Tube.
3. W. H. W. KNIPE: Osteomalacia; American Cases.
4. E. A. SCHUMANN: Cornual Pregnancy in Normal Uterus.
5. J. E. WELCH: Normal Human Blood Serum in Obstetric and Pediatric Practice.
6. A. J. RONGY: Delivery through the Perineum.
7. W. H. ALLPORT: Tristram Shandy and Obstetrics.
8. H. W. FRAUENTHAL: Erb's Palsy.
9. W. F. CAMPBELL: Treatment of Fractures of Elbow in Childhood
10. W. D. LUDLUM: Blood in Infancy and Childhood.
11. J. V. V. MANNING: Symptomatology of Infantile Paralysis.

1. Experimental Poisoning with Chloral Hydrate.—Hopkins reports several experiments undertaken to determine what effects the administration of chloral would have upon the liver and kidneys. On account of the similarity of the liver lesions produced by chloroform to the lesions in eclampsia, it has been concluded that the administration of chloroform might be very injurious to patients with eclampsia or the allied toxemias of pregnancy. For this reason the use of chloroform for patients admitted to the Sloane Hospital for Women has been given up in those who show typical eclampsia or severe toxemia. To control the convulsions chloral hydrate *per rectum* has been employed. Where operative delivery was necessary ether was the anesthetic. In treating in this way a series of twenty eclamptic patients who had had one or more convulsions there was but one death—a mortality of five per cent. as compared with twenty-eight per cent. in 251 previous cases. The question naturally arose as to whether or not the chloral hydrate might also have some injurious effects on the liver. In the first series of dogs large amounts of chloral were given by the stomach in order to produce the severest effects possible. A number of animals died without recovering from the anesthetic, but four lived. To these further doses were given, so that the animals remained anesthetized for a long time. In these four no demonstrable changes in the liver or kidneys were observed. In a second series of nine animals the chloral hydrate was administered subcutaneously. Four of these dogs showed practically no changes in the liver or in the kidneys. One showed no change in the liver, but a marked fatty infiltration in the cells of the straight tubules of the kidney. The other animals showed a definite excess of stainable fat in the liver. Altogether twenty-six dogs were poisoned in various ways by chloral hydrate, and of these there were found six only whose livers showed definite pathological changes. The conclusions drawn by the author are: 1. Chloral hydrate may occasionally produce fatty changes in the liver similar to those caused by small doses of chloroform. 2. It is impossible to produce by administering chloral hydrate necroses in the liver similar to those found in delayed chloroform poisoning and eclampsia. 3. Chloral hydrate produces no histological changes in the kidneys. 4. It causes an increase in the urinary nitrogen, which may be delayed until after recovery from anesthesia and tends to return again to normal.

5. Normal Human Blood Serum in Obstetric and Pediatric Practice.—Welch, after getting an unfortunate result with heterologous (horse) serum, has employed the injection of homologous (human) serum in various forms of disease with good results. In hemorrhagic conditions, as normal human serum is a prepared food having molecules with haptophores which fit the receptors of the endothelial cells, according to the side chain theory of Ehrlich, it is capable of being incorporated into the cell body as nourishment without any energy being wasted in the process of digestion. The nutrition being thus easily restored, the balance of ferments is reestablished and the hemorrhages are stopped. In septic conditions the normal serum may be of value, on account of having a greater supply of complement, which, combining with the antibody present in the patient's serum, neutralizes the disturbing factor. The use of the serum is preferred to transfusion, as there is no

danger of hemolysis, thrombosis, or embolism occurring with subsequent death of the patient. Where, however, there is actual loss of the cellular elements of the blood on account of hemorrhage, transfusion would be the proper method to employ.

8. Erb's Palsy.—Frauenthal calls attention to the fact that the general practitioners commonly fall into the error of stating that nothing can be done for brachial plexus paralysis. Much depends upon the time when the treatment is begun, and the kind and character of the treatment employed. The earlier attention is directed in assisting Nature in its reparative processes, the better able are we to reestablish a normal condition. By patient, persistent treatment, although sufficient damage is done to the trophic nerves at the time of birth to affect the muscles of the arm and the osseous structures about the shoulder joint, we may still obtain an arm that will be practically normal in its range of motion.

9. Treatment of Fractures of the Elbow.—Campbell emphasizes the great importance of the proper treatment of such fractures, inasmuch as they imperil the function of the joint and the usefulness of the arm. One should not hesitate to use temporary anesthesia in order to make a thorough examination. The x ray should also be employed for diagnostic purposes and to determine whether or not the fracture has been properly reduced. A permanent splint should be used. Preference is given to plaster of Paris, as no other form of splint can be moulded so accurately or held so securely—an important consideration, where the child's restlessness predisposes to secondary displacements.

10. Blood in Infancy and Childhood.—Ludlum calls attention to the differences between the blood of children and that of adults, both in health and in the reaction to disease. At birth the red cells are increased, going as high as nine million by the end of the first day but dropping to five million by the end of the first week. The leucocytes average 18,000 for the first forty-eight hours, gradually declining to 10,000 or 12,000, where the count remains for the first year. The differential count shows marked differences between the blood of infancy and that of adult life. The multinuclears are but little more than half as numerous in the infant, the deficiency being made up by an increase in both the large and small lymphocytes to nearly double the adult percentage. The blood also shows a greater reaction to causes of anemia than that of the adult. Hemoglobin may be much reduced, many normoblasts may be present, and a marked poikilocytosis may occur. The changes after hemorrhage are similar, and recovery is slow, so that operative loss of blood must be avoided as much as possible.

AMERICAN JOURNAL OF UROLOGY.

April, 1912.

1. E. Beer: Effects of Ureteral Obstruction on Kidney Function and Structure.
2. F. E. Sondern: Urinary Lithiasis: Etiology and Chemistry.
3. H. G. Bugbee: Diagnosis of Urinary Lithiasis.
4. J. B. Squier: Surgery of Lithiasis of Genitourinary Tract.
5. N. P. Rathbun: Sexual Neurasthenia.

1. Effects of Ureteral Obstruction on the Kidney.—Beer has sought to determine by experiments upon dogs how long a ureter might be tied off, before making a ureterovesical anastomosis, without sacrificing the kidney. He makes the following points: 1. Hydronephrosis may result from infection of the ureteropelvic tract without stenosis. In these experiments the ureter was exposed extraperitoneally and without injuring its lumen by artificial stenosis. Colon bacilli were injected through a fine needle. In a number of cases marked hydronephrosis resulted. In none were abscesses produced in the kidney parenchyma. 2. Extremely large hydronephrosis follows injection of infectious organisms above a stenosis. In this series complete or incomplete ligation of the ureter, whether with catgut or silk, and injection of infectious organisms above the stenosis, was followed by a hydronephrosis. In one case after fifty-six days the organ was entirely destroyed and nothing but a large sac left. 3. After the uninfected ureter is tied, the kidney undergoes atrophy after developing a primary hydroureter and hydronephrosis of a mild degree. In these cases there is a primary dilatation above the stenosis, which recedes after two or three weeks. The kidney gradually atrophies. This atrophy becomes complete at the end of five months. It is probable that the excluded kidney excretes up to the third week, as shown by the dilatation of the pelvis and ureter up to this date. 4. If a kidney is excluded as long as three or four weeks and then its ureter is reimplanted in the bladder, the kidney seems capable of carrying on all the excretory work of both organs. In one of these experiments silk ligature was tied around a dog's ureter. Seven days later an anastomosis of ureter and bladder was made. Two months later nephrectomy of the opposite side. Three months later the dog died. This experiment shows that the kidney which has been totally excluded for a week by tying off its ureter was able to do the total body work for three months after the other kidney had been removed. In another case the kidney was excluded for three weeks; this dog died about one and one half months after, from anuria caused by a calculus plugging the ureter. Still another case, the ureter and bladder were anastomosed thirty days after the ligation of the ureter; nearly two months later the dog was killed. Among Beer's conclusions are the following: Infection of the ureter rarely leads to abscess formation, or to multiple abscess of the kidney, unless the ureter is stenosed, and then only when the injected organisms are virulent. The idea that the use of catgut ligature material in pelvic work will not cause a permanent ureteral stenosis is wrong. Three weeks after exclusion of a ureter sufficient parenchyma remains in the kidney to warrant an attempt at secondary reimplantation of the ureter into the bladder.

4. Surgery of Lithiasis.—Squier makes a plea for the vertical lumbar incision for kidney exposure. Its advantages are that it is essentially a muscle splitting exposure, and makes the delivery of the kidney upon the flank easy and with less strain upon the pedicle than any oblique incision. To deliver the kidney, the lower pole of the kidney should be steadied by a hammock of gauze, and the upper pole delivered first.

ANNALS OF OPHTHALMOLOGY.

April, 1912.

1. A. von Szily: Origin of Melanotic Pigment in Eye of Vertebrate Embryos and in Sarcoma of Chorioid.
2. R. Burnier: New Hypophyseal Syndrome—Nanism.
3. W. C. Posey: Circumscribed Orbital Edema from Frontal Sinusitis.
4. W. C. Posey: Shrunken Globe Enveloping an Unusually Large Fragment of Steel.
5. W. Zentmayer: Migraine with Ring Scotoma.
6. W. M. Richards: Postmydriatic Examination.

1. Origin of Melanotic Pigment.—Von Szily presents an article on the formation of melanotic pigment in the eye and in melanotic sarcoma, with a description of the changes as they occur in the eye and, finally, a discussion of the results of the various investigations mentioned. The importance of the chromatic substance in the nucleus of the metazoan cells has been hitherto underestimated; it has necessary functions other than reproduction. In every case colorless stromata, the so called pigment carriers, are the basis of the black pigments in the eye and malignant tumors. The colorless pigment carriers are morphologically different from each other, according to the kind of animals and the place of their origin. The colorless pigment carriers of the metazoa are derived from the nucleus exclusively, in all the cases investigated. Their direct origin from the chromatin of the nucleus and their passage into the cytoplasm can be exactly traced. The productive action of the nucleus is characterized by the extrusion of chromidial substance into the cytoplasm, while undergoing no noticeable injury to its vital functions. The degenerative action involves a partial or complete destruction of the nucleus. A partial destruction with subsequent pigmentation is exemplified by the nuclear fragmentation in rapidly developing malignant tumors. The conversion of colorless pigment carriers into pigment probably takes place under the influence of specific cellular ferments. The latter can exert their action on the chromatin, the mother substance of the pigment, only when the nuclear membrane has normally, but temporarily, disappeared during mitosis, or when single chromatin particles during the resting period are excluded from the nucleus. There are 114 references.

2. New Hypophyseal Syndrome—Nanism.—See editorial article on page 1053 (May 18th).

ANNALS OF SURGERY.

April, 1912.

1. A. J. Brown: Cephalic Tetanus.
2. E. H. Pool: Treatment of Heart Wounds.
3. S. Robinson: Pneumectomy; Its Possibilities.
4. J. Speese: Tumors of the Male Breast.
5. E. Elliot, Jr.: Clinical Features and Treatment of Acute Perforating Gastric and Duodenal Ulcer.
6. E. H. Beckman: Repair of Hernia from Peritoneal Side of Abdominal Wall.
7. D. E. Eisendrath: Congenital Malformations of Ureters.
8. J. C. DaCosta: Operation for Aneurysmal Varix of Popliteal Vessels.

1. Cephalic Tetanus.—Brown reports a case of this rare condition, his being the seventh reported in the United States and the ninety-fourth in the literature. In all but two cases the affection followed a head wound, and the tetanus bacillus was usually found. He gives an area, bounded below and behind by a line drawn from the lower border of the ala of the nose to the inferior border of the lobule of the ear, and thence upward through the external auditory meatus to the median line, in which the lymphatic supply is sparse. Carcinoma travels by the lymphatics, and in this area rarely gives rise to metastases or cachexia. The tetanic toxine is absorbed by the lymphatics and carried to the nerves, and thence to the nuclei, and as lymphatic absorption is limited in this area, the resulting tetanus is benign, and presents only the early symptoms of the disease, namely, trismus, pharyngeal and respiratory spasm. In portions of the body well supplied with lymphatics, absorption would be more rapid and complete, and the same infection would give rise to generalized tetanus.

3. Pneumectomy: Its Possibilities.—Robinson believes that despite the few successful cases reported, lung excision will eventually justify its existence as an operative risk. The dangers are operative injury to important nerves, shock, overflow or inhalation of the purulent secretions into the sound lung with resulting transplantation of the infection. The duration of the disease and the resistance of the patient will affect the prognosis greatly. Since the complete operation is a formidable one in patients with reduced resistance, it should be divided into two or more stages. If sputum is to be contended with, as in bronchiectasis, the first stage includes resection of the ribs, opening of the pleura, and either a pneumotomy for drainage, or ligation of the lobe. At another stage the adhesions are separated, and if this causes extensive lacerations, the infected lobe is packed off and removed a week later. If the lacerations are slight, the lung may be removed at the second operation. If sputum is not an obstacle, two stages are best, rib resection, thoracotomy, and freeing of adhesions at one stage, and amputation at a later operation. Endotracheal insufflation of gas and oxygen is better in thoracic surgery than ether. A semisitting posture during operation is necessary.

7. Congenital Malformations of the Ureters.—Eisendrath concludes that congenital malformations of the ureters are seldom diagnosticated during life. Their surgical importance is just beginning to be appreciated. The symptoms vary markedly, and often resemble other forms of intra-abdominal infection, making correct diagnosis difficult. The abdominal tumor is the most prominent clinical symptom in some cases, the tumor being high if the obstruction is close to the renal pelvis, while in other cases a sausage shaped tumor extending from the costal arch downward may be present. The ureter may protrude into the bladder in still other instances, or the symptoms may point to renal infection. The urine shows nothing unless infection supervenes. The treatment varies with the condition present. In infection nephrectomy is, as a rule, the only method of treatment. Stenosis or malformation is amenable to plastic surgery in many cases.

8. Operation for Aneurysmal Varix of the Popliteal Vessels.—Da Costa's case is peculiar in that the symptoms appeared within a few hours of the accident, and gradually increased until relieved by operation. A longitudinal incision was made into the popliteal vein, and the opening into the artery sutured from within the vein. The vein was then divided on each side of the opening, the intervening portion of vein being superimposed over the suture line of the artery, flaplike, and

sewed to the artery by catgut stitches. The ends of the vein were then brought together and sutured. Recovery was excellent and complete. Iodized catgut sutures and intestinal needles were used for both vessels.

LARYNGOSCOPE.

March, 1912.

1. Henry J. Hartz: Lymphatics of Nose and Nasopharynx, and General Lymphatic System.
2. Dr. Camillo Poli: Lymphatic Apparatus of Nose and Nasopharynx in Relation to Rest of Body.
3. A. Logan Turner: *Idem.*
4. Dr. Jules Broeckaert: *Idem.*
5. E. R. Lewis: Model Reconstructing Canals of Right and Left Labyrinths. (*Preliminary communication.*)
6. Wendell C. Phillips: After Treatment of Radical Mastoid Operation with Packing.
7. M. A. Goldstein: Recent Work in Interest of Defective Child.
8. *In Memoriam,* Sir Henry T. Butlin.

1. Lymphatics of the Nose and Throat.—Hartz makes the statement that no direct anastomosis exists between the lymphatics of the thorax and those of the head and throat, but an indirect route is admitted. In considering the lymphatics of the nasopharynx, the richness of the network of the lymphatic capillaries is noted, the frequency of the anastomosis everywhere over the median line, connecting both right and left sides of the nose and throat, also the junction of the lymphatic system of the nose and throat with the surrounding lymphatics, viz., those of the forehead, the cheek, the eyelid, the upper lip, the external ear on one side, with those of the Eustachian tube and soft palate, the pharynx, the sinuses, and the perimeningeal spaces on the other side, showing that the regionary glands belong equally to the neighboring territories. The location of the various glands is of deep interest to the clinician and surgeon, for when infection passes through the lymphatic tract unperceived, producing an adenitis which manifests itself by symptoms of pressure such as dysphagia, it is essential to be able to recognize the involvement of the retropharyngeal group and the subEustachian gland. When torticollis exists, the deep cervical group under the sternocleidomastoid is inflamed, and if the recurrent laryngeal nerve is pressed upon, aphonia may be produced, as in cases of carcinoma of the esophagus or larynx. Even the tonsils, which are frequently the seat of primary infection, may become involved secondarily in acute infectious diseases of the neighboring organs, through the lymphatic channels.

4. Relation of Lymphatics of Nose and Nasopharynx to Other Parts of Body.—Broeckaert states that while it is thought by many that the small leucocytes emanating from the tonsillar ring of Waldeyer do not possess the property of phagocytes, it has been demonstrated by careful microscopical examination that they increase in direct proportion to the danger to which the whole organism is exposed. They may be seen flattening out, insinuating themselves between the cells, coming forth in a quantity which is greater in exact proportion as the irritation produced on the surface of the tonsil is increased. Associated, are found here and there a few multinuclear cells, which greatly increase in numbers when the adenoid tissue is the seat of local irritation. In spite of the defensive action manifested by the tonsillar ring, clinical experiences force us to attribute, under many circumstances, a greater degree of vulnerability than to the other parts of this region. The relation existing between the glands and pulmonary tuberculosis is not yet completely elucidated and must await new researches in order to be solved.

6. After Treatment of the Radical Mastoid Operation.—Phillips is convinced, after considerable experience in testing all methods of after treatment of the mastoid wound, that it is not only without detriment to the final result to permit the granulations to fill in as rapidly as is consistent with the healthy state of the wound, but that it is positively advantageous. The osseous wound cavity should be thoroughly inspected at each dressing, and all exuberant and flabby granulations destroyed or removed in order that they may not become a barrier to the invasion of the epidermis from the flap margins.

NEW YORK STATE JOURNAL OF MEDICINE.

April, 1912.

1. A. MacFarlane and A. F. Holding: Radiography in Gastro-intestinal Diagnosis.
2. W. C. Woolsey: Endotracheal Insufflation Anesthesia.
3. P. J. Flagg: Nitrous Oxide and Oxygen Anesthesia.
4. C. G. R. Jennings: Balantidium Infection and Pernicious Anemia.
5. J. Meyers: Diagnosis and Symptoms of Diseases of the Liver.
6. N. W. Wilson: Dangers of Salvarsan.
7. H. A. Hoyt: Bronchopneumonia in Children.
8. W. B. Hanbidge: Infant Feeding with Undiluted Cow's Milk.
9. C. G. Hacker: Bullet Wounds of the Abdomen.
10. M. B. Downer: Erythema Multiforme and Typhoid.
11. E. R. McGuire: John Hunter.
12. Medical Inspection of Schools.

2. Endotracheal Insufflation Anesthesia.—Woolsey says that in this form of anesthesia we have tracheal respiration without any possible anoxemia from external respiratory obstruction, with absence of all embarrassment of respiration as from differential pressure cabinets. It furnishes a constant minimum dose of anesthetic vapors at the lowest concentration. There is no serious acapnia. It provides against hypercapnia and for complete oxygenation. Endothoracic surgery is made possible through the prevention of acute pneumothorax. He has seen five deaths from the method and in each there was some avoidable error in the technique which was to blame. He finds that the introduction of a tube into the trachea does no harm to the tracheal or lung tissues; that there is no bad effect from the direct application of the ether vapor; that fifteen or twenty mm. of mercury intrapulmonary pressure is not harmful; and that the substitution of tracheal for external respiration is beneficial in anesthesia rather than harmful. He suggests the following indications: 1. In endothoracic surgery where its positive pressure in the lungs prevents acute pneumothorax. 2. In those cases in which obstruction tends to develop in the airways between the teeth and the trachea, as from collapsed alæ nasi, recedent jaw and tongue, and paralyzed glottis and palate. 3. In those whose factor of safety is lowered by disease or age. 4. In all operations about the nose or oral cavity in which there is likelihood of aspiration of blood or tumor material resulting in serious harm. Woolsey has applied the method to the administration of nitrous oxide with marked success. In most instances he finds that ether need be given for only a moment or so before the introduction of the endotracheal tube to hold the anesthesia during this procedure.

3. Nitrous Oxide and Oxygen Anesthesia.—

Flagg summarizes the disadvantages of this form of anesthesia as follows: 1. It requires experience to acquire the necessary skill. 2. The apparatus is cumbersome. 3. There is occasionally incomplete muscular relaxation. 4. There is a somewhat increased venous hemorrhage. 5. In operations on the nose and throat, where prolonged anesthesia and relaxation are desirable, it is not as yet satisfactory. He finds this form of anesthesia advisable in many cases because: 1. It is safe. 2. The natural immunity is not affected, nor is the blood harmfully disturbed. 3. There is no tendency to light up an old and quiet tuberculous focus. 4. There are no known bad after effects upon the lungs, kidneys, or other parts of the body. 5. By the method of rebreathing, the carbon dioxide acts as a stimulant to the vasomotor centre, preventing shock and slowing a rapid pulse. 6. The method of rebreathing aids in the preservation of the body temperature. 7. Oxygen, the best resuscitator, is an integral part of the anesthetic. 8. Anesthesia is rapidly and pleasantly induced. 9. Recovery is almost immediate and is remarkable for the absence of symptoms. 10. Ether may be given in the most approved method without removal of the face piece. 11. Owing to the absence of postoperative illness, early nourishment can be given, and convalescence is shortened.

CANADA LANCET.

April, 1912.

1. E. A. Hall: Ileosigmoid Anastomosis as a Therapeutic Measure in Intesinal Autotoxicosis.
2. A. Groves: Prostatectomy.
3. General Anesthesia.
4. Water Drinking and Drinking Water.
5. Chronic Hemolytic and Pancreatic Jaundice.

1. Ileosigmoid Anastomosis. — Hall sidetracked the colon in two cases of interstitial nephritis, with edema and ascites, when medical measures had been exhausted without benefit, and in both cases the dropsy was speedily relieved, one case ending in complete recovery, and presenting normal urine in four weeks. Hall suggests that ileosigmoidostomy would be applicable in heart or organic liver disease. In the latter, the blood which passes from the colon to the liver would be very greatly reduced, thus allaying the portal congestion and resulting ascites. In diseases dependent on toxemia, such as epilepsy, persistent neuralgias, amblyopia, anemias, neurasthenia, and many others, the operation should be of inestimable value. Ileosigmoidostomy is a simple operation, as the sigmoid and ileum lie close together, frequently in contact at the site of the proposed junction, which should be two or three inches from the ileocecal valve.

CANADIAN MEDICAL ASSOCIATION JOURNAL.

April, 1912.

1. Hideyo Noguchi: Establishment of *Treponema Pallidum* as the Causative Agent of Syphilis, and the Cultural Differentiation between the Organism and Certain Morphologically Allied Spirochetes.
2. R. P. Campbell and F. S. Patch: Salvarsan: A Year's Experience.
3. W. J. Macdonald: Gastric Carcinoma.
4. Fraser B. Gurd: Certain Subtropical Diseases.
5. D. Fraser Harris: Physiological Aspects of Referred Pain.
6. Robert E. McKechnie: Intraperitoneal Route in Operations on the Ureters.

5. Physiological Aspects of Referred Pain.—Harris discusses the visceral pains that are very apt to be referred to the skin, and considers at some length the physiology of the various sensory nerves. Taking all the facts he mentions into consideration, it seems that referred pain is related peripherally to those fibres from the skin that are concerned in the sensation of pain, heat, and cold, and that the central mechanism of transference is in the segments of the gray matter of the cord, and not in either the posterior roots or their ganglia. If any impulses related to referred pain actually reach the periphery, as some imagine they do, and are of an atrophic nature, they must certainly be antidromic in these algetic fibres.

REVUE DE CHIRURGIE.

March, 1912.

1. S. Banzet: Indications for Late Extraction of Projectiles from Brain.
2. Pierre Mocquot and L. Houdard: Value of Veins of Pyloric Region as Surgical Landmark.
3. E. Quénu: Fractures at the Ankle (*To be concluded*).
4. Destot: Fractures at the Ankle.
5. G. Pascalis: Tumors of the Cerebellopontile Angle. Operative Indications and Surgical Treatment (*Concluded*).
6. E. Marquis: Disinfection of the Hands Exclusively with Alcohol, without Preliminary Cleansing with Soap and Water (*Concluded*).

1. Late Extraction of Projectiles from Brain. —Banzet points out the fact that, whereas in the presence of recent penetrating bullet wounds of the skull the surgeon has definite rules of conduct to guide him, this is no longer the case after the period of early complications, such as meningoencephalitis, is past. The presence in the brain of the projectile itself, at first of little importance as compared with these complications, may later acquire considerable significance. The question does not lend itself to a statistical study, both because of the paucity of cases reported and the fact that those which have been recorded are naturally chiefly those in which operation was followed by successful results. While there have been numerous cases in which bullets remained in the brain without ever giving rise to trouble, a considerable number of others have been reported in which, after a certain period of quiescence extending over months or years, complications appeared, the cases often showing when operated in, extensive lesions of the brain substance previously quite unsuspected. The possible lesions include hematoma, abscess, meningoencephalitis, and various results of aseptic irritation by the foreign body. Mental disorders and sudden death may occur. Banzet takes the stand that intracerebral projectiles should be regularly removed—especially in syphilitics—except in the presence of certain contraindications, viz., old age, poor general condition, visceral disease, fragmentation of the projectile, free mobility of the bullet in one of the ventricles, or its deep situation near the centre of the brain mass. Since recovery from paralysis and aphasia following incision into the cortical centres is usually complete and in the majority of cases rather prompt, the removal of a projectile situated in the motor cortex at a depth not exceeding three to four centimetres is not contraindicated. An apparatus intended to facilitate accurate localization of a bullet at operation is described. It consists of a triangular metallic frame fitting over the skull and carrying two long adjustable and sliding needles, the proper inclination of which, in order that they shall meet at the location

of the projectile, is determined with the x rays. A case is reported in which the apparatus was successfully used. The incision made in the brain tissues for the removal of the bullet, passing through the upper portion of the temporal lobe, induced pure word deafness—unassociated with any other form of aphasia—which later disappeared.

2. **Value of Pyloric Veins as Surgical Landmark.**—Mocquot and Houdard carried out researches in the cadaver and present illustrations showing the relations found between the pyloric veins and the pyloric valve. They conclude that the anastomosis between the veins of the greater and less curvatures of the stomach cannot be counted on to indicate the situation of the pylorus. It is not often visible, and its position is not constant. It offers no better information than palpation of the sphincteric thickening through the pyloric wall.

5. **Tumors of the Cerebellopontile Angle.**—Pascalis discusses particularly the indications for and technique of operation, reviews 110 cases found in the literature, and reports three additional cases. The necessity of operating in the presence of these tumors is emphasized; they are commonly encapsulated and benign or but feebly malignant, and are quickly fatal. Their detection depends especially upon the phenomena produced by increased craniocerebellar tension and the symptoms due to compression of the basal nerves. Simple decompression is indicated only where the subject is in a very precarious condition, where there are multiple tumors, and where the tumor represents a metastasis from a visceral cancer progressing rapidly. In all other cases, radical intervention is advisable. If accurate localization has not been possible, Cushing's operation should be performed; otherwise, but one cerebellar fossa should be entered. The blood pressure is to decide whether the operation should be in one or two stages. Chloroform-oxygen anesthesia should be used, in the hands of an expert. The flap should be made square, bone sacrificed, but the sinuses spared, except as necessary to obtain room to work. The tumor should be removed as much as possible with long instruments or by aspiration, and the cerebellum spared. The question of drainage is to be decided according to the degree of hemostasis obtained. Extreme care in all details preparatory to and after operation is of great importance for successful results. Where the decompression operation is alone performed, it should consist of a simple vertical incision over the centre of one cerebellar fossa, the dura being left unopened until later, when the symptoms indicate it.

6. **Disinfection of Hands Exclusively with Alcohol.**—Marquis reports a bacteriological and histological study of the action of alcohol on hands previously infected with bacterial cultures. After ten minutes' contact of the hands with alcohol, scrapings from the epidermis and material obtained beneath the finger nails yielded no bacterial growth on bouillon in fifteen trials; on gelatin the results were negative twenty-five times, and positive five times. Other experiments showed that ten minutes is the proper time to keep the hands in contact with alcohol for surgical disinfection; that the greater the concentration of alcohol used, the more complete the disinfection; that hands disinfected with alcohol, dried, and kept covered with a sterile compress, remain sterile for at least fifteen minutes, while if kept immersed in sterile water they remain sterile for twenty minutes; that proper disinfection with alcohol is obtained neither by simple immersion of the hands in the fluid nor by rubbing them one against the other, but by rubbing them and the forearms with sterile gauze; and that washing and brushing the hands with soap before rubbing them with alcohol yields results inferior to those obtained with hands absolutely dry and unwashed. The histological work confirmed these conclusions. The skin of the dorsal region in rabbits was first painted with alcohol containing ten per cent. of silver nitrate, and a little later with alcohol containing the same percentage of potassium iodide. The result was a precipitate of silver iodide appearing as yellow crystals at whatever depth the alcohol had reached. Ten minute applications of alcohol of the ordinary strength showed a penetration through the entire stratum corneum of the skin, down to the stratum lucidum; the hair follicles were colored quite deeply. On thinner skin, such as that of the rabbit's abdomen, all the epidermal layers were penetrated. Preliminary application of oil to the skin was not followed by any greater degree of penetration than before. Seventy-one miscellaneous operations were performed by the author, using the exclusive alcohol method for the hands, Grossich's method for the operative field, and a simple aseptic dressing after the operation, with uniformly perfect results. The alcohol method compares advantageously with any other procedure for skin disinfection. It is only surpassed in constancy of results by the use of sterile rubber gloves, but since preliminary disinfection of the hands is necessary before the gloves are put on, alcohol finds a legitimate use in this field. Its other advantages are rapidity and simplicity, while its only disadvantage is that of fixing blood upon the surgeon's hands—an inconvenience readily remedied by washing the latter in a hot sodium carbonate or a hydrogen dioxide solution. Methyl alcohol was found to have the same disinfecting properties as ethyl alcohol.

Proceedings of Societies.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, February 19, 1912.

The President, Dr. Reynold Webb Wilcox, in the Chair.

President's Address.—Doctor Wilcox, taking occasion of his entrance upon a second presidential term, briefly reviewed some of the work accomplished during his occupancy of the office. Incidentally he referred to the high esteem in which the Year Book of the association, in which its scientific proceedings are recorded, was held, and, as an illustration of this, mentioned that recently Yale University and important medical libraries in both

Philadelphia and Boston had applied for copies to complete their sets of the work.

Sources of Error in the Diagnosis of Diseases of the Spine.—This paper, by Dr. REGINALD SAYRE, will be published in the JOURNAL.

Forcible Correction in Lateral Curvature of the Spine.—This paper, by Dr. HENRY W. FRAUENTHAL, will be published in the JOURNAL. In connection with the paper the first twenty-five patients treated by this method at the Hospital for Deformities and Joint Diseases were shown. Dr. HARRY FINKELSTEIN, attending surgeon to the hospital, gave a practical demonstration of the treatment, and photographs and x ray pictures illustrating the cases and the improvement in their condition were presented by Dr. ARTHUR S. UNGER, the radiographist and photographer.

Operative Treatment of Pott's Disease.—Dr. BENJAMIN P. FARRELL said that since, nearly half a century ago, Sayre and Taylor demonstrated the principles of mechanical support in this affection the routine practice had been to apply, in the case of ambulatory patients, either the Taylor spinal assistant or a plaster of Paris jacket, and more recently a Bradford or Whitman frame had been employed when the recumbent position was indicated. While, however, these forms of treatment had resulted in a large percentage of cures, they had confessedly left much to be desired. Even the best apparatus was cumbersome and needed constant supervision, and the imperfect results could be obtained only after years of tedious treatment. Among the well to do, tuberculous lesions in the cervical and lumbar regions could be dealt with in a fairly satisfactory manner, but, owing to the impossibility of immobilization, the repair of such lesions in the dorsal region, although functionally good, was usually a failure anatomically. In no branch of surgery, perhaps, was the special status of the patient in such close relationship to the possibility of cure, and if such a state of affairs was the rule under satisfactory social conditions, how much more unfavorable became the outlook for the poor dispensary patient? General recognition of these facts had led a number of men to attempt operative treatment for Pott's disease. While prior to 1908 no definite results were obtained, in that year F. Lange had implanted two tin plated wire splints with bulbous ends beneath the muscles over the diseased area, on either side of the spinal processes, to which their ends were attached by silk sutures. Two years later it was reported in the *Journal of the American Orthopedic Association* that in this case the symptoms had subsided, deformity had not increased, and the splints had remained in place, as demonstrated by the x ray. There were, however, fundamental objections to this technique, notable among which was the introduction of a foreign body when none was necessary. It was axiomatic that every surgical procedure which is based upon an understanding and an adaptation of the natural healing processes, and which fosters these processes, must succeed, while all procedures which fail to recognize or are at variance with these processes have wrong premises, and must fail.

Now, it had long been known from studies on the healed kyphos that a fusion of the posterior aspect of the vertebræ through the laminæ and spinous processes, was a method by which Nature effected repair. Herein, obviously, lay the key to the situation. If the surgeon might in a few weeks cause the fusion which it took Nature months or years to bring about, he could not well fail to stay the course of the disease and limit deformity. Thus considered, the question became simply one of determining the best technique for bridging the intervertebral spaces. Early in the year 1910 it became the speaker's privilege to assist Dr. Russell A. Hibbs in his studies on the cadaver, which led him to a technique which appeared both anatomically satisfactory and surgically acceptable. While in these studies, which were carried out with the cooperation of Professor Huntington, in the anatomical laboratory of the College of Physicians and Surgeons, it was easily demonstrable that in adult and adolescent life there was always adequate bone in the spinous processes to make the bridge, it was necessary to await a verdict in the case of very young children, which would be based upon actual findings at the operating table. It was gratifying to be able to report now, that adequate bone existed at least as early as the third year; therefore the use of autoplastic bone transplants, or any other form of foreign body, was not only unnecessary, but essentially prejudicial. At first, the use of such bone transplants has been deemed requisite in the case of younger children, but since then operative experience had shown their uselessness.

Whatever might be the opinion of some regarding the reproduction of bone in this region, it was evidently that of well qualified histologists that bone reproduction was based fundamentally upon the activity of the periosteum. It was, therefore, necessary to point out concisely the exact treatment accorded this membrane in the Hibbs operation. The main points were the preservation of the periosteum and of the blood supply, and the prevention of hemorrhage. The first was accomplished by a median section of the membrane through to the bone on both the superior and inferior aspects of the spinous processes; the second, by scrupulous avoidance of any separation between the muscles and the periosteum. It was a very simple matter to push back the periosteum without tearing. This produced an almost continuous periosteal layer on either side, constituting, when closed, a periosteal tube which would undoubtedly develop adequate bone tissue, whether the denuded fragments were included in the tube or not. It was desirable to strip the periosteum out over the laminæ to the base of the transverse processes, because the laminæ lay very close together, and in consequence of the observance of this detail of technique a fusion took place between them which, with the bridge made by the spinous processes transposed, secured a fusion of the vertebræ from the transverse processes on one side to those of the other. It had been customary to break the spinous processes at their base, placing them in regular sequence, the apex of one leaning against the base of the next. Included in this bridge were one or two healthy vertebræ, above and below, as well as the spinous processes of the diseased vertebræ. The fragments were held in place by chromic gut sutures and the periosteal tube

was closed about them. For a detailed description of the technique reference might be made to Doctor Hibbs's communication, published in the New York Medical Journal for May 27, 1911. The results of thirty-one cases operated in to date had been satisfactory, and the degree and rate of repair were indicated in a series of radiographs shown. This operation, which seemed to carry with it great advantages over the old form of treatment, had been done without mortality up to the present time. Deformity was lessened, the period of convalescence was shortened, the support was perfectly symmetrical, and the patients were relieved of all apparatus at the end of three or four months.

In addition to the radiographs mentioned, Doctor Farrell presented four patients, one of whom was a young married woman, who had been operated upon, and strikingly illustrated the excellent effect of the treatment.

Dr. Henry W. Berg said he had been particularly interested in the two cases mentioned by Doctor Sayre in which uterine trouble simulated Pott's disease and which were cured by gynecologists. In such cases the question always arose, Was the result due to the operation or were they instances of hysteria? In the latter class of cases any kind of operation was likely to have a curative effect. He who was capable of always excluding organic disease must be a very competent diagnostician, and Doctor Sayre had certainly shown a clear knowledge of orthopedic pathology. Many cases of torticollis were met with in general pediatric practice. The torticollis of Pott's disease was very similar in its pathology to that seen in connection with meningitis; both being due to irritation resulting from pressure on the spinal nerves as they passed out through the foramina. There was one diagnostic point which he had found of great importance and one which could nearly always be depended upon. In congenital torticollis the head was drawn by the contraction of the sternocleidomastoid toward the opposite side, while in that due to Pott's disease or meningitis the reverse of this was true. As to Doctor Hibbs's operation, the logic of making out of the bone itself a supporting splint was apparent, and the simplicity and effectiveness of the procedure certainly appealed to one. Whether it cured the Pott's disease, however, was another question. In this affection the angular curvature was simply a result, and not the disease itself. The operation in question, it seemed to him, was applicable only to the early cases. In the bad cases he did not see how it was possible to secure the necessary support. He recalled with what horror he had first read of Collot's forcible straightening of the spine in Pott's disease. After the spinal cord had gradually accommodated itself to the V shaped cavity, such a procedure was liable to cause a rupture of the cord; an accident attended with the most calamitous results. While successful cases were reported, he believed there had been a number of fatal cases which were not reported.

Dr. Dexter D. Ashley said that Doctor Frauenthal and his confrères had certainly presented a fine collection of cases illustrating the different degrees of deformity and the various deformities coming under this head. As to the frequency of lateral curvature, the large hospitals of this country reported it to be the most commonly met with of all deformities except bow legs, occurring in about three per cent. of all cases presented for treatment. In Europe the percentage was twenty-four to twenty-nine, while medical examiners in the schools of St. Louis reported that eighty per cent. of the children had scoliosis, and seventy-five per cent. was reported from the Philadelphia schools. With this wide range of findings, it was apparent that there had been a lack of understanding and a faulty classification; functional and postural curves, slight physical blemishes, and asymmetrical development being recorded as spinal curvature. As to relative frequency in sex, after the thirteenth year the male suffered from this deformity in the proportion of one to from four to seven females. Many of Doctor Frauenthal's cases had shown improvement. The treatment described, however, the speaker would consider to be Doctor Frauenthal's method, rather than Abbott's. Abbott's jackets were roomy in front, permitting the body to fall forward in flexion. The fenestra over the concavity was large, allowing free movement to the rear. Abbott's jacket was a shell in which the body was forced from side to side, and forward and backward, by means of felt pads. We should not only show improvement—any jacket would do that—but must overcorrect; and, as Truslow had well said, in an article on this subject, the x ray must be our last court of appeal. In his own cases he had been surprised to find a considerable remaining curve, as revealed by the x ray, when, apparently, the spine was well corrected. Doctor Frauenthal set his patients up in flexion, while Abbott stood his on the head, as it were. Still, the position of flexion was the Abbott position. The device for holding this position might be selected or arranged to suit oneself. Abbott was now working on a device to give greater facility for holding the patient in this flexed position. Doctor Ashley's first conception of the technique of Abbott, as gathered at his first visit to that surgeon, had been erroneous. He noted the felt pads over the convexity, and considered it necessary to force this forward; but he found that, in consequence, his patients suffered unendurable pain. These pads were simply placed as "follow up" pressure. Abbott had informed him that, when developing his technique, he had several times found and lost again his ability to effect an overcorrection. He had had a spine go near to correction, and then drop back again to nearly the former curve, while in the jacket. He himself had also had the same experience. This was due, of course, to overlooking some point in the technique which was essential, but not appreciated. We should have to expect such experiences until our technique became more perfected. This explained why a severe curve was sometimes found to be comparatively easy, and a slight curve particularly trying to both operator and patient. He agreed with Doctor Sayre that the pendulum was now swinging in the right direction. As for himself, he was pleased to be a humble copyist or imitator of the Abbott method at present, and would not, therefore, attempt to introduce new features until he had convinced himself that he could do better than Abbott.

It was to be remembered always that the x ray was our last court of appeal; and no apparent correction in the jacket would suffice. Abbott's advice to the beginner in this work was to select a few cases with slight deformity and work with these until he had succeeded in having them overcorrected. Because of the confusion of detail in a large number of cases, and the arduous labor necessary in carrying out the technique and meeting the various conditions as they arose, the handling of a few cases at a time would be much more satisfactory to physician and patient. Doctor Ashley had experienced this himself, feeling that he undertook too many cases at once to bring out his best work.

Dr. SAMUEL KLEINBERG said that in a careful study of a little over a dozen cases treated by the Abbott method he had found that the most satisfactory treatment consisted of infrequent changing of the plaster cast, together with progressive packing. He was accustomed to cut out two fenestræ, one posteriorly, over the hollow, and one in front, over the hollow, and to pack with cotton over the dorsal convexity and the prominent ribs in front. On the theory that if a little flexion was good, more of it was better, he elevated both the head and the feet of the patient. In some six of the cases, in order to secure more powerful correctional influence, he had inserted rubber bags over the dorsal convexity, beneath the plaster; but these he had been obliged to discard on account of the severe irritation of the skin which they produced. In the cases shown there had been no cures; and, indeed, one could not expect to get even a completely corrected case in the short time in which these patients had been under treatment. During a period of little more than three months, he himself had succeeded in correcting the deformity in one instance, but even in this the deformity was not yet overcorrected.

Dr. SIEGMUND EPSTEIN said that, as evidenced by the advances which had been the subject of the evening's proceedings, a new era in the treatment of spinal disease had dawned since 1910. It was true, however, that while the plaster of Paris treatment of lateral curvature had been popularized by Abbott, his plan was really an evolution which was the result of previous methods. His method was not original, with the exception that he was the first to put on a plaster jacket with the patient in the position which he advocated. The various cases which had been shown were certainly most impressive, and when, as was the case in at least one instance, the spine was rendered pliable in four weeks, the result seemed indeed marvelous.

Doctor SAYRE said he could not but express his gratification at seeing the results obtained in the four cases of Pott's disease shown which had been operated in. He had not yet made up his mind, however, as to the advisability of operating in these cases. The question to be considered was whether a bone splint was better than an external artificial splint. In regard to the treatment of rotary lateral curvature there had been in the last few years a great deal of swinging back and forth of the pendulum of opinion between the advantages of fixation and of free exercises. Now we were getting back to the pressure treatment, such as was found so advantageous in club foot. It was a fact, however, that in club foot we were able to get a much better leverage than was the case in spinal curvature. Still, he believed that Abbott's idea of overcorrection and afterward repeating the pressure was a step in the right direction.

Doctor FARRELL, in closing, said that in the Hibbs operation it was not attempted to cure the tuberculosis. It was designed simply to afford an efficient splint. By the breaking off of the spinous processes it also had the advantage of reducing the deformity present.

Letters to the Editor.

TINEA VERSICOLOR.

KANSAS CITY, MO., *May 13, 1912*

To the Editor:

Why all the polypharmacy of treatment for tinea versicolor as prescribed in your issue of May 11th?

A twenty-five per cent. solution of sodium hyposulphite will cure any and every case. There is no need for a complex formula, and especially not for a greasy application such as is quoted in the JOURNAL.

I have had a very large and extensive experience in the treatment of the disease under consideration and have never had a failure with the agent mentioned.

Kindly pardon my infringement on your time and patience.

A. M. WILSON, M. D.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Recent Methods in the Diagnosis and Treatment of Syphilis. The Wassermann Serum Reaction and Ehrlich's Salvarsan. By CARL H. BROWNING, M. D., Lecturer in Clinical Pathology, University of Glasgow, etc., and IVY MCKENZIE, M. A., B. Sc., M. B., Ch. B., Director, Western Asylum's Research Institute, Glasgow, etc. In Collaboration with JOHN CRUICKSHANK, M. B., Ch. B., and CHARLES G. A. CHISLETT, M. B., Ch. B., WALTER GILMOUR, M. B., Ch. B., and HUGH MORTON, M. B., Ch. B. With an Introduction by ROBERT MUIR, M. A., M. D., F. R. C. S., Professor of Pathology in the University of Glasgow. Philadelphia and New York: Lea & Febiger, 1912. Pp. xxvi-303. (Price, $2.50.)

This is a compilation based on some sixteen papers published in various medical journals between 1909 and the end of last year, as the seven authors of the volume frankly admit. It presents in accessible form material that was so scattered as to be practically useless; and it will thus be of value to the beginner and to those who seek information on special points in this important field. The first part deals with the diagnosis of syphilis by the serum reaction of Wassermann, Neisser, and Bruck, hemolysis and complement deviation in general, the method of carrying out the syphilis reaction, the fallacies due to variations in the properties of the complement containing serum and organ extract, the lecithin-cholesterin method, complement deviation in experimental trypanosomiasis, the theory of the syphilis reaction, the clinical appreciа-

tion of it, and the examination of the cerebrospinal fluid. A short bibliography which is appended will enable those seeking information on special points, to avoid the stupendous jungle into which the literature on this subject has already grown. Part two deals with the treatment of syphilis with salvarsan. After detailing the experimental basis of treatment with the drug, and Ehrlich and Hata's work on the chemotherapy of experimental spirilloses, the authors consider the chemistry, administration, and effects of salvarsan, review the literature of the treatment of human syphilis, relapsing fever, frambesia, and other diseases by salvarsan, and then give the authors' observations on the results of treatment in syphilis. The accessory effects of salvarsan, and the fatal cases are then considered in separate chapters. Regarding these latter, the authors assume the position that we have often had occasion to deprecate; mention is made of only a small proportion of the recorded mishaps and fatalities, and their attitude is that of advocates and special pleaders rather than that of earnest searchers after truth. They tabulate and try to explain away twenty-three fatal cases. The number of recorded cases a year ago, when we last looked up the subject, was many times that; and the unrecorded cases are certainly more numerous. Of much importance are the *conclusions* with which the book terminates. A combined treatment of salvarsan and mercury for a long period is required; and "in no case can absolute assurance be given that a cure has been effected." The utmost that the authors can say, enthusiastic advocates of arsenic though they are, is that the patient may receive a more confident assurance of safety after this treatment than after two years of mercurial treatment alone.

Heredity in the Light of Recent Research. By L. Doncaster, M. A., Fellow of King's College. London: Cambridge University Press; New York: G. P. Putnam's Sons, 1912. Pp. x-143. (Price, 40 cents.)

In view of the limitations as to space, the author has given an admirable survey of our knowledge of heredity, confining himself, as was necessary, to modern theories and discoveries. The style is interesting and not as condensed as one might fear from the extensive field the author has had to cover. The book forms an admirable introduction to the study of heredity and should stimulate any one with a *penchant* for the subject to undertake the reading of more complete works, or to proceed to practical experiments on his own account. In such disputed questions as mother's marks, the inheritance of acquired characteristics, etc., the author has been obliged to sketch both sides of the controversies, and to express an opinion. This has been well done and few scientists will dissent from his conclusions.

Suggestion and Psychotherapy. By George W. Jacoby, M. D., Consulting Neurologist to the Hospital for Nervous Diseases, the German Hospital, the Beth Israel Hospital, etc. With Illustrations. New York: Charles Scribner's Sons, 1912. Pp. xiv-355.

The title of this book shows that the subject is treated from the standpoint chiefly of suggestion. It is a careful, painstaking, consistent presentation of "the influence of the mind in the causation and in the cure of disease," and the author has "endeavored in the present work to present scientific facts impartially and to submit them to a fair analysis." The book should be read consecutively to grasp the full intent and scope. As it is short, this can readily be done and with profit to any student, professional or lay. The author is a well known neurologist, a careful clinician. The following excerpts show the author's style.

He says: "Without a knowledge of the facts which govern suggestion, no comprehension of psychotherapy can be had. The doctrine of suggestion, in turn, premises a knowledge of physiological psychology based on observation and experiment. Just as the entire art of medicine was dependent on accident and chance, so long as the cause and nature of disease were unknown, so psychotherapy, without the groundwork mentioned, would be pure speculation, a groping in the dark. Medicine during the last century has been placed on an entirely new basis, through which alone it has become possible for psychotherapy to develop from a mystic hocus pocus into an exact science. As chemistry has arisen from irrational alchemy, as astronomy has developed from that pseudoscience, astrology, so has modern psychotherapy grown from medieval belief in miracles, from the cloudy conceptions of animal magnetism and from the spiritistic trickeries of a Cagliostro and a Slade. . . . To-day we know that there is no intervention of supernatural power in the laws of Nature, and whether diseases will become our undoing or whether we will be able to deflect their course or to cure them depends essentially upon our comprehension of the physical and chemical forces which nature holds in store. The ills which oppress us are the result of our own ignorance or folly—hence can be combated only by appreciation of their productive causes and by systematic modification of the natural laws which govern them. This applies with equal force to those functional diseases for which psychotherapy is to be the means of cure. . . . Scientific psychotherapy is based, on the one hand, on the laws of psychology, and, on the other, on the pathogeny of neuroses. What we call 'mind' is nothing else than a vital manifestation of the brain in accord with well defined laws."

Miscellany.

Weird Tale of American Surgical Prowess.—Some weeks ago a great sensation was caused by the publication in the English sporting paper, the *Referee* (April 14, 1912), of a story of American triumphs in surgery. Many good Britons apparently swallowed the story whole and for a time kept the wires hot asking for further sensational details. Following is the tale exactly as it was published in the facetious weekly:

The London and New York police are engaged in investigating one of the most astounding and sensational criminal romances of modern or of any other times. Briefly, here is the story. Some few years ago, Joseph Warschawski—for obvious reasons I do not give the real name—a youth of humble origin but of brilliant intellectual attainments, mysteriously disappeared from London. His father, a working furrier in the East End of London, alarmed at his son's long absence from home and his silence, communicated with the police.

Four years ago Joseph Warschawski was found quite by accident in a wretched East Side tenement in New York. He was then a semiimbecile, and was quite unable to give any information as to what had happened to him since his disappearance. One thing was certain, and that was that he could not have arrived in New York in that condition, as he would have been rejected as an undesirable alien.

Six months ago a famous New York surgeon, whose remarkable operations had from time to time staggered humanity, died. He was killed in his own laboratory while attempting to place in the throat of a tiger cub the vocal cords of a newborn baby who had just died. He was confident that he would be able to make the tiger talk. The mother of the baby, discovering what was happening, rushed into the laboratory and, seizing a surgical knife, stabbed the doctor to the heart. When the doctor's executors went over his papers they found a document in a sealed envelope which was of such a character that they felt bound to place it in the hands of the New York police. The envelope was labeled The Case of Joseph Warschawski.

In the document the doctor confessed that he had, while in London, heard of the brilliant intellectual attainments of a poor young Polish Jew whose father was an East End workman. He made the acquaintance of the young fellow, and invited him to some rooms he was then occupying near St. Thomas's Hospital. There he administered a potion to the young man which caused him temporarily to lose his memory, and with it all knowledge of his own identity. He then took passages for himself and his victim by the next boat leaving Liverpool and brought him safely to New York.

The doctor's design from the first had been a daring one.

He was a widower with a son who, after giving the most brilliant promise, had suddenly been stricken with brain trouble, and was rapidly approaching a condition of imbecility. A few days after the doctor's arrival he performed an extraordinary operation with the assistance of a colleague and two nurses who were devoted to him and pledged to secrecy. The two young men, Joseph Warschawski, the brilliant genius, and the doctor's son, the partial imbecile, were placed under anesthetics, and then, by a remarkable surgical performance, the brilliant brain of Joseph Warschawski was transferred to the head of the doctor's son and the diseased brain of the doctor's son was transferred to the head of Joseph Warschawski. Both the young men recovered from the operations. But the doctor's son rose up from his bed a brilliant genius and Joseph Warschawski was turned out into the streets of New York a partial imbecile.

That is the story the police of New York and London are now investigating. The reason that no communication so far has been made to the press is that the doctor's son has become an eminent novelist and dramatist. At the present time he is in London. Two of his plays have already been produced with the greatest literary and artistic success, and a well known London manager has just entered into a contract with him for a third which is declared by those who have read it to be the master effort of the century. It is the reputation of this eminent man of letters that causes the hesitation on the part of the police authorities.

It is a serious matter for the police to publicly denounce a man of European fame as a receiver of stolen brains, especially as the author and dramatist himself was absolutely ignorant of the circumstances in which the stolen property came into his possession. But justice demands that something shall be done for the poor imbecile in New York who has been so cruelly robbed of a mental endowment that would have brought him not only world wide fame, but vast wealth. It is understood that the London authorities will do nothing until the Home Secretary, after consultation with the Attorney General, has given his decision in The Strange Case of Joseph Warschawski.

The explicit reference to the "doctor's son" as a successful playwright and man of letters apparently overbore the last doubts of the veracity of this story.

Meetings of Local Medical Societies.

MONDAY, *May 27th.*—Medical Society of the County of New York.

TUESDAY, *May 28th.*—New York Dermatological Society (annual); New York Psychoanalytic Society; New York Medical Union; New York Otological Society; New York City Riverside Practitioners' Society; Metropolitan Medical Society of New York; Washington Heights Medical Society, New York; Alumni Association of Seney Hospital, Brooklyn; Buffalo Academy of Medicine (Section in Pathology); Valentine Mott Medical Society, New York; Rome, N. Y., Medical Society.

FRIDAY, *May 31st.*—Hospital Graduates' Club, Brooklyn; Audubon Medical Society, New York.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending May 17, 1912:

CHOLERA—FOREIGN: *India*, March 17-April 6, 12 cases, 66 deaths; (Madras Presidency), March 1-31, 2,153 cases, 1,344 deaths; *Turkey* (Adana), March 21-April 8, 25 cases, 9 deaths.

YELLOW FEVER—FOREIGN: *Brazil*, April 14, 3 cases, 5 deaths; (Pernambuco), April 2, epidemic; *Mexico*, April 18-May 11, 2 cases, 1 death; *Venezuela* (Caracas), Dec. 1-Feb. 29, 18 deaths; *West Indies* (Barbados), April 27, 1 case, 1 death.

PLAGUE—FOREIGN: *Brazil*, April 7-20, 4 cases, 2 deaths; *India*, March 17-April 6, 373 cases, 454 deaths; *Java*, March 24-30, 5 cases, 4 deaths; *Mauritius*, Feb. 23-29, 1 case; *Persia*, March 3-30, 103 cases, 69 deaths; *Turkey* (Jiddah), March 14-27, 7 cases, 4 deaths; *Venezuela* (Caracas), April 22, 4 cases.

SMALLPOX—UNITED STATES: *Colorado*, April 1-30, 60 cases; *Connecticut*, April 1-30, 138 cases; *Iowa*, April 1-30, 40 cases; *Louisiana* (New Orleans), April 27-May 4, 6 cases; *Massachusetts*, April 1-30, 100 cases; *Mississippi*, April 1-30, 75 cases, 1 death; *Missouri* (St. Louis), 2 cases; *North Dakota*, April 1-30, 15 cases; *Ohio*, April 1-30, 159 cases; *Tennessee*, April 1-May 4, 14 cases, 2 deaths; *Utah*, March 1-31, 289 cases; *Wisconsin*, April 1-30, 57 cases.

SMALLPOX—FOREIGN: *Arabia* (Aden), March 26-April 8, 4 cases, 1 death; *Austria-Hungary* (Galicia), April 7-13, 2 cases; *Brazil*, March 17-April 20, 7 cases, 3 deaths; *Canada*, April 21-May 4, 8 cases; (Summerstown), April 27, epidemic; *Chile* (Valparaiso), April 7-13, 2 cases; *China* (Dalny), April 1-16, 1 case; *Egypt* (Cairo), March 26-April 1, 1 case; *France* (Paris), April 7-13, 2 cases; *Germany*, April 21-27, 12 cases; (Hamburg), April 14-20, 2 cases; *India*, March 17-April 6, 213 cases, 141 deaths; *Italy*, April 14-27, 11 cases, 1 death; *Japan* (Formosa), March 17-23, 39 cases, 33 deaths; *Java* March 24-30, 4 cases, 1 death; *Mexico* (Mexico), March 3-23, 57 cases, 22 deaths; *Portugal* (Lisbon), April 14-20, 1 case; *Roumania*, Jan. 1-31, 2,935 cases, 143 deaths; *Russia*, March 24-April 16, 48 cases, 5 deaths; *Spain*, April 14-20, 27 cases, 1 death; *Teneriffe*, April 7-13, 1 death; *Turkey* (Beirut), April 7-13, 25 cases; (Constantinople), April 15-21, 21 deaths.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending May 15, 1912:

Anderson, J. F., Passed Assistant Surgeon. Directed to assemble materials for a scientific exhibit at the annual meeting of the American Medical Association to be held at Atlantic City, N. J., June 3 to 7, 1912; also to attend the meeting in charge of the exhibit and present a statement of the results of recent researches by the service. **Parker,** Thomas F., Acting Assistant Surgeon. Granted thirty days' leave of absence from June 1, 1912. **Smith,** F. C., Passed Assistant Surgeon. Detailed to represent the service at the meeting of the National Association for the Study and Prevention of Tuberculosis, at Washington, D. C., May 30 and 31, 1912, stopping at El Paso, Texas, en route, to inspect laboratory. After the close of the meeting in Washington, directed to visit various hospitals and sanatoriums in the States of Maryland, Pennsylvania, New Jersey, New York, Illinois, and New Mexico for the purpose of studying administration and observing methods of treatment. **Wertenbaker,** C. P., Surgeon. Directed to attend the annual meeting of the Association of Surgeons of the Norfolk and Western Railway, at Columbus, Ohio, June 18 and 19, 1912.

Boards Convened.

Passed Assistant Surgeons Edward Francis and Arthur M. Stimson detailed as members of Revenue Cutter Service Retiring Board, to meet at Treasury Department, Washington, D. C., Monday, May 20, 1912.

Board of medical officers convened to meet at the U. S. Immigration Office, Montreal, Can., for the reexamination of an alien immigrant. Detail for the board: Acting Assistant Surgeon James Barclay, chairman; Acting Assistant Surgeon C. K. Russell, recorder.

Board of medical officers convened to meet at New London, Conn., upon the call of the chairman, for the examination of cadets of the Revenue Cutter Service to determine their physical fitness to be commissioned third lieutenants. Detail for the board: Assistant Surgeon Harry J. Warner, chairman; Acting Assistant Surgeon J. G. Stanton, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending May 18, 1912:

Bayley, Rozier C., Lieutenant, Medical Corps. Honorably discharged from the service of the United States, May 16, 1912. **Christie,** Arthur C., Captain, Medical Corps. Relieved from duty at Columbus Barracks,

Ohio, and ordered to the Army Medical School, for duty as instructor in operative surgery and x ray work. **Davis,** Addison D., Lieutenant, Medical Corps. Leave of absence extended one month. **Duval,** Douglas F., Major, Medical Corps. Left Fort Benjamin Harrison, Ind., on fourteen days' leave of absence. **Frick,** Euclid B., Lieutenant Colonel, Medical Corps. Detailed for duty as surgeon of the transport *Sheridan* during the voyage of that transport to Alaska, and, in addition, to inspect sanitary conditions of the Alaskan stations at which transport lands. **Goelitz,** Herman W., First Lieutenant, Medical Reserve Corps. Resignation accepted, to take effect May 10, 1912. **Hughes,** Michael E., First Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Redman, Mass., June 14, 1912, and will proceed to his home; granted leave of absence from June 15 to October 2, 1912. **Lewis,** William F., Major, Medical Corps. Granted five days' leave of absence. **Nelson,** Kent, Major, Medical Corps. Granted twenty-five days' leave of absence. **Nichols,** Henry J., Captain, Medical Corps. Detailed to represent the Medical Department of the Army at the meeting of the American Society of Tropical Medicine, to be held at Atlantic City, N. J., on June 3, 1912. **Pinkston,** Omar W., Captain, Medical Corps. Relieved from duty at Fort Meade, South Dakota, and ordered to Columbus Barracks, Ohio, for duty. **Snyder,** Henry D., Lieutenant Colonel, Medical Corps. Ordered to proceed to Erie, Pa., on official business pertaining to sterilizers for the Medical Department. **Stayer,** Morrison C., Lieutenant, Medical Corps. Granted leave of absence for three months, about July 1, 1912. **Tasker,** Arthur N., Captain, Medical Corps. Relieved from duty at the Presidio of San Francisco, Cal., and ordered to Fort Hancock, N. J., for duty. **Wadhams,** S. H., Major, Medical Corps. Granted two months' leave of absence. **Weston,** Henry R., First Lieutenant, Medical Reserve Corps. Relieved from duty at Fort Strong, Mass., and ordered to Key West Barracks, Fla., for duty.

Each of the following named officers of the Medical Corps will proceed at the proper time to Atlantic City, N. J., for the purpose of representing the Medical Department of the Army at the sixty-third annual session of the American Medical Association, to meet in that city, June 4 to 7, 1912, and upon the completion of this duty will return to his proper station: Colonel Charles Richard, Lieutenant Colonel Jefferson R. Kean, Major Frederick F. Russell, Captain James M. Phalen, Captain Allie W. Williams. The travel directed is necessary in the military service.

By par. 2. S. O. 108, Headquarters Eastern Division, May 11, 1912, under War Department instructions of January 16, 1912, the following named officers will proceed, at the proper time, to Mount Gretna, Pa., reporting upon arrival to the senior instructor present, for duty as instructors of medical officers at the camp of instruction for infantry officers of the Organized Militia, State of Pennsylvania, June 2 to 7, 1912: Major Louis T. Hess, Medical Corps; Major Charles R. Reynolds, Medical Corps; Captain William R. Davis, Medical Corps. Upon completion of this duty the officers named will return to stations.

By par. 2, Special Orders No. 108, Headquarters Eastern Division, May 11, 1912, under War Department instructions of January 16, 1912, the following named officers will proceed, at the proper time, to West Newbury, Mass., reporting upon arrival to the senior instructor present, for duty as instructors of the medical officers at the camp of instruction for infantry officers of the Organized Militia, State of Massachusetts, June 22 to 25, 1912: Major James S. Wilson, Medical Corps; Major Patrick H. McAndrew, Medical Corps; Major Robert U. Patterson, Medical Corps; Captain James F. Hall, Medical Corps. Upon completion of this duty the officers named will return to stations.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending May 19, 1912:

Beeching, C. L., Assistant Surgeon. Ordered to the Naval Hospital, Canacao, P. I. **Blackwell,** E. M., Surgeon. Detached from the *Solace,* and ordered to duty at the Naval Dispensary, Washington, D. C. **Braisted,** W. C., Surgeon. Detached as assistant in the Bureau of Medicine and Surgery, and ordered to temporary duty in the Bureau of Medicine and Surgery. **Duhigg,** J. T., Acting Assistant Surgeon. Appointed an acting assistant surgeon, from May 12, 1912. **Hayden,** Reynolds, Passed Assistant Surgeon. Detached from duty at the Naval Academy, Annapolis, Md., and ordered to duty on the *Massachusetts.* **Jones,** R. F., Assistant Surgeon. Ordered to the Naval Hospital, Canacao, P. I. **Lanning,** R. H., Assistant Surgeon. Ordered to the *Elcano.* **Ledbetter,** P. B., Assistant Surgeon. Ordered to Olongapo Station, P. I. **McDowell,** R. W., Passed Assistant Surgeon. Detached from the Naval Dispensary, Washington, D. C., and ordered to duty at the Naval Academy, Annapolis, Md. **Richards,** T. W., Surgeon. Detached from duty in the Bureau of Medicine and Surgery and ordered to duty as assistant in Bureau of Medicine and Surgery. **Riker,** G. A., Assistant Surgeon. Detached from the *Dixie* and ordered home to await orders. **Rose,** M. E., Acting Assistant Surgeon. Detached from the Marine Recruiting Station, Buffalo, N. Y., and ordered to the Marine Recruiting Station, Memphis, Tenn. **Ryder,** C. E., Passed Assistant Surgeon. Ordered to the *Pompey.* **Schier,** A. R., Acting Assistant Surgeon. Detached from the Marine Recruiting Station, Memphis, Tenn., and ordered to the Marine Recruiting Station, St. Paul, Minn. **Snyder,** J. R., Surgeon. Ordered to the Receiving Ship, New York Navy Yard. **Treibly,** C. E., Acting Assistant Surgeon. Detached from the Marine Recruiting Station, Baltimore, Md., and ordered to the Marine Recruiting Station, Chattanooga, Tenn.

Births, Marriages, and Deaths.

Married.

Ellis—Stebbins.—In Baltimore, Md., on Wednesday, May 8th, Dr. Edward Dorsey Ellis and Miss Mary E. Stebbins. **McKelvey—Frank.**—In Omaha, Neb., on Monday, May 6th, Dr. Van Dyke McKelvey and Miss Clara Frank. **Raymond—Crittenden.**—In Watertown, Conn., on Monday, May 6th, Dr. C. Stanley Raymond, of Providence, R. I., and Dr. Mabel Cornelia Crittenden.

Died.

Briggs.—In Santa Rosa, Cal., on Wednesday, May 15th, Dr. Elmer Ellsworth Briggs, aged fifty-two years. **Chess.**—In Tucson, Ariz., on Tuesday, May 14th, Dr. Moses Chess, Jr., aged thirty-five years. **Donelan.**—In St. Joseph, Mo., on Friday, May 10th, Dr. Edward A. Donelan, aged eighty-eight years. **Farnham.**—In Citronella, Ala., on Monday, May 6th, Dr. Alden Bradford Farnham, aged sixty-seven years. **Finegold.**—In New York, on Sunday, May 19th, Dr. Abraham Finegold, aged twenty-one years. **Foote.**—In New York, on Friday, May 17th, Dr. Hubert Townsend Foote, aged fifty-three years. **Groves.**—In Shanon City, Iowa, on Saturday, May 4th, Dr. L. S. Groves, aged seventy-eight years. **Henderson.**—In Brewton, Ala., on Friday, May 10th, Dr. Stephen C. Henderson, aged fifty-one years. **Herff.**—In San Antonio, Texas, on Saturday, May 18th, Dr. Ferdinand Herff, aged ninety-two years. **Howard.**—In Philadelphia, on Thursday, May 9th, Dr. Edwin C. Howard, aged sixty-six years. **Husted.**—In Woodington, Ohio, on Friday, May 10th, Dr. James L. Husted, aged seventy-five years. **Johnston.**—In Claysburg, Pa., on Wednesday, May 8th, Dr. John W. Johnston, aged sixty-nine years. **Lodge.**—In Merion, Pa., on Saturday, May 4th, Dr. John W. Lodge, aged seventy-four years. **McNab.**—In Toronto, Canada, on Tuesday, May 14th, Dr. William Duncan McNab, aged fifty-two years. **Robinson.**—In Bedias, Texas, on Friday, May 10th, Dr. B. W. Robinson, aged seventy-three years. **Rolph.**—In Chula Vista, Cal., on Wednesday, May 15th, Dr. Rollin Thomas Rolph, of Dunkirk, N. Y.

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Original Communications.

THE UPRIGHT POSITION IN ETHER OPERATIONS UPON THE NOSE, THROAT, AND OTHER PORTIONS OF THE HEAD.*

Demonstration of a New Method for Attaining the Position with Expedition, Ease, and Safety.

BY THOMAS R. FRENCH, M. D.,
Brooklyn, N. Y.

Twelve years ago the writer prepared a paper for presentation to this distinguished body, the title of which was somewhat like that of the one now being read. In the paper of earlier date the upright position was extolled and the belief expressed that it was of greater value in ether operations than other positions. So far as we are aware the contribution did not make much of an impression, and we like to think the apparent lack of impressiveness was, at least in part, due to the writer's inability to be present to emphasize his convictions and demonstrate his method. The method for securing and maintaining the upright position, which was described at that time, consisted in anesthetizing the patient upon a table, from which, when partly anesthetized, he was lifted into a specially designed chair tilted well backward, and after the body was strapped to the chair so that it was practically one with it, it was brought slowly from the recumbent to the upright position. Our experience with the method since then has taught us many things, and we have come before you again to present the results of such teaching.

In the communication just referred to, we said: "A search through surgical literature reveals the existence of an almost universal fear among surgeons of performing ether operations upon the nose and throat, while the patient is in the upright position. The fear seems to be due, mainly, to the supposed danger of blood flowing into the windpipe. . . . It is alleged that disaster is courted when operations are performed when the body is in such a position, and if blood flows into the lower air passages while the cough reflex is abolished, one has only one's self to blame if either pneumonia or violent bronchitis occurs afterward." When one takes into consideration the superiority of the display of the interior of the mouth and the fauces, and also the interior of the nasal cavities, when the patient is in the upright position, it would be difficult to understand why it would not always be the position of choice in ether operations, if it could be demonstrated that, while employing it, the patient's interests would not be jeopardized by an added risk in the administration of an anesthetic, and by the dreaded, but largely mythical, inspiration of blood into the windpipe; and, also, that neither extra time nor trouble need be taken to attain and maintain the upright position. In the hope of being able to help in proving that such dangers and difficulties can be readily avoided, and the position be made as safe and easy as any other, an outline of the results of our experiences in this field are presented for your consideration.

In the time which has passed since this matter was, to us, quite satisfactorily settled, it became apparent that there must be something seriously wrong with the older method of attaining the upright position, for anesthetists, especially hospital internes, not infrequently showed a decided reluctance to preparing patients for it. Such reluctance, it would seem, has, in part, been due to the more or less frequent occurrence of trouble in maintaining respiration until the patient was fully anesthetized and safely placed in the position for operating. In the hands of an expert anesthetist, thoroughly trained in the various steps of the procedure necessary to placing the patient in the desired position, there is no greater difficulty or danger with the older method than with the new, but it is unquestionably a fact that when a large number of patients are to be operated upon at one time, the older method is much more tiring, even to the expert anesthetist. Because of the difficulties and objections just mentioned, a new method has been evolved from the old to make the position safe in the hands of relatively inexpert anesthetists, and also to make the anesthetizing and operative work easier and more expeditious in any hands.

While the older method has proved to be satisfactory, when one or a few operations have been done at a time, especially when the anesthetic has been given by an expert, it has nearly or quite broken down in hospital work when many operations are scheduled for a single session. Indeed, in one hospital the internes practically struck because of the added labor required of them to bring the patients to the upright position in long operative clinics. This brought us to a realization of the situation and we set to work to reduce the difficulties and make the method feasible and easy for all operative sessions. The outcome of an evolu-

*Read before the American Laryngological Association, Atlantic City, May 10, 1912.

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tionary process of development, occupying a considerable length of time, is what we regard as a satisfactory surgical device and a satisfying method. Described in a word, the method consists in placing the patient upon a table for anesthetization in the recumbent position, and when the stage of excitement has passed, in converting the table into a chair, which possesses many possibilities, and bringing the body to the sitting posture; or, for that matter placing it in almost any position except one with the face downward.

The designation of this piece of surgical apparatus as a *chair table* (Fig. 1)[1] will, we believe, convey a fair idea of its character. When viewed as a table, the top is seen to be made in three sections, the longer end section being the chair back, the middle section the seat, and the other end section the footrest. The long end section is made of two parts, telescopic in character, which makes it possible to lengthen or shorten the back to fit the back of each patient. The extreme outer end of this section is fashioned into a solid headrest. The table top can be made to occupy a level as high as, or considerably lower than that of the regulation operating table. The top is balanced upon, and is attached to the frame of the table by a mechanism similar to the Trendelenburg device, which, with other mechanical aids, makes it possible for us to do many things with the chair. Foot brakes are attached to the rear casters or hold the chair firmly to the floor during operations.

By placing a patient upon the table we will be better able to follow the various movements. Before the patient is wrapped in a blanket, a stout, four inch bandage is made to encircle the upper part of the back, the ends being drawn up under the axillæ and over the front of the shoulders, and for the moment the ends are allowed to hang in the recesses on either side of the headrest (Fig. 2). After the patient has been wrapped in a blanket, the leather straps attached to the seat are fastened rather loosely around the hips, and the legs, below the knees, are strapped to the footrest (also shown in Fig. 2). When the patient is nearly anesthetized the anesthetist turns the wheel at the junction of the back of the chair with the seat, and the body is thus raised slowly forward (Fig. 3) to the upright position, the mechanism being so constructed that as the back ascends the footrest descends. The seat, which is a trifle higher in front than at the back, is covered with a mat of corrugated rubber, which checks largely, if not entirely, the tendency of the body to slide toward the foot of the table or chair. While the upward movement is taking place the headrest is adjusted to the patient's head by means of the smaller wheel on the side of the back section (Fig. 4), and this is accomplished with such ease and accuracy that the position of the head for the proper administration of the anesthetic and the desired display of the field of operation can be readily maintained. At the same time the shoulder bandage is adjusted by drawing the ends around the headrest when they are caught under, and tied to a hook on the back of the chair. The patient has now reached the upright position and is ready for operation. If the surgeon desires to operate while standing, the chair part of the mechanism can be raised (by means of the large wheel in the frame of the base) sufficiently to bring the head of the patient opposite his own (Fig. 5). If, however, he desires to operate while sitting, the chair can be lowered, if necessary, as far as the base (Fig. 6); and these movements can be made with surprising ease, even if the patient's body is of great weight. Figs. 5 and 6 also show the anesthetist standing inside the rear part of the frame of the base, in which position he can administer the anesthetic and control the mechanism of the chair. If respiratory troubles arise, and it is desired to lower the patient's head, this can be quickly done by tilting the chair backward (Fig. 7), and then by wheel action converting the chair into a table top in the Trendelenburg position (Fig. 8).

The special chair exhibited before this association twelve years ago is now being remodeled and, we believe, greatly improved. It will be light in weight and collapsible, and therefore easy to carry about. We have reason to think it will be well adapted for operative work in patients' homes. The chair table is, perhaps, a trifle too heavy for use except in permanent operating rooms.

While we are not without hope that the members of this association from Boston and its vicinity may find something of use to them in the particular method which we are describing, we have, as a matter of fact, no thought of the need of impressing them with the *value* of the upright position. A young laryngologist from "up New England way," while in New York a few weeks ago, was asked what position he employed in operating for adenoid growths and faucial tonsils, and he replied: "Why the chair position of course! Is there any other worth the while?" My deeply lamented friend, Dr. Franklin H. Hooper, brought the idea from England and taught it so well in Harvard that, in this particular, practically all New England is upright to-day.

It is, we believe, the almost invariable custom of writers of textbooks and monographs, when dealing with operations within the upper air passages, to advise the upright position when local anesthesia is to be employed, and the recumbent position when the patient is to be placed under the influence of a general anesthetic. The interpretation of the latter piece of advice is, no doubt, that although the upright position is regarded as nearly always preferable, a concession must be made to the horizontal position because of the supposed danger of blood flowing into the windpipe, as well as the danger from the anesthetic in the upright position. We believe every one of our auditors will agree to the statement that, with very few exceptions, every operation upon the nose and throat can be done more skilfully, and therefore more satisfactorily, when the patient is in the upright position; a position which enables us to occupy the same topographical relationship with our patients as that to which we are accustomed in every day office practice. If this proposition is agreed to, then is not the whole question reduced to the following: Is there greater danger from a general anesthetic, and

[1] We are indebted to Dr. Nathan T. Beers for the excellent flash light photographs which illustrate this paper. The exposures were made in the operating room department of the Long Island College Hospital.

is there greater danger from blood flowing into the windpipe in ordinary operations, when the patient is without voluntary control, in the upright position than under similar conditions in the recumbent

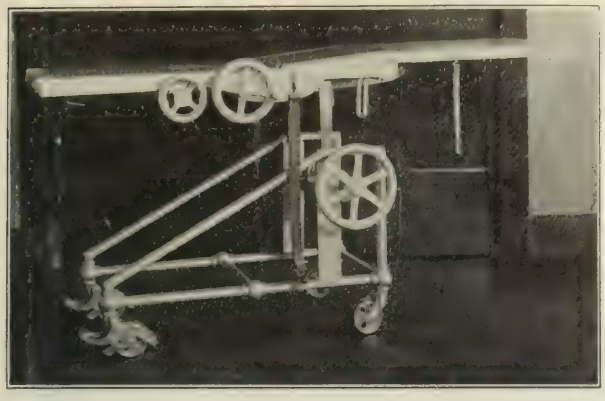


FIG. 1.—The chair table shown as table; the height in this adjustment is a little less than that of the regulation operating table; it can be raised higher.

position? Our experience of many years, during which we have rarely operated upon a patient under the influence of a general anesthetic except in the upright position, enables us to say that neither the one nor the other is more likely to trouble us in the upright than in the hanging head position, provided that the operator and assistants are alive to the needs in the administration of the anesthetic and the manner of disposing of the stream of blood. In reviewing our experiences with this method, we can scarcely wonder that some of the surgeons witnessing such operations should have been deterred from adopting the position because of the temporary embarrassment to respiration occasioned by, or resulting from the incapability of the anesthetist. With an ordinary chair, or even with the special chair as previously constructed, it has been, at



FIG. 2.—Strapping the patient to table top before anesthetization.

times, very difficult to place and keep the head of the patient in the required position for the proper administration of the anesthetic and for easy access to the field of operation. With the new method this difficulty has been eliminated, and even the inexperienced interne or newly graduated medical man, can, under instruction, bring the patient to, and maintain him in the upright position with perfect ease and safety. This is accomplished partly by means of wheel devices the slightest turn of which either raises or lowers the upper portion or the whole of the body or elevates or depresses the headrest, and that too without further need of attention than is required in turning them.

The secret of a safe and an uninterrupted administration of an anesthetic in the upright position, is in keeping the neck somewhat stretched and the head moderately extended over the headrest. It is, we believe, the not infrequent stiff working of the sliding back of the chair and the lack of a wheel action, quickly to elevate, but more often depress the headrest, which has made the upright position in the hands of relatively inexpert anesthetists, at least in our section of the country, seem unsafe, and the administration of an anesthetic difficult.

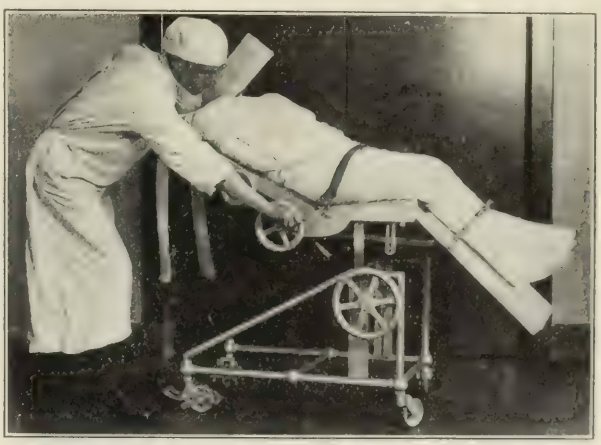


FIG. 3.—Anesthetist raising patient to the sitting posture. This is accomplished by means of the wheel at the junction of the back of the chair with the seat.

We feel confident, however, that when the piece of surgical furniture described in this paper is used, there need be no added risk in the administration of the anesthetic, provided always that the body is not bent or raised from the recumbent to the upright position too rapidly. The last statement leads us to say again what we have already said on this subject, that a sudden change from the horizontal to the upright position while the patient is under ether narcosis, is apt to occasion a too rapid development of cerebral anemia and a consequent loss of cardiac balance. In our earlier operations with this method we experienced considerable difficulty because of the too hasty elevation of the head, but as since then the upward movement has been made a more deliberate one, using the last two minutes before operation (the time when the face and field of operation are cleansed and prepared) we have not observed disturbances which could be attributed to the change in position.

Our experience would seem to show that the danger of blood flowing into the trachea is no greater during the routine operations which we are wont to perform in the nose and throat, when the



Fig. 4.—When patient's body is part way up, the headrest is adjusted to the head by means of the wheel on the side of the chair back. Foot brakes applied.

body is upright than when in the Rose position. In both of those positions, and in all other positions, it is possible for a small quantity of blood to be



Fig. 5.—The patient in the upright position and ready for operation. The chair is elevated to permit the surgeon to operate while standing.

aspirated into the larynx, and when this has occurred in our patients while in the upright position it has not caused the loss of more than a few seconds of time. Immediately after extensive incisions have been made, we are in the habit of having the patient's head bent quickly forward to allow the excess of blood to flow from the nose and mouth. But even when this movement of the head is omitted, evidences of blood in the larynx are very rarely present. The immunity of the larynx is no doubt due to the pharyngeal gutters which conduct the stream of blood escaping from the sponges, around the laryngeal orifice (which stands up in the throat like the curb of a well) into the esophageal open-



Fig. 6.—Same as Fig. 5, except that chair is at lowest level to permit the surgeon to operate while sitting.

ing. And we may say, in passing, that the blood thus flowing into the gastrointestinal tract has never, in our experience, made its presence manifest by untoward disturbances in that canal. Our results, in the considerable number of patients upon whom we have operated in the upright position, have led us to the conviction that the fear of blood flowing into the air passages is based upon theory and not upon fact. If from the laying open of a large artery the gush of blood should overflow the well curb of the laryngeal outlet, the air passages might (if the head was not bent forward) be flooded, but such an occurrence would be an inundation and so exceptional that, so far as we know, it would have to be recorded in the future, if at all. While for the proper safeguarding of the gastrointestinal tract it is desirable to catch as much blood as possible in sponges, or divert it through the nares or

mouth, it is quite safe to say that in routine operations, even without alertness in sponging or without bending the head forward, embarrassment from blood flowing into the larynx or trachea does not occur.

But why, it may be asked, has all this trouble



FIG. 7.—Chair tilted backward; this is the first movement necessary to reach the Trendelenburg position.

been taken to devise a means for getting the patient easily into, and safely maintaining him in the upright position for ether operations? We have already said it must be generally conceded that in the upright position, which is the natural position in which to view the parts, we can do everything better because we are accustomed to having the patient's body upright in our every day practice. We gave this as one reason for preferring the upright position in our last communication on this subject to this association. Exception was taken to it by various observers who thought there was little need of it, as we did most of our work, more especially upon adenoid growths and faucial tonsils, by the sense of touch alone. Well, in ten or twelve years the aspect of many affairs is changed and, judging from the discussion of Doctor Swain's admirable paper read before this association a year ago, we must infer that a good portion of the members taking part in it would not only be unwilling to operate for the removal of faucial tonsils by the sense of touch alone, but believing, as they did, in tonsil enucleation, they must of necessity require the best view obtainable. In these days of clearing vision, whether it is a tonsil enucleation, a complete tonsiliotomy, a staphylorrhaphy, or any other operative procedure in the nose or throat, we are obliged to see the whole of the field of operation where possible, and to see it as well as may be. While in the recumbent position a good view of the fauces can be obtained by the forceful use of the tongue spatula, the display of the cavity obtained in that way is not, as a rule, comparable to the display obtained from the use of the spatula in the upright position, aided as it is by the gravitation of the tongue and the soft parts of the neck. And is it not, also, reasonable to assume that a straight away, right side up view of the nasal cavities is conducive to better surgical work in that part of the body?

Still another word can be said for the upright position. There is less shock and less disturbance in other ways, to the patient after operation because less ether is required to maintain narcosis when the sitting posture has been attained. This is, no doubt, due to the diminished blood pressure in the vessels of the head when the body is in the upright position and under the influence of a general anesthetic. The difference between the flushed face in the recumbent position, and its relatively pale appearance in the upright position is at times very marked. The difference in the quantity of the anesthetic required is, we believe, due to the difference in the amount of blood in the brain in the two positions. But, whatever the true explanation may be, the fact remains that less ether is needed when the body is upright than when in other positions; and, under certain conditions and in certain cases, this is a consideration of self evident importance.

With the presentation of one more reason for preferring the upright position we shall have finished this little story. We refer to the relatively small amount of blood lost while the patient is in that position. We revert again to our earlier remarks on this feature of our subject, which run as follows: "When the body is upright there is less blood pressure in the vessels of the head than when the body is supine. This is especially true when the subject is under the influence of a general anesthetic. The amount of blood which can be withdrawn from the body without harm varies in different individuals.



FIG. 8.—Trendelenburg position.

A moderate amount of bleeding will do no harm in the comparatively healthy, but the very young, the aged, the feeble, the cachectic do not bear well the loss of much blood. The abstraction of a considerable quantity of blood from an anemic child adds to the cachexia, diminishes its rallying powers, and reduces the bodily resistance in the event of the

onset of any special disorder. Shock is felt more by the child than the adult, and although the child recovers from the shock more rapidly the ultimate recovery will be retarded if a considerable amount of blood has been lost." As a rule, children in a fair state of health before operation sustain the loss of a relatively large quantity of blood in a very remarkable way, and in time recover their usual, if not better health, but they do not always do so without concurrent disturbances; and how often such disturbances are due directly or indirectly to the loss of blood it may be difficult to say. We doubt, however, if there can be two minds about the desirability of reducing the shock of an operation, and of securing the retention of as much blood as possible in the bodies of anemic, delicately constructed children, with lowered vitality and a weakened power of resistance.

150 Joralemon Street.

THE VALUE OF WARMED ANESTHETICS.*

By James Tayloe Gwathmey, M. D.,
New York.

Seelig[1] has stated that "in recent literature attention has been directed so forcibly to the necessity of warming anesthetics that one feels almost impelled to adopt some procedure that will accomplish this purpose." Not believing, however, in the necessity of adding to the "already complex armamentarium of the operating room another and more expensive apparatus" for warming an anesthetic vapor, he undertakes to prove, by experiments which were exceedingly crude as will presently be shown, "the fallacy of warmed ether vapor."

The experiments conducted by Seelig, and detailed in the article cited, may seem upon cursory examination to substantiate the foregoing conclusion. Yet a brief review of the careful laboratory experiments and clinical investigations of the author and others, extending through a period of ten years, will controvert his findings. Experiments of this character and purpose, to be of value, must be carried out with suitable apparatus. Let us see if Seelig's experiments met this fundamental requirement.

ABSTRACT OF SEELIG'S EXPERIMENTS.

Seelig's laboratory experiments consisted in passing air through an ordinary laboratory wash bottle half filled with ether and then passing the air charged with ether through a lead pipe coil immersed in a beaker of water that was brought to and kept at the boiling point by an electrical stove (Fig. 1). He then used a thick-walled rubber tube one metre long with small slits cut in at various distances ten to forty centimetres from the end of the lead coil. As the ether vapor emerged from the heated coil its temperature was measured at various distances along the tube by thermometers whose bulbs projected into the rubber tube through the slits mentioned above. The experiment was carried on at a room temperature of 26.5° C. According to Seelig the ether vapor as it emerged from the tube (one metre from the site of heating) measured 26.9° C. He concludes this experiment by stating that "Despite the fact that ether vapor was driven through a temperature approximating 100° C. it radiated its acquired heat so rapidly that at a distance of one metre from the source of heat it had practically assumed room temperature."

Animal experiment. "A dog was tracheotomized under local anesthesia and a delicately calibrated thermometer inserted through the tracheal wound as far as the division of the bronchi. After a few minutes a reading was taken, and then ether was administered by the drop method. The column of mercury did not vary. Ether was then poured on the mask in very liberal quantities so as to insure rapid evaporation and chilling, but even this procedure caused no drop in the column of mercury. After the animal had been under the anesthesia for some time, a drop of 0.8° C. was noted, but this drop occurred also when the ether vapor was passed through hot water."[2]

As a result of his laboratory experiment and the experiment on the dog, Seelig states, in conclusion, that "If we bear in mind the rapidity with which vapors part with heat, we shall probably not concern ourselves much with securing special warming apparatus."[3]

THE AUTHOR'S EXPERIMENTS.

In order to determine the validity of Seelig's experiments, and to make absolutely sure, a special glass tube was constructed with uniform side tube openings ten cm. apart, into which thermometers were inserted (see Fig. 2). At the side tube exits and over the thermometers, a tightly fitting rubber collar was placed to prevent leakage. The glass tube was attached to a thermolite coil heater immersed in a water bath, which was kept at the boiling point by an electric hot plate. The Gwathmey vapor apparatus[4] was attached to this heater; compressed air was passed through the ether bottle, the resulting ether vapor air stream, passing then through the water bottle of the vapor apparatus, and finally through the heater and the tube into which were inserted thermometers. Readings were made every five minutes for one hour and the room temperature was noted at the same time. The following table shows the results:

TABLE I—USING GLASS AIR CONDENSER ATTACHED TO HEATER.

Amount of ether taken.....4 oz.
Amount of ether used.....3 oz.
Compressed air flow.....Continuously through ether
Room temperature .....23.5° C.

Temperature in Degrees Celsius at Various Distances.

November 4, 1911.

Time in minutes	5	10	15	20	25	30	35	40	45	50	55	60
From heater:												
At 10 cm.	36	40.5	42	38.5	40	41	40	44	44.5	45	46	47
At 20 cm.	27	33.5	34	32	33.5	33.5	33	35	35	34.5	34.5	35
At 30 cm.	25	30.5	30	29	30.5	30	29	31	30.5	30.5	30	30
At 40 cm.	24	28	28	28	28	28	27	29	29	29	29	29
At 50 cm.	24	26.5	26	26	26.5	26	26	28	28	28	27.5	27.5
At 60 cm.	24	26	25.5	25	26	25.5	25.5	26.5	26.5	26.5	26.5	26.5

*Rearrangement of flow.

*Read before the Section in Surgery of the New York Academy of Medicine, April 5, 1912.

[1]Seelig, M. G.: The Fallacy of Warmed Ether Vapor, *Interstate Medical Journal*, September, 1911.

[2]This experiment proves only that the tidal air of the lungs is not changed by the temperature of the anesthetic *as given by Seelig's method.* The deduction that "warmed anesthetics are unnecessary" is not warranted by this experiment. In his other experiments, Seelig states positively that he was unable to warm the ether vapor. How did he warm it in this instance?

[3]If a thermometer was placed in a "slit" of a rubber tube and not closely sealed (as in our experiments), the conditions were such as to invalidate the reading of the thermometer. Either a leakage must have occurred somewhere or the lead coil in the hot water beaker was not long enough or too much ether was consumed in the time of the experiment (the amounts taken and used are not stated) or a combination of these things prevented an increase in temperature one metre from the heater.

[4]The apparatus is not patented and the author receives no royalty or revenue from its sale whatever, as he is deeply interested in the scientific administration of all anesthetics. It may be bought complete for less than thirty dollars. The vapors are controlled entirely by one stopcock, the apparatus therefore requiring a minimum amount of attention.

From the preceding table it will be seen that ether vapor may be heated, and the heating maintained for any length of time and delivered to a patient as predetermined by the anesthetizer. For instance we see that at sixty cm. from the heater at the end of sixty minutes the temperature was three degrees C. higher than room temperature. About the same amounts of ether and air were used in this experiment as are usual in practice.

In another experiment, using a rubber tube with the same length as is used in actual practice, and with a thermometer placed at the end of this tube and also a thermomter for room temperature (see Fig. 3), and passing compressed air through for one hour, the following results were obtained:

TABLE II—USING RUBBER TUBE WITH CONTINUOUS FLOW.

Amount of ether taken.....4 oz.
Amount of ether used.....3.5 oz. in one hour
Compressed air flow.....Continuously through ether
Room temperature.....24° C.

November 4, 1911.

After 5 minutes	29.25° C.
After 10 minutes	29°
After 15 minutes	31°
After 20 minutes	31°
After 25 minutes	30°
After 30 minutes	30.25°
After 35 minutes	32.25°
After 40 minutes	32°
After 45 minutes	32°
After 50 minutes	30°
After 55 minutes	30°

Temperature 65 cm. from heater (usual distance).
Ether container warmed as is *necessary*.
Heated ether container.

Conditions obtaining were approximately those of actual practice. Throughout the experiment the ether issued from the end of the tube in a vaporized diluted state, slightly warmed. Continuous flow of air ether was obtained.

From this table it will be seen that at the end of fifty-five minutes, the temperature was raised six degrees C. higher than room temperature. The experiment was repeated on another occasion when the room temperature was higher. The results follow:

TABLE III—HEATER IN BOILING WATER IN CIRCUIT.

Amount of ether used.....2 oz.
Air stream.....Normal, as in practice.

December 9, 1911.

		Room temperature near exit.
After 5 minutes	34° C.	29° C.
After 10 minutes	34°	29°
After 15 minutes	34.5°	29°
After 20 minutes	34°	29°
After 25 minutes	34°	29°
After 30 minutes	34.5°	30°
After 35 minutes	34.5°	30°

At the end of thirty-five minutes the ether vapor was 4.5° C. higher than the room temperature.

Air was then passed through the ether and water bottle of the vapor apparatus *without* the heater and readings kept for forty-five minutes. The following table gives the result:

TABLE IV—NONWARMED. ROOM TEMPERATURE

		Room temperature.
After 5 minutes	27.5° C.	28° C.
After 10 minutes	27°	28°
After 15 minutes	27.5°	28°
After 20 minutes	27.5°	28°
After 25 minutes	27.5°	28°
After 30 minutes	27.5°	28°
After 35 minutes	27°	27°
After 40 minutes	27°	27°
After 45 minutes	27°	27°

From this table it will be seen that at the end of forty-five minutes the vapor was approximately *sixteen degrees F.* below blood temperature!

Coburn[5] has also demonstrated the desirability of heating the ether vapor by placing a thermometer within an inch of the gauze in a specially constructed inhaler. The expirations did not influence the thermometer, and so his experiment gave an accurate temperature reading of the inspired vapor. Sufficient ether for a light anesthesia quickly reduced the temperature to 55° F., in moderate anesthesia to 45° F., in deep anesthesia to 35° F., and in profound anesthesia to 32° F. (operating room temperature 75° F.), or 43° F. below room temperature.

The results show that Seelig's experiments were evidently imperfect, that ether vapor can be heated easily and inexpensively, and that it can be delivered to the patient at any desired temperature within limits by placing the heater or warming device at different distances from the patient's face.

REVIEW OF LABORATORY AND EXPERIMENTAL WORK

A review of my own laboratory experiments with anesthetics at different temperatures may now be in order.

First, with chloroform: In order to determine the comparative value of chloroform as regards life when heated to 100° F. and at normal temperature, I made a number of experiments, using compressed air and passing this air through chloroform at room temperature and then to a special animal mask, using a Junker inhaler for the chloroform. I found that it took 6.57 minutes on the average to kill sixteen animals. Employing the same technique with the addition of another Junker inhaler, filled with warm water and placed in a warm receptacle between the chloroform and animal mask, I found that the average time required to kill seventeen animals was 20.35 minutes,[6] thus showing that chloroform at blood temperature is three times as safe as chloroform at room temperature.

Second, with nitrous oxide and oxygen: Using nitrous oxide and oxygen instead of chloroform, and passing the mixed gases through a tube, first at room temperature and then surrounding the tube with hot water, and, last, surrounding the tube

[5]Coburn, Raymond C.: New Apparatus for Administering and Warming General Anesthetics and New Methods of Administration. *Journal of the American Medical Association*, March 23, 1912.

[6]TIME REQUIRED TO KILL ANIMALS WITH CHLOROFORM AND AIR.

No. of experiment.	No. of minutes required to kill at 100° F.	No. of minutes required to kill at normal temperature.
1	18	[illegible]
2	5[illegible]	[illegible]
3	2[illegible]	[illegible]
4	[illegible]	[illegible]
5	18	[illegible]
6	10	[illegible]
7	15	[illegible]
8	8	[illegible]
9	[illegible]	[illegible]
10	[illegible]	[illegible]
11	[illegible]	[illegible]
12	[illegible]	[illegible]
13	[illegible]	[illegible]
14	[illegible]	[illegible]
15	[illegible]	[illegible]
16	[illegible]	[illegible]
17	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	6.

with ice, and in all instances measuring the temperature accurately by a thermometer placed in a bent tube, using the same animal mask and giving all animals first six per cent. of oxygen with nitrous oxide for five minutes, and then reducing the amount of oxygen to three per cent., the following results were obtained:

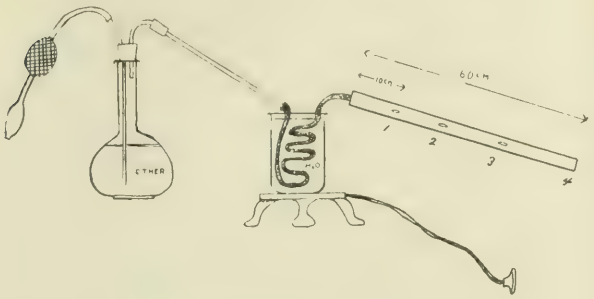


FIG. 1.—Heating apparatus.

A. Twelve animals were anesthetized and killed at room temperature; the average time was nine minutes and twenty seconds.

B. Twelve animals were anesthetized with warmed nitrous oxide and oxygen, using the same technique as before with the addition of the warm water bath. The average time required to kill eight animals was eighteen minutes, and four were not killed at the end of thirty minutes.

C. Again using the same technique, only immersing the tube containing the gases in a vessel packed with ice, ten animals were killed; the average time was five minutes and thirty-four seconds.

Third, with ether: Only a few experiments were conducted with ether, but the number was sufficient fully to convince us of the fact that warm ether acts similarly to warm chloroform and warm nitrous oxide; that is, it is twice as safe, as shown by the fact that it took over twice as long to kill the animals with warm ether vapor as with cold.

Any one with an elementary knowledge of physics knows that the specific heat of gases (measured at constant or fairly constant pressure) is small. To assume, however, that ether vapor cannot be heated above the temperature at which ether boils, is as absurd as to say that air cannot be heated above 184° C., at which temperature it boils, or that one cannot superheat steam.

A very important factor in giving an inhalation anesthetic after warming the vapor by passing it through hot water, or through cold water, and subsequently warming the vapor, is pointed out by Professor Baskerville, namely, the humidity of the gases carried into the lungs.[7]

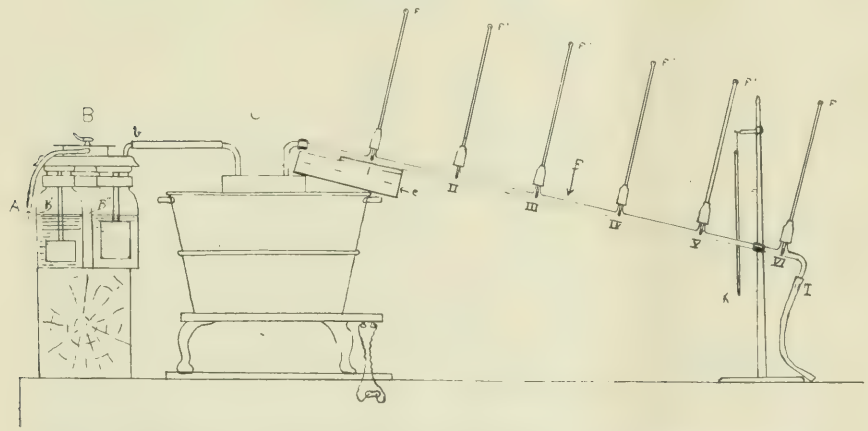


FIG. 2.—Gwathmey's vapor inhalor with Darmen's apparatus. *F*, glass tube divided into six parts, of 10 cm. each; *F'*, thermometers; *I*, drain; *K*, thermometer for room temperature; *e*, asbestos insulator.

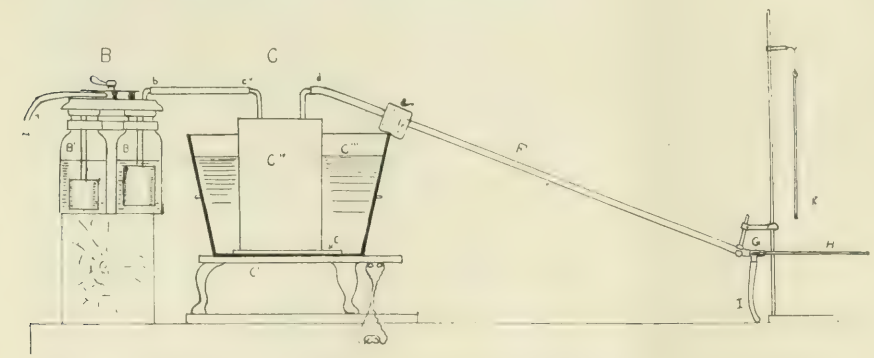


FIG. 3.—Gwathmey's vapor apparatus with the tube leading from heater as in actual practice. *A*, compressed air; *B*, Gwathmey anesthetic apparatus; *B'*, ether container; *B''*, water; *b*, ether vapor exit; *C*, vapor or heating apparatus; *C'*, electric hot plate; *C''*, asbestos mat insulator; *C'''*, water bath; *C''''*, thermolite heater; *C'''''*, inlet to heater; *d*, exit for heated vapor; *e*, asbestos insulator; *F*, 60 cm. rubber tube; *G*, glass T tube; *H*, 200° C. thermometer; *I*, drain; *K*, thermometer for room temperature.

CLINICAL DATA.

In actual practice it is not necessary to have the ether raised three degrees C. higher than room temperature, as in these experiments. A fraction of a degree aids in fulfilling the requirements of maintaining the body temperature of a patient. For the past six months I have added to my vapor apparatus a heater, devised by Dr. S. G. Davis. In this way I get a warm ether vapor which is more thoroughly washed of probable oxidation products (e. g., aldehyde) by its passage through the cold rather than through the warm water as formerly.[8] Furthermore, the humidity of the vapor more nearly accords with that of normal air.

[7] *Science*, n. s., xxxiv, No. 867, p. 176.

[8] In order to ascertain the value of passing ether vapor through water the following tests were made by Dr. Charles Baskerville, professor of chemistry, College of the City of New York. (See, in this connection, Charles Baskerville and D. A. Hamor, *Journal of Industrial and Engineering Chemistry*, iii, 5 and 6, May and June, 1911.)

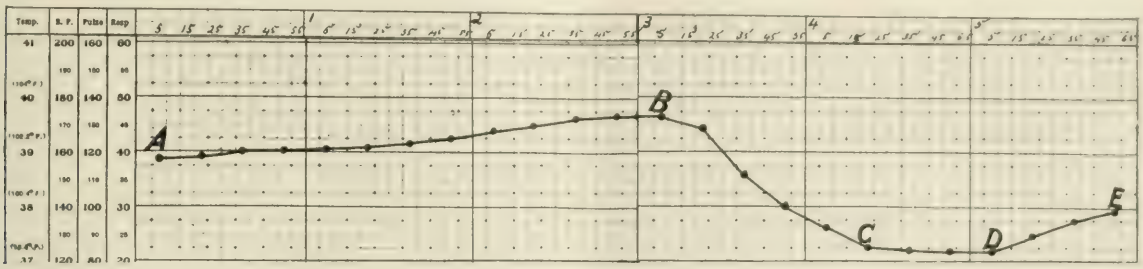
1. Pure oxygen was passed for seventeen minutes through four ounces of anesthetic ether, the resulting mixture passing through the hot water bottle with the water at 60° C. The first 10 c.c. of distillate were collected. The ether used

CLINICAL RESULTS.

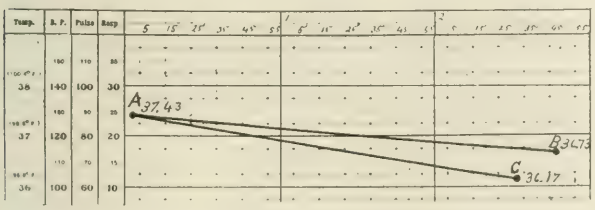
The laboratory experiments enumerated above have been repeatedly verified by myself and by professional anesthetists, notably Davis,[9] of Baltimore; Teter, of Cleveland, Ohio, and others. With warmed anesthetics, using chloroform, ether, or nitrous oxide and oxygen, not only is the value of the anesthetic increased as regards life, but the after effects are reduced to a minimum.

Teter[10] uses a lamp to heat the gas and oxygen, and has noted a number of times the difference between the warmed gases and the cold. Gatch[11] relies upon a long tube in which the gases are thoroughly warmed by being rebreathed before they reach the patient.

Davis has made a very valuable contribution to the literature of warmed anesthetics by a series of observations on human subjects undergoing surgical operations. In twenty-six patients anesthetized with warm ether vapor there was a loss of temperature averaging 0.29° F. as against the loss of 1.02° F. in 140 cases anesthetized under similar conditions with the open drop method. The shortest period of anesthesia in which the temperature was noted was forty minutes, the longest four and three quarter hours. The temperature was taken by rectum immediately before the starting and immediately after the removal of the anesthetic.



Curve *A-B* shows rise of temperature in two dogs narcotized with ether vapor and air warmed. *B-C*, a marked fall following the discontinuance of the warmed anesthetic. *C-D*, a period of stationary temperature as the animals recovered from the anesthetic. *D-E*, a rise of temperature as the animals began to move about and generate their own heat.



Represents diagrammatic picture of the duration of narcosis and the loss of temperature in six patients anesthetized for breast amputations under similar conditions. The line *A-B* represents three patients anesthetized with ether vapor and air warmed. *A-C* represents three patients anesthetized with cold ether administered by the open drop method.

The clinical picture showed a more marked difference in the condition of the patients.

These experiments of Davis upon human beings undergoing surgical operations, properly anesthetized and with the temperature taken per rectum, are more conclusive than the experiment of Seelig upon a dog. They lend strong support to the results of the laboratory experiments, especially when it is borne in mind that in many instances the patient's temperature is necessarily lowered by the surgical operation.

With the idea of testing the influence of heat upon the *recovery* of the subject from the anesthetic, I anesthetized three animals at the same time, under glass receptacles, for ten minutes, afterward placing them in receptacles, one at 0° F., another at 100° F., the third being allowed, as a control, to come out in the room temperature. The animals were changed in position on three successive days. In each instance the animal in the warm chamber made a slightly more rapid recovery than the others. The animal in the cold box came out in chills, while the one in the room temperature came out a close second to the one in the warm box.

With reference to human beings, it may be stated that by applying hot towels to the patient's face, or aerating the lungs with hot air toward the close of any anesthesia, the patient is brought out quickly, and this procedure aids considerably in modifying the unpleasant after effects.

It is sincerely hoped that improved technique may be adopted in more clinics. With our knowledge of warmed anesthetics and improved surgical technique, it is unnecessary ever to return the patient to bed to complain of being cold or uncomfortable. Let warmed anesthetics be tried out conscientiously, and if any additional improvements can be devised so much the better. I shall be among the first to adopt them.

I am indebted to Dr. Charles Baskerville, professor of chemistry, College of the City of New York, for the privileges of his splendid laboratories, in which these experiments were conducted; also for his advice and cooperation. The experiments were carried out by Mr. D. A. Hanor, Professor Baskerville's private assistant.

40 EAST FORTY-FIRST STREET.

in this test had given a *pronounced* aldehyde reaction when allowed to stand over potassium hydroxide for six hours, but the distillate obtained in this experiment gave only a *slight* response.

2. An experiment was made, using water at 40° C. and applying external heat to the water container sufficient to insure vaporization of the ether. The ether distillate obtained under these conditions gave a *negative reaction* for aldehyde. It will appear from these results that the aldehyde is removed when ether vapor is passed through water in the neighborhood of 40° C., and that the aldehyde content of the ether passed through is considerably diminished and its toxic value is especially lessened, when the water is kept at a temperature in the neighborhood of 60° C.

[9]S. G. Davis: On the effect of Narcosis upon the Body Temperature, *Johns Hopkins Hospital Bulletin*, April, 1909.

[10]C. K. Teter: Thirteen Thousand Administrations of Nitrous Oxide and Oxygen as an Anesthetic, *Journal of the American Medical Association*, August 7, 1909.

[11]W. D. Gatch: The Use of Rebreathing in the Administration of Anesthetics. Read in the Section in Pathology and Physiology of the American Medical Association, June, 1911.

INTRAVENOUS ADMINISTRATION OF PHENOLSULPHONEPHTHALEIN FOR URETER CATHETER STUDY OF THE RENAL FUNCTION.

By E. L. Keyes, Jr., M. D.,
and A. R. Stevens, M. D.,
New York.

Within the two years since Roundtree and Geraghty published their first study of the advantages of phenolsulphonephthalein as a test for the functional activity of the kidneys, the number of contributions upon this subject, as well as the universally complimentary tone of these contributions, show that this artificial elimination test has been better received than any of its predecessors. We may look forward to its taking a permanent place among our diagnostic resources. Yet a great many points in our technique are still undeveloped, and it is to the elucidation of one of these that this paper is devoted.

Roundtree and Geraghty propose the phenolsulphonephthalein test—

1. As a diagnostic test of the functional capacity of kidneys in nonbacterial or "medical" nephritis.

2. As a diagnostic test of the functional capacity of kidneys affected with bacterial or "surgical" nephritis.

3. As a diagnostic test of the functional capacity of the two kidneys, as studied by means of the ureter catheter.

These three conditions are entirely distinct, and the peculiar advantages in the use of phenolsulphonephthalein for one of them do not necessarily apply to the others.

In the present paper we shall confine our attention exclusively to the last point: The advantages and the technique of phenolsulphonephthalein injection in connection with ureter catheterization.

We have already published[1] a contribution to the general subject, and inasmuch as our special considerations naturally arise from a more intimate study of the facts at that time stated, we venture to quote the following words from that contribution as the basis of our present study:

> In twelve out of fifteen ureter catheter examinations in which the data justified a comparison of the phenolsulphonephthalein output with the urea in cgms., these two indicators told the same tale and gave the same ratio of functional ability for the two kidneys, while the three cases in which they differed were better diagnosticated by comparison of successive specimens obtained by ureter catheter than by any evidence derived from single specimens. Moreover, the study of successive specimens prevents errors from eccentricities of urinary excretion during the first half of ureter catheterization.
>
> We have found that in five out of eleven cases ureter catheterism so diminished the output of phenolsulphonephthalein (proved by subsequent tests) as to render it most misleading in determining total kidney capacity; although, as we have already observed, the relative inefficiency of the diseased kidney, as compared with its mate, was correctly indicated by the test.
>
> Hence we deem it advisable usually to make two phenolsulphonephthalein tests, one with ureter catheterism, one without, just as one would make two urea tests, one with ureter catheterism, and one on a twenty-four hour specimen of urine. If the output of the drug is high during ureteral catheterization, clearly the second test is superfluous for estimating functional ability at this time.
>
> When the phenolsulphonephthalein test is employed with the ureter catheter only for the purpose of comparing the relative efficiency of the two kidneys, the patient's discomfort may be lessened, the possibility of error by extra catheter flow diminished, and much time saved by collecting urines for successive brief periods, and comparing these with each other. As a general rule, for phenolsulphonephthalein, as for urea readings, twenty to thirty minute periods are preferable to shorter ones.
>
> The microscopic findings remain, as ever, the most important elements in ureter catheter diagnosis. Urea and phenolsulphonephthalein estimations should confirm these, and successive specimens, for comparative readings, are unnecessary in the majority of cases, but are most helpful in the precise interpretation of ambiguous ones.

The three points in the foregoing quotations upon which we would place especial insistence for our present purpose are:

1. The fact that the phenolsulphonephthalein test taken at the time of ureter catheterization is not an index of the absolute renal function, but only an index of the renal function at the time of ureter catheterization; of a renal function, in other words, which may or may not be temporarily inhibited by fear, pain, or prostatic or ureteral reflex.

2. The fact that this inhibition is nevertheless apparently bilateral, and, therefore, does not interfere with the comparison of the kidneys with each other at that time, or if one kidney is more inhibited than the other, this inhibition is due to disease in the inhibited kidney and, therefore, simply accentuates the importance of unilateral lesions, an accentuation which is likely to be rather advantageous than disadvantageous from the diagnostic point of view.

3. The method of intramuscular injection employed by us up to October, 1911, required that ureter catheter specimens be collected for at least one, and often two periods of from twenty to thirty minutes.

Further observation during the past year has simply served to enforce the first two conclusions. We have attempted, however, to cut down the inconveniently long period of ureter catheterization when the phenolsulphonephthalein was injected intramuscularly, by substituting intravenous injection of this drug.

The suggestion to inject phenolsulphonephthalein into a vein instead of a muscle is not original with us, although this injection was used by us upon some of our first cases as long ago as October, 1910, while it is known to us that Doctor Schmidt uses intravenous injection in all cases. But although placing the phenolsulphonephthalein directly within a vein eliminates the element of time of absorption, and expedites the output of the drug, we do not employ it in our estimation of the absolute renal function because of technical errors to which it is subject.

In the first place it is not easy to be sure (especially in the case of women) that the drug has been injected into the vein. Indeed we have had to reject two of our own cases because the little infiltrations appearing around the point of injection showed only too plainly that the drug had, in part at least, been injected subcutaneously. Yet both of us practise the intravenous injection of salvarsan, which is a much more difficult procedure. If, therefore, we must allow for one such error in every ten or

[1] *American Journal of Urology*, vii, p. 367, October, 1911.

fifteen of the cases injected by us, how much greater would be the percentage of error in cases intrusted to others, notably to the members of one's house staff.

It may be objected that this error would be readily detected by the delay in appearance of the drug if injected subcutaneously, for under these circumstances it would not be likely to appear in the urine of a normal kidney within ten minutes, whereas if injected intravenously it is likely to appear in less than five minutes. But apart from the fact that the abnormity of the kidneys is the very point in question, the objection has no weight for those patients who receive part of the injection inside of the vein, and part in the subcutaneous tissue. These will show an early appearance of the drug, as after intravenous injection, but a slow excretion, as after subcutaneous injection.

A second difficulty encountered in the reading of specimens of urine obtained after intravenous injection relates to their concentration. The greatest intensity of excretion is during the first fifteen to twenty minutes, and during that time a single cubic centimetre may contain as much as four per cent. of the drug, thus magnifying very much the possibility of error from carelessness in obtaining and handling specimens.

Moreover, the advantage of intravenous injection for general use is that it cuts down the time required for the examination from an hour, or two, to half an hour, or so; an advantage of no particular moment in most instances. For ureter catheter work, however, this cutting down of time (in this instance from one half hour, or more, to fifteen minutes (or so) is of the greatest importance, not only for the convenience of the patient, but also for the accuracy of the test, since we all know that the longer the ureter catheter remains in place the more likely is it to become occluded wholly or in part, thereby permitting exocatheter leakage and vitiating the reading of the test.

Moved by these considerations we have employed the intravenous injection of phenolsulphonephthalein in connection with the ureter catheter diagnosis of twenty-eight cases. The results have been happy beyond our expectations. The accuracy of percentage readings was vitiated by exocatheter leakage in only two cases (xiv, xxiii).

A study of the remaining twenty-six warrants the following conclusions:

1. The phenolsulphonephthalein output seems to be little if at all influenced by oliguria or polyuria. Thus the left kidney of Case viii excreted 17.5 per cent. in four c.c., an average of almost 4.5 per cent. per c.c., while in Case vi the contents of a single ureter catheter (the left) yielded 3.5 per cent. phenolsulphonephthalein at the close of the examination. On the other hand, the 100 c.c. excreted in the second fifteen minutes from the right kidney of Case xxviii only contained 0.1 per cent. of the drug.

TABLE I.

Normal Kidney.

Delay—2′ to 9′. Average 4.5′ (14 cases).
Output in 5′—6.5% (1 case).
in 10′—9% to 18% (2 cases).
in 15′—5% to 17.5%. Average 14.3% (10 cases).
in 20′—17% to 47% (2 cases).
in 30′—24.4% to 28.1% (2 cases).

Diseased Kidneys.

Delay—2′ up. Average 8′ + (38 kidneys).
Output in 10′—1.5% to 14.9%. Average 10% (10 kidneys).
in 15′—0 to 17.5%. Average 7% (21 kidneys).
in 20′—0 to 31%. Average 17% (12 kidneys).
in 30′— to 10.7%. Average 0.6% (6 kidneys).

TABLE II.

Case number.	Age.	Diagnosis.	Duration of examination.	Right kidney: Delay.	Right kidney: c.c.	Right kidney: Per cent. P.	Right kidney: Per cent. Urea.	Left kidney: Delay.	Left kidney: c.c.	Left kidney: Per cent. P.	Left kidney: Per cent. Urea.
I	28	Tuberculous right kidney	20	30+	..	0	..	9	..	47	..
II	29	Left hydronephrosis	15	4	.	5	1.6	2	..	0	0.8
III	36	Bilateral pyelonephritis	20	8	25	10	0.3	8	45	10	3
IV	?	Right pyelonephritis	20	5	..	10	0.6	6		15	1.4
V	24	Bilateral calculous pyelonephritis	30	3	30	4	0.5	4	1	tr.	tr.
VI	35	Right renal colic	23	5	2	tr.	0.4	8	9	14	1.0
VII	42	Normal kidneys	15	4	16	7	0.9	4	10	12.5	1.1
VIII	23	Movable kidneys	15	9	33	12.5	0.8	6	4	17.5	2.2
IX	36	Left ureter stone	15	3.5	29	12.5	0.4	10	7	tr.	tr.
X	38	Bilateral pyelonephritis	15	3	..	4	1.0	3		9	1.1
XI	51	Left hypernephroma	5	3	39	6.5	2.1	8+			0.2
XII	29	Bilateral tuberculosis	15	7	18	4	0.8	7	20	3	0.1
XIII	41	Left ureter stone	10	2	8	9	1.0	2	14.5	7.5	0.4
XIV	26	Bilateral pyelonephritis	20	8	..	21	..	12		14	.1
XV	24	Left pyelonephritis	15	7	6	20	2.0	5	7	2	2.0
XVI	35	Right ureter stone	15	..	2	tr.	0.8	..			1.2
XVII	30	Bilateral tuberculosis	10	23	..	2.5	.4			5	0.6
XVIII	65	Bilateral pyelonephritis	15	9	8.5	11.5	0.6	9	8.5	10	0.8
XIX	74	Bilateral pyelonephritis (retention)	15	4		12	.3	..		7	0.4
XX	54	Bilateral pyelonephritis (retention)	15	3.5	..	3	.2	3.5		6	1.1
XXI	30	Left pyonephrosis	15	12	10.5	17.5	1.3	..		4	0.6
XXII	34	Left renal colic	10	5	..	18	2.3	5			1.9
XXIII	52	Bilateral pyelonephritis	10	5	12	10	1.2	5	5	3	1.6
			10	..	13	3.9	.2	..		1	1.6[2]
XXIV	56	Bilateral pyelonephritis	10	3	8	8.9	0.5	3	8	11.9	0.6
			10	..	10	6.5	.5				0.55
XXV	45	Bilateral pyelonephritis	10	3.5	11	14.3	0.4	3.5	8	9.9	0.3
			10	.	10	7.2		..	9		0.5
XXVI	40	Hypernephroma[3]	15	..	2	0.3		4.5	..	16.4	0.75
			15	..	1.5	0.4		..	8	11.5	
		Upper pelvis of right side	15	..	8	7.2	0.6	..	..	..	
			15	..	5	3.5					
XXVII	27	Left calculous pyonephrosis	15	4.5	35	17.5	0.25	1.5	62	3	0.1
			15	..	72	0.9	0.1	..	..	1.1	0.1
XXVIII	36	Right renal calculus	15	6	80	2.3	0.5	30+			
		Left pyonephrosis	15	..	100	0.1	0.2	..	8		

*After appearance of phenolsulphonephthalein in urine.
†A lower pole of right kidney, which had a double pelvis.
[2]Bladder, 14 per cent.
[3]Bladder, 12.5 per cent.

2. The phenolsulphonephthalein percentage agrees as closely as ever with the urea in centigrammes (urea percentage multiplied by c.c. of urine). This ratio was misleading only in Cases iii and xii, in both of which the percentages of urea precluded the possibility of error.

3. The "delay," i. e., the interval between the injection of the drug and its appearance in the urine, varies widely. Thus in fourteen "normal" kidneys[2] the "delay" varied from two to nine minutes, averaging 4.5 minutes. Yet among thirty-eight "diseased" kidneys no less than twenty-eight showed a delay within the "normal" limits and fourteen of them below the "normal" average, while in two (Cases iv, xv) the drug actually appeared in the urine of the diseased kidney, respectively, one and two minutes, before it appeared from the sound one. In the former case, however, microscopic findings, and per cent. excreted excluded all possible error, while in Case xv the left kidney, though showing a few pus cells, was probably acting fully as well as its fellow.

But the most striking feature of the "delay" is that it may be approximately equal for two kidneys whose function differs widely. This is exemplified in Cases iv, v, xxvi, and less strikingly in many of the others.

Hence the "delay," whether absolute or relative (as between the two kidneys), is peculiarly misleading and should be taken into consideration only for the purpose of estimating the time at which to begin collecting specimens for phenolsulphonephthalein estimation.[3]

4. When employing intramuscular injections of phenolsulphonephthalein, several times we were chagrined to find that kidneys, which excreted high percentages of phenolsulphonephthalein without cystoscopy, excreted only traces of the drug during an hour when the ureters were catheterized. This inhibition has not occurred after intravenous injection.

5. Indeed so rapid is the output of phenolsulphonephthalein after intravenous injection that accurate readings can almost invariably be obtained in from ten to fifteen minutes after appearance of the color in the urine.

6. Yet we feel that enough inhibition may result from cystoscopy to invalidate precise conclusions as to the normality or abnormity of the kidneys from the percentages of phenolsulphonephthalein excreted by ureter catheter even when intravenous injection is employed (e. g., Cases ii, xiii, xv).

Roughly speaking, however, an excretion of one per cent. in one minute for the first ten or fifteen minutes is normal.

A brief summary of our results will be found in the table on the preceding page.

100 East Thirty-fourth Street.

[2]It is well known that the surgically sound fellow of a diseased kidney may be markedly inhibited in function. Yet it has seemed safer to adhere to the surgical rule and to dub those kidneys normal from which no pus or casts were obtained by ureter catheter (exception made for tumor, ptosis, and hydronephrosis) and those abnormal from which these elements were obtained. Naturally our results show many "diseased" kidneys functioning more actively than certain "normal" ones.

[3]We have followed Geraghty's rule and made all estimations from the time of appearance in one kidney. This is necessary in order to make the readings simultaneous and not to invalidate urea comparisons.

UNFOUNDED BELIEFS CONCERNING INSANITY.*

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The facts that insanity is increasing steadily among the general population, and that the number of insane in the State of New York is at present about one in 350, and that consequently the need of more lunatic asylums has been brought to the attention of the public, have excited not only much interest, but awakened a great deal of fear among persons that the danger of insanity was great. It is always to be remembered, however, that the increase of insanity may be a matter relative rather than actual. That is to say, cases of insanity are recognized more early, and the establishment of well managed asylums, in contrast with badly run institutions of the past, has led to asylum commitment at an early stage in the disease, when formerly patients were committed only as a last resort. Just as many persons now go to the hospitals of the city for surgical and medical care, because it is appreciated that hospital care is far better than care in a private house even under the best circumstances, so, on the early appearance of insanity, individuals are now taken to the insane hospitals for treatment, when formerly the fact of their mental disease would have been concealed by their families and they would have been taken care of at home. This has resulted in an apparent increase in the percentage of the insanity in the population. Too great importance, therefore, should not be placed upon the statements "that insanity is rapidly increasing in the community." In 1911 in New York State there were 145,538 deaths, of which but 762 were recorded as due to insanity, i. e., one to 15,000 of the population. In January of this year there were only eighty-eight deaths from insanity among 12,919 deaths in the State, with a population of 9,370,000.

It is freely admitted that the strain and stress of mental effort, the struggle for existence, and the great and necessary diffusion of interest and mental occupation and lack of quiet, continuous effort without distraction, such as is inevitable under the present conditions of life, have had a great deal to do with increased nervousness and the development of mental disease. But there is a great deal of hysterical fear and foolish alarm among the people generally as to the danger of insanity, and it is this side of the subject which I have been asked to present to you.

Modern views of insanity, and modern classifications of insanity, are very different from the older ones. At the present time we draw a sharp line between the types of insanity which are dependent upon an imperfect development or organic disease of the brain, and which are manifestly incurable and hopeless, and the very much larger class dependent upon temporary states of defective nutrition and toxemia caused by errors in the chemistry of the body, and which are temporary and curable. From personal experience I may say, that at least

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two thirds of the cases seen by an ordinary physician outside of a lunatic asylum belong to this latter class, and statistics drawn from an analysis, from even the worst cases of this type of mental disease, cases that have necessitated confinement in asylums, show that between eighty and ninety per cent. of these cases are eventually cured. There are many patients with mild forms of mental disease who never reach asylums and do not need asylum care, and who recover spontaneously or under proper mental surroundings, and if these are added to the severer types, which even in the asylum are cured in eighty per cent. of the cases, we see that the actual percentage of recoveries is very much larger than statistics would show.

It may be wise to take up the study of mental disease in accordance with the time of life at which it develops. True insanity is very rare in childhood, and when it occurs it develops chiefly in individuals who are manifestly weak minded or partially imbecile. There is a type of case, however, which develops in boys and girls about the age of twelve or fourteen years, which gives rise to great alarm among parents. This is a condition which is better called psychasthenia than true insanity, and it manifests itself by symptoms which are very often considered imaginative or hysterical. A child at this age may become moody and hypersensitive to impressions. It misinterprets things said and done bringing them into a false relation with itself. The child may become introspective and may exaggerate his feelings and thoughts, attaching importance to things of no account, and gradually working itself up into a state of morbid fear. Such fears may also be associated with morbid impulses, impulses to do things in a particular way; to put on the clothes in a certain way, or to touch objects in a room, to wash the hands frequently, or to repeat words, or morbid impulses of a greater intensity leading to acts that are objectionable, such as to steal and secrete objects, to tell wonderful tales of experiences that never happened, or to set fire to things. Not uncommonly such individuals threaten suicide. Psychasthenics may also have morbid ideas, which they dwell upon to the exclusion of the ordinary train of thought, and which they talk about to the alarm of those about them. When persons are victims of this psychasthenia, they are incapable of attending to the ordinary affairs of life in a normal manner, they can no longer go to school and do their lessons, because their attention is diverted to the morbid train of thought. At this age they are also peculiarly liable to give themselves up to trains of thought of an objectionable nature, and seclude themselves from others, leading a sequestered life without interest or employment. Such a psychasthenic condition gives rise to great alarm to the individual himself who does not understand its significance, and to the parents of these children, who think they are going crazy. As a matter of fact psychasthenia is usually outgrown in the course of time. It does not naturally go on to a true insanity, and is best treated by being controlled by healthy outdoor country life with plenty of physical exercise, reasonable occupation, the principle employed being, not to force the attention to any continuous effort of the mind for more than an hour at a time, but to keep the mind busy by a multitude of interests and occupations. In some of these cases treatment by suggestion, with or without hypnotism, is distinctly beneficial.

In young adults there are certain types of mental disease which are more serious. It is between the ages of twenty and twenty-five years that the delusional type of insanity, so called paranoia, is liable to show itself. This is an incurable and dangerous type of insanity, attended by delusions of the importance of the individual, of his superiority over all others, and coincidently with it, delusions of persecution, as he becomes more and more certain that his failure to attain his ambitions is due, not so much to his own defects, as to the conspiracy of others against him. This is the type of lunacy which leads to political and social murders, such as those of Garfield, McKinley, Stanford White, and this is a type of lunacy in which the sooner an individual is locked up permanently in an asylum the better for himself and the community.

In adult life any form of mental disease may develop. These various forms we shall deal with later. In the life of a woman the period of pregnancy, the period after the delivery of her child, and the period of the menopause are times of life, in which general neurotic disturbances are very common.

During pregnancy the chemical changes going on in the body consequent upon the nourishment of the embryo, are liable to result in the formation of certain agents in the blood which produce what may be called a form of intoxication. This gives rise to very many nervous symptoms and to irregular morbid ideas and impulses, temporary in character. These should not be counted as evidences of insanity, although they frequently give rise to alarm to the individual and her family because of the queer things which she says and does. They are rather to be allied with the symptoms of psychasthenia, which have already been spoken of as occurring in youth; it is a very rare thing for a person who is pregnant to become actually insane.

After childbirth we occasionally see cases of acute mania with suicidal and homicidal impulses. As a rule, a cause for this condition is to be found in some predisposition of an hereditary character to insanity, or in some great nervous or mental strain occurring during the last months of pregnancy. It is always to be remembered that an effect is never to be traced to a single cause, a combination of causes underlying every condition. I do not believe that pregnancy alone, or childbirth alone, is a cause of insanity, but that they are merely added factors to a nervous system prone to breakdown and that possibly any other condition involving a great strain mentally or physically in that particular person might lead to a mania. If we take this view, we relieve the mind of the pregnant woman of the fear of insanity after her delivery, and when one considers the very extreme rarity of insanity following childbirth compared with the enormous number of perfectly safe deliveries, we appreciate this fact doubly. It is also to be remembered that the acute mania following the delivery is undoubtedly a toxic form of mental disease, and like other toxic forms the patient recovers in about ninety per cent. of the

cases. Therefore, here again we have a type of mental disease that need not be so severely dreaded.

Coming now to the forms of mental disease which develop at the menopause, these again may be divided sharply into two different types. We may have conditions of depression with a melancholy train of thought and suicidal impulses, or we may have states of excitement resembling hysterical manifestations with all sorts of morbid impulses and ideas that are manifestly irrational, but these as a rule vary very much from hour to hour in their intensity and are rarely constant from day to day, so that the patient herself appreciates the variability of her symptoms and admits that in the midst of her depression or excitement there are days when for a time being she is quite well, or there are hours at least when the cloud lifts and the sky is clear. This intermittence in the symptoms is a most encouraging feature of the majority of these cases, because it indicates that there is no organic physical change of permanent character underneath the mental perturbation, and hence that the condition is very likely eventually to subside. This is the type of mental disease that is most common at the menopause. It must be admitted, however, that occasionally another type appears, which is termed the paranoia of involution. In this type the woman becomes suspicious of her friends and relatives, begins to have hallucinations of voices saying disagreeable things to her, and thinks that people notice her as she goes about on the streets, that they make insulting remarks about her, and, on the basis of these remarks and their supposed hostile actions, she builds up a delusion that she is the victim of a conspiracy and that she is in danger because of the persecution to which she is exposed. This paranoia is just as dangerous to others as the paranoia which develops at puberty, and it is just as incurable. It requires asylum treatment as soon as it develops, for the individuals are really dangerous to their friends and family, as they are prone to act on the basis of their hallucinations and delusions. Fortunately this type of insanity is extremely rare. It is never attended by depression. The individual never realizes at all that she is insane, never worries at her own condition, but only at the persecution of which she thinks herself a victim, and it is impossible to persuade these patients that they are mentally diseased, for they consider the necessary confinement in an asylum as the culmination of the persecution of which they imagine themselves to be the victims.

There is one other type of insanity which develops in old age both in men and women, and which is exceedingly distressing both to the victim and to the relatives. This is the so called senile dementia in which the mind grows old, feeble, and disordered before the body succumbs. It may occur as early as the age of fifty or sixty years, when the heart and arteries are diseased, or it may occur between seventy and eighty years, without any apparent disease at all. It is due to a malnutrition and gradual hardening of the brain in small regions widely scattered, and it leads to a state of mental confusion, sometimes but not always attended by depression or by excitement. A patient with senile dementia may have a fair memory of the past, but takes little notice of events in the present, and has no memory of them at all. The powers of recognition and recollection are markedly impaired, so that the patients will beseech and entreat to be taken home when they are in their own houses, or to have friends and relatives brought to them who are no longer living. They are in a state of constant mental irritation and confusion, wanting to do impossible things, and perplexed by fancies which are manifestly irrational, and very often by hallucinations which are very distressing. I have seen an old gentleman, who every night thought his house was on fire, and was with difficulty restrained from raising an alarm; who was convinced that he had business appointments with people at a distance, and wished to start immediately on a journey to reach them; who, at the same time, did not recognize his own children who were about him, or his own home in which he had lived for years, and was constantly perplexed with the disposal of his property, making a new will every day with numerous foolish provisions, yet at all times he was perfectly aware of the extent and character of his property, and, though in this state of senile dementia for three years before his death, was probably up to the day of his death as good a judge of the value of real estate in the city of New York as any expert. Such mental deterioration is of course incurable.

Turning now from the forms of insanity characteristic of different periods of life, we have time only to refer briefly to the various types of insanity occurring in adults. Here, as already intimated, we distinguish sharply between two great classes; those dependent upon states of the nervous system, which we must consider organic and may term degeneration or deformities and consequently incurable, and the very much larger group of cases which we assume to be due to temporary intoxications or chemical disorders of the body, just as temporary and curable as a bilious headache or the prostration of the grippe. It is a happy circumstance that in the first type of cases, where the disease is permanent, the individual rarely if ever realizes its nature, is never convinced that he himself is crazy, but is always persuaded that the world is wrong, that he has not had a fair chance of success, that circumstances are against him, that people are his enemies, that society or the church or the police or the Free Masons or the Jews or the socialists are banded together as his enemies and are persecuting him, or that he is the victim of influences coming from without, through wireless telegraphy or the telephone system or electrical influences, which control his thought and order his conduct. These are the weak minded defectives of the schools, and the delusional maniacs of adult life. The fact that a person is worried about his or her mental condition and comes to a doctor to consult him, is a pretty sure proof that he or she does not belong to this class.

In the second class, the toxic cases which are almost sure to end in recovery, we find the anxious neurasthenic on the verge of a nervous breakdown. He realizes his or her condition as being mentally upset and seeks relief. And here perhaps the best

relief that can be afforded is by the explanation of the condition and assurance that, either spontaneously, or under treatment, recovery will ensue. We may not know the exact poison which produces mental instability; we may not know the antidote to that poison. Yet we know that there are such poisons and in a few cases, as in insanity due to errors of secretions of the thyroid gland, we do know the antidote. But there are so many common symptoms in all this class of cases, there is such variability in these symptoms under varying conditions, and there is such a constant history of recovery and relief, that while we may sympathize with the sufferer, we are not anxious as to the result and we rarely if ever need to send the victim to an asylum, or do more than put her under the surveillance and restraint of her family circle. I do not wish to detract from the seriousness of insanity, but I wish to convey to you the idea that it should be regarded as consumption or the infectious fevers are regarded, as a type of disease open, in the majority of cases, to treatment and to cure, though like those diseases in the fact that we have to admit that some cases, fortunately a very small percentage, are hopeless.

5 West Fifty-fourth Street.

A NEW PRINCIPLE IN THE POLITZER VAPORIZING METHOD OF ADMINISTERING ANESTHETICS.

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In the article, General Surgical Anesthesia, *Reference Handbook of the Medical Sciences*, 1912, I rather arbitrarily gave the name, Politzer vaporizing method, instead of the usual term, vapor method, when air is forced through the anesthetic by means of a hand bulb or foot bellows. All anesthetics administered by the respiratory tract are administered as a vapor, consequently *all* of these methods are vapor methods. A Politzer bag is the most convenient means for forcing the air through the anesthetic, and on to the patient's respiratory passages—hence the term Politzer vaporizing method. The very name Politzer suggests "a forced air current" by a bulb or bag.

In apparatus previously designed for this form of administration air is forced through the anesthetic, consequently there is a limit to the amount of vaporization, and when ether is the anesthetic it is often impossible to administer, by this method, a sufficient amount to maintain the desired depth of anesthesia. In the apparatus which I have designed for administering and warming general anesthetics, and which was described in the *Journal of the American Medical Association* for March 23, 1912, and of which there were further illustrations in the *Medical Record* for May 4, 1912, I have used a new principle in this particular method of administration, thereby greatly increasing the amount of ether that may be vaporized by the forced air current. The air passes through gauze, instead of through the ether, and upon this gauze the ether is dropped at any desired rate of administration by turning the needle valve on the cup.

The parts of the apparatus used are the inhaler, cup, chamber, and heater, as shown in the illustration. In the outer end of the chamber is a rubber stopper to which is attached the tubing which leads to the Politzer bag. In the opening within the mask is another rubber stopper to which is connected a small "safety bottle," and from this bottle tubing leads to the patient's respiratory passages. (Ordinarily the safety bottle may be dispensed with, as the tubing in the inhaler acts as such a device to keep liquid ether from ever being pumped through the efferent tubing.) The distal end of the efferent tubing may be terminated in a variety of ways. The illustration shows a mouth tube. A mouth gag with anesthetic tubes may be used. Nasal tips or nasal catheters are very useful, as the oral cavity is then completely free.

In using this method of administration, the induction of anesthesia is ordinarily secured by the regular gas ether sequence; but anesthesia may be primarily induced and maintained by the Politzer vaporizing method by connecting the end of the efferent tubing to a specially designed face mask. Whatever the termination of the etherized air current may be the anesthetic is administered by turning the valve on the cup, thus allowing the ether to drop upon the gauze, and compressing the Politzer bag just as the patient inspires. The rate



Coburn apparatus: Politzer vaporizing attachments.

of administration and consequently the strength of the ether vapor is easily and completely controlled by the needle valve. By using a single bulb, and timing its compression with the patient's inspirations practically all of the vapor is inhaled, and very little, if any, of it is blown back into the surgeon's face, whereas, if a double bulb is used, there is a continuous stream of the etherized air current, and consequently much of the anesthetic is necessarily blown back into the surgeon's face, if he is operating about the upper respiratory passages. The Politzer bag may be compressed by either the hand or foot. Chloroform may be substituted for ether if desired, or small amounts of chloroform may be added to the safety bottle at any time.

Mixtures of ether, chloroform, and ethyl chloride, etc., cannot be administered by the Politzer vaporizing method as previously used, since with the air current passing *through* the anesthetic the different rates of volatility of the different ingredients causes the vapor to vary in composition, whereas with the apparatus herein described and illustrated, the vapor of such preparations and mixtures is constant, and the apparatus is therefore adapted to the administration of all the liquid anesthetics by this method.

Whenever desired, nitrous oxide-oxygen may be forced through the chamber and tubing instead of the air current, but in administering ether as an adjuvant in this method it is advisable to use the special cup for ether, which causes the ether to drop evenly and continuously regardless of pressure.

By using the special cup for ether, the apparatus as described for the Politzer vaporizing method is specially well adapted for rectal etherization. And by using a foot bellows instead of a Politzer bag, and connecting a manometer and safety valve into the efferent tubing, it is adapted to the endotracheal insufflation method.

The complete apparatus as here and previously described, therefore, is adapted to the administration of all vaporized anesthetics by all the different methods in use at the present time.

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ABDOMINAL DISTRESS IN CHILDREN BEYOND INFANCY.*

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One of the most difficult symptoms of disease in children properly to estimate is abdominal distress. Not only is it difficult to estimate, but to give it its proper interpretation requires considerable judgment. The examiner need expect little or no cooperation upon the part of the patient in any procedure that he may take, and yet, in the clientèle of every practising physician or surgeon, there is a large proportion of children who are brought because of this one symptom, abdominal distress.

Now what is to be our attitude toward this class of cases; what are we to do with them? This is the main problem in this paper and all else will be made subservient to it.

For convenience, we might make a somewhat arbitrary division into the acute cases, the chronic, and the borderline, because this is practically what we do when we approach a case for the first time, and it is my aim to be practical.

The writer feels justified in a paper of this character in leaving out any more than a passing mention of those instances in which the symptom is due to violence; because the history of recent or remote injury is so strong a clue to the etiology.

Under the acute cases we naturally think of appendicitis first. And why? Certainly it is not because abdominal pain is necessarily an early or characteristic symptom in appendicitis in children, for that is not so. But the subject of appendicitis is so constantly forced upon our attention that we are led thereby to give to it an unnecessarily prominent place in our efforts to make the diagnosis.

Why not give similar consideration and prominence to those conditions which, although much less common in their occurrence than appendicitis, are just as important of recognition, and add to one's reputation for diagnostic skill because they are less common as clinical entities, but more common as diagnostic stumbling blocks. For instance, in going over my records for the past year, I find but one case in which appendicitis existed and the diagnosis was not positively or tentatively made before I was called. But during the same period, the writer has observed sixteen instances in which the diagnosis of appendicitis was positively made when the real condition was as follows: Lobar pneumonia in twelve cases, acute indigestion in two instances, a much distended bladder in one child, and intestinal parasites in another.

The large number of pneumonia cases should be noted. The writer is convinced that the majority of instances in which the appendix is removed in childhood and found normal, or only slightly abnormal, and the operative procedure followed by pneumonia which is attributed to the administration of the anesthetic, are not instances of ether pneumonias, but of mistaken diagnoses with the subsequent detection of a previously unrecognized disease, for which the surgeon and not the anesthetist should assume the responsibility.

Therefore, in advising the proper measures of relief in this class of cases, it is not so important to recall the chief causes of abdominal distress in children, as it is to remember and give due consideration to *all* of the causes.

Lobar pneumonia is a very common cause of acute abdominal pain in children; therefore, it is a safe guide that no matter what the acuteness of the abdominal pain or its location, if there exists a *marked* disproportion between the pulse and the respirations, pneumonia should be suspected as its cause. The symptoms which would emphasize a pulmonary involvement are sudden and sustained rise of temperature, increased respirations, relaxed abdominal muscles, and possibly cough.

Of the three cardinal symptoms of appendicitis, localized abdominal pain, localized abdominal tenderness, and rigidity of the recti muscles, abdominal pain is the least important in diagnosis, for it is often slight. Children show a characteristic inability definitely to locate pain, and this adds to our difficulties. While pain may be severe, tenderness is a more constant feature, although it may be difficult to elicit. Muscular rigidity is the most valuable of the three because it is never wanting in some degree. We may dismiss a detailed discussion of the associated symptoms, because of their inconstancy, and the fact that their presence or absence is no indication of the severity of the disease. In contrast to the usually low temperature, however, the pulse is characteristically rapid, thin, and thready.

So uncertain are the symptoms of appendicitis in children that an acute catarrhal attack may subside within forty-eight hours and be unrecognized. However, if all of the cases of supposed acute indigestion in children were reexamined after the subsidence of all acute symptoms, in many instances a careful palpation would reveal a slight thickening and induration about the region of the appendix, and the true nature of the attacks.

But once the diagnosis is made, expectant treatment throws upon the physician a responsibility

*Read before the Medical Association of the Greater City of New York at a special meeting held in the Borough of Queens, April 1, 1911.

which he cannot afford to assume in the light of our present definite knowledge that appendicitis in children gives no adequate clinical evidences of the real anatomicopathological conditions which exist in any given case.

The most severe type of abdominal pain is associated with intussusception, and while at first it may appear to be paroxysmal, yet by careful examination we find it to be continuous with paroxysmal exacerbations and accompanied with much straining. Prostration is early and extreme.

While absolute constipation is the rule, yet its absence should not prove misleading, because not uncommonly there is the passage of the feces below the point of obstruction or through the opening in an incomplete obstruction. This is just the point upon which so many fail in their diagnosis. Most of the textbooks emphasize obstinate constipation as a chief symptom, and when it does not exist the other symptoms are allowed to mislead. Early tympanites usually makes the demonstration of the typical smooth, slightly movable, very tender cylindrical tumor impossible.

Acute peritonitis is usually easy of recognition on account of its well defined symptoms, chief of which is the severe and diffused abdominal pain, which is increased by any motion, pressure, or jarring, and is associated with a swollen and tympanitic abdomen.

Strangulated hernia as a cause of abdominal pain is not difficult of detection, for the local signs are usually so well marked as to leave no chance for error, and the pain is of the same severe character as that observed in other obstructive conditions of the intestine.

Nephritic colic is not common and there is usually the distinct family history or that of previous attacks. As it usually follows active exercise, there is danger of mistaking it for pain due to excessive or unusual exercise involving the abdominal musculature, or from the strain of an unusually severe paroxysm of coughing. These latter must be thought of as possibilities in all acute pains in the abdomen.

The writer has observed several instances, recently, of overdistended bladder occurring during the course of various diseases, and being directly accountable for the occurrence of marked abdominal distress, extreme restlessness, and other unfavorable symptoms. It must be taken into account as a cause of acute abdominal distress and differentiated.

Lead colic would hardly be suspected as a cause of abdominal distress in children, and yet I recall an instance in which operative procedure was advised for an obscure intestinal condition which immediately improved when a susceptible child was removed from the home that was being decorated.

That acute rheumatic fever may have as its first manifestation, painful involvement of the abdominal musculature, there can be no doubt, and for a time this may prove misleading. The writer has reported several instances of this.[1] In differentiation we must consider the two types of influenza which may cause considerable abdominal distress in childhood, namely, the gastroenteric and the nervous types. These are readily detected by the history of infection and the somewhat characteristic associated symptoms, notably the temperature, which quite constantly exhibits a sharp, sudden rise to a considerable height with a decline within twenty-four hours and a persistence at the lowered point (usually about 100° F.) for several days.

We have such an accurate means of diagnosis in the stomach tube in acute gastric dilatation that it seems hardly probable that this would be overlooked as a cause of marked abdominal distress, unless the two chief factors, operation and infection, were forgotten. In all of the infectious diseases of children the possible occurrence of this condition should be watched for.

Of the instances of chronic abdominal distress in children, the least suspected and yet a common cause, is chronic gastric dilatation. Why it is not more commonly detected, when we have such a simple means of diagnosis as the stomach tube, I do not know, but I have repeatedly demonstrated that it is far more commonly a cause of abdominal distress than has usually been suspected. The use of the tube, first as a means of diagnosis, and then as a method of treatment, brings about immediate relief and, after a protracted period, a cure.

Most of these cases are treated as instances of chronic indigestion, the dilatation being considered as the secondary cause, when more often it is the primary.

Caseation of the mesenteric glands is a cause of chronic abdominal distress in children with frequent acute exacerbations of the pain, but the associated symptoms and history make the detection somewhat easy, although repeated examinations may have to be made before any of the glands can be definitely felt.

Spinal caries as a cause of abdominal pain is usually referred to those parts of the abdomen which are supplied by the nerves nearest the site of the spinal lesion. Such pain or distress is worse at night and is persistent over long periods. It is not an uncommon thing for such a condition to be treated as dependent upon an error in diet at the evening meal, but despite any regulation of the diet the distress persists.

The distress caused by abdominal tumors, either directly or by pressure, is of such late occurrence that the mass has usually been previously detected.

The borderline cases are the most important, because they are the most misleading on account of their indefinite symptomatology and the fact that this indefiniteness leads to a delayed diagnosis and inadequate treatment. Many times the undertaker gets the case that the surgeon should have had, because a clean cut, well defined clinical picture has been lacking, and the mild chronicity of the symptoms or their appearance at somewhat prolonged intervals has not sufficiently emphasized the real seriousness of the situation until it is too late.

Now, movable kidney is not a common occurrence in children, and yet I have seen some instances in which it was the only cause of considerable abdominal pain which occurred at intervals and, in one instance being right sided, was severe enough to mislead into the diagnosis of appendicitis.

In rare instances the presence of intestinal para-

[1] *American Journal of Obstetrics*, May, 19[illegible].

sites has given rise to sudden, severe abdominal pain, but the more common occurrence is that of mild colicky pain, occurring at intervals over a considerable period. It is probably not the mere mechanical action of the worms that excites excessive peristalsis and causes the pain, but the presence of the large amount of mucus which is always associated with their irritation of the intestine, and large amounts of mucus invariably excite peristalsis.

In children of a peculiar type of nervousness, there is commonly the excitation of more or less severe colicky pain with the desire to defecate soon after the partaking of food, and while this may not occur after every meal, it does with enough persistency to give a strong clue to the diagnosis. It is the cases that exhibit excessive peristalsis high up in the bowel that are the most puzzling, because in these instances there is not the desire for or the occurrence of defecation, and persistent colic without defecation does not readily lead to a suspicion of its neurotic origin.

Catarrh of the small intestine and catarrh of the large intestine are the most common causes of abdominal distress, and they are practically indistinguishable from intestinal indigestion as far as being a cause of abdominal distress is concerned, unless a careful inspection is made of the stools. One inspection is not sufficient; there must be several if we are to obtain data that are of much value.

There is one thing, however, that we should remember; indigestion gives much more obscure symptoms than does intestinal catarrh.

I have left reference to this until these closing remarks because its importance must be left with you as a closing thought.

Far too often the child suffering with abdominal distress is regarded too lightly and is not subjected to anything more than the most superficial examination. We must admit that in the large majority of instances the cause of the distress is a mildly active one and yields more or less promptly to dietetic treatment. But there are a sufficient proportion of instances in which the parents are assured that intestinal indigestion, or the more popular misnomer, "bilious attacks," are the real cause, when, as a fact, the insufficient history taking and examination have been the cause of overlooking an acute or a chronic appendicitis. When confronted with the lay diagnosis of "bilious attacks" we should always be suspicious of chronic appendicitis. As has been previously stated, if all cases of supposed attacks of acute indigestion were examined after the subsidence of all of the symptoms, in many instances a careful palpation would reveal a slight thickening and induration about the region of the appendix and the true nature of the attacks would be discovered. It is not unusual for several such attacks to occur within a few months or years, and in each instance to be attributed to some error in diet. The value in recognizing the real significance of such attacks is in advising appropriate treatment, which is surgical intervention between the attacks. At any time the recurrence of the usually mild attack may be associated with such pathological changes as will make the chance of saving the child through an imperative operation far less than through the elective procedure.

Now you will recall that in the early part of this paper the writer referred to the fact, that the prominence given to appendicitis made its recognition comparatively easy; so easy in fact that it was often diagnosticated as the cause of symptoms which were due to other diseases. This statement, however, refers to the acute cases alone. The surgeon or the pediatrist acting as a consultant frequently sees these cases, but they do not see these borderline cases very often as consultants, but as individuals; because the symptomatology is not emphatic enough to demand immediate counsel unless the repeated mild attacks suddenly turn into acute symptoms. It is distinctly a problem for the general practitioner; it is he who sees these children during their mild attacks and can examine them in the intervals; it is he who has the confidence of the parents and can acquaint them with the possibilities, and advise in time such appropriate measures of relief as shall be instrumental in conserving the health and saving the lives of many little ones who are units that go to make up the morbidity and mortality of unrecognized disease.

42 Gates Avenue, Brooklyn.

TONSILLOTOMY OR TONSILLECTOMY.

Are the Tonsils Portals of Infection?

By Ernst Danziger, M. D.,
New York.

So much has been said in late years concerning the enucleation of the tonsils that to add something to the subject almost means carrying coals to Newcastle; but as long as we have not a clear understanding of the function of the tonsils, and as long as there are some cogent reasons pointing to the fact that these organs are of the utmost importance in the defense of our bodies against infection, we should not be misled by the momentary brilliant results to enucleate every somewhat abnormal tonsil. There are some important facts which ought to make us think carefully in this matter.

In the infant, the lymphatic tissue of the rhinopharynx is developed to a high degree. Luschka's tonsil, or the adenoids, are at that time in the stage of development, while the faucial tonsils are rather small.

In the infant, the protection against respiratory infection is provided by the lymphoid tissue dispersed in the rhinopharynx. With the progressive development of Luschka's tonsil, the succulent lymphoid tissue of the infantile pharynx disappears and the latter organ assumes the defense. During the period of lactation, we find the faucial tonsils rather small. Only when with the supply of other food the danger of infection presents itself, these organs become larger to battle with the new enemy. The tonsils differ from other lymph glands in that point that the glandular ducts (crypts) have no muscle fibres, so that they cannot be emptied by muscular contraction. This function of emptying the tonsils of their secretion is fulfilled by the contractions of the palatoglossus and palatopharyngeus muscle, which form the anterior and posterior pillars. These muscles compress the tonsils during the act of swallowing. These crypts are lined with squamous epi-

thelium, showing defects between the epithelial cells, which, according to Stoehr, are meant for the diapedesis of lymphocytes outward or inward. Goodale has shown that carmin smeared on the faucial tonsil is found soon in the crypts and is carried there by lymphocytes through the epithelium into the deeper strata of the tonsil and into the lymph stream. On the other hand, it has been demonstrated beyond doubt, that this epithelium is specifically adapted to resist the passage of bacteria. Taking this fact as a basis, Jonathan Wright advances the theory that the tonsils play a prominent part in the production of immunity, as the toxine can enter the circulation through the crypts, while the bacteria cannot.

In this connection I should like to mention a table compiled by Dr. P. Renn, who tabulates a great number of cases of children who had suffered from repeated attacks of tonsillitis and others who had never had such attacks. He follows them over a period of ten years, and makes the observation that children who have suffered from attacks of tonsillitis show a decidedly lower percentage of infectious diseases, including pneumonia and tuberculosis. This seems to be a practical demonstration of the correctness of Jonathan Wright's theory. Furthermore, it has been shown that anilin dyes injected into the erectile tisue of the lower turbinated bone of the nose are found very soon in the tonsillar crypts. Any one who does intranasal work to any extent will have to admit that the correctness of this experiment is proved by the fact that a tonsillitis occurs sometimes immediately after an intranasal operation. Such tonsillitis is due to an infection of the nasal structures operated upon.

These observations show, that the faucial tonsils are in reality the first lymphatic glands through which the mucous membrane, of nose, mouth, and rhinopharynx is drained. They are the only lymphatic glands provided with an outlet enabling them to be emptied of their contents outside of the body, and in this case they try to get rid of bacteria and toxines. It is now generally taught that the faucial tonsils are the main portal of entrance of systemic infection, because the crypts represent a good place for bacterial development, and the bacteria thence find easy access into the circulation. The truth is, that a general infection can take place only in spite of the tonsils, and not on account of the tonsils. If we consider that the bacteria are deposited on the tonsils by the food, and that they are pressed into the crypts in the act of swallowing, and in nearly every instance destroyed there by phagocytes; if we consider that the tonsils in all probability are the lymphatic glands trying to get rid of nasal or buccal infection; if we consider that the faucial tonsils are really the only organ in the oropharynx equipped with a cryptal epithelium specifically adapted to resist the penetration of bacteria,—how can the assumption that the faucial tonsils are the main portal of infection be maintained?

We are much nearer the actual facts if we assume that the severe systemic infections are due to some abrasions of the mucous membranes of mouth, throat, and gums. If the faucial tonsils, equipped anatomically and physiologically much better for the defense against infection, are sometimes the source of infection, we have to look for some reason making such invasion possible. This cause is to be found in the fact that quite frequently we find adhesions between the anterior surface of the tonsil and the anterior pillar. Such adhesions will obstruct a few of the crypts completely. During a tonsillitis these crypts are filled with purulent material which cannot be discharged. We have, then, retention of pus in the crypts, the epithelium of which may ulcerate and allow the invasion of bacteria.

If we now make the tonsillectomy our routine operation, as is being done at the present time, at least in this country, bacteria will no longer be stopped by the tonsils when taken in with the food. They will pass without trouble into the digestive tract, and may cause acute infectious processes in these organs; also acute infectious conditions, which we cannot explain, may be caused by an enucleation which has taken place years ago, as there is no tonsil to excrete the infectious material from mouth, nose, and throat.

These are the reasons which make me take a firm stand against unprincipled routine enucleation of every tonsil. Our tonsil operations should be in accordance with the pathological conditions present. While there are indications for enucleation, there is the great majority of cases where a surgically correct tonsillotomy will accomplish the desired end.

In young children we find quite frequently a physiological hypertrophy of the faucial tonsils, which for mechanical reasons produces difficulty in swallowing, or causes a persistent irritative cough. In these cases it is absolutely sufficient simply to cut off the prominent part of the tonsil with the tonsillotome. In otherwise robust children, who suffer once in a while from attacks of tonsillitis, I remove the adenoids, if present, to prevent mouth breathing and so a respiratory infection of the faucial tonsils. If I feel that a tonsillotomy is indicated, I do the same, only after I have freed the anterior pillar from the tonsil, so that all the obstructed crypts are opened after the adhesions are broken up. These adhesions are very frequently, if not always, the cause for circumtonsillar abscesses, the pus in the obstructed crypt breaking into the fossa supratonsillaris; or they may be the cause of an anemia, making possible a continuous absorption of toxines. In nearly all cases of frequently recurrent tonsillitis, it is sufficient to remove the tonsil after freeing the anterior pillar and exposing the fossa supratonsillaris with an ordinary tonsillotome.

While this operation is not enucleation, it means the removal of that part of the tonsil which by means of retention favors reinfection. In all cases of recurrent tonsillitis we find these adhesions, and we always see during the dissection of the anterior pillar, the retained secretion oozing out of these obstructed anterior crypts.

The indications for enucleation of the tonsils in children are:

First. Cases of buried tonsils where the pillars and the plica—that is the fold of mucous membrane which connects the two pillars below—envelop the tonsils almost entirely. Such tonsils are of no use, as they will not take up bacteria with the ingested

food, nor will they be able to empty their crypts in a secondary tonsillitis from nasal or buccal infection.

Second. In cases of small atrophic tonsils which cannot be removed, partly on account of their size, a microscope shows large defects in the epithelium of the crypts, sometimes its complete disappearance.

Third. In cases of suspected tuberculosis of the tonsils, unfortunately, the chronic form of tuberculosis cannot be diagnosticated clinically. Therefore, given an anemic child with tuberculous adenitis of the neck and abnormal tonsils, the tonsils have to be enucleated, as the tubercles are always situated deep in the tonsil underneath the epithellium of the crypts.

Fourth. In adults, recurrent attacks of circumtonsillar abscess call for enucleation as the only guarantee against future attacks.

Fifth. Malignant affections are self evident indications for this operation.

To make the age of the patient an important factor for the choice of operation is not logical, as the microscope shows the existence of the crypts at all ages, with the same production and diapedesis of lymphocytes, even if there is an increase of connective tissue.

That the total enucleation of the tonsils does not always accomplish the desired results has been shown by Finger, who has demonstrated that in quite a number of cases new lymphatic tissue may develop from the lymphatic tissue back of the tongue. As another drawback of the total extirpation of the faucial tonsils, we have to consider its deleterious effect on the voice, especially of singers and public speakers.

To theorize about the internal secretion or the importance of the tonsil for digestion, is not my intention.

OPERATION.

In describing the technique of the enucleation, I will not go too much into detail, as it is an operation which should be done only by the specialist. I prefer to enucleate with the patient in a sitting posture under local anesthesia—a procedure impossible in young children. In the few cases requiring the radical operation at a youthful age, we have to employ general anesthesia. When operating on a patient in a half sitting posture, chloroform or anesthol has to be avoided, as some cases of fatal collapse have occurred under such conditions. When operating with the patient lying down and the head hanging backward, any anesthetic may be employed. The narcosis must not be deep enough to do away with the respiratory reflexes, as otherwise the patient is exposed to the danger of an aspiration pneumonia. For local anesthesia, I use a one per cent. cocaine solution in one to 2,000 adrenalin, of which I inject a few drops in the anterior and posterior pillars. I also think it wise to do the same thing in general anesthesia, to limit as much as possible the bleeding during the operation.

The most important step of the operation is the thorough freeing of the pillars from the tonsil. I introduce a tonsil knife between the anterior surface of the tonsil and the pillar at the upper pole of the tonsil, and cut through existing adhesions, pulling the pillar at the same time away from the tonsil, to avoid cutting into tonsillar tissue. In case the plica is overdeveloped, I cut into it. I now try to reach the upper end of the tonsil with my right index finger, and press the tonsil downward with a gentle, even, firm pressure, until I feel the same give under my finger, and hanging by its lower pole. Then I catch it with a volsella, and cut it off with scissors, knife, tonsillotome, or snare. The snare ought to be used only under the guidance of the eye, and only after the most complete separation of the pillars—otherwise we may take a part of the pillars or soft palate out along with the tonsil. In case I cannot reach the upper end of the tonsil with my finger, I use a sharp enucleator to shell out the upper end of the tonsil from its bed in the palate, but I finish the operation with the finger as soon as I can feel the upper end of the tonsil.

I have described the technique which I am using in my own work, without wishing to discredit any other. Every operator may develop his own technique and feel that he has solved the problem. Unless you have seen the many disastrous results of the snare operation by unskilled hands, as crippled palates, adhesions of the destroyed posterior pillar to the pharyngeal wall, causing trouble in breathing, speaking, and hearing, you will agree with me that enucleation is a major operation which ought to be left with men competent to do that kind of work.

63 West Ninetieth Street.

THE DROP METHOD OF ADMINISTERING ETHER WITH SPECIAL REFERENCE TO A NEW COMBINATION INHALER.*

By Harold A. Sanders, B. S., M. D.,
New York.

The early ether inhalers were cone shaped sponges upon which the ether was poured and the cone placed over the patient's face. This open sponge, cone method was used for several years, then began an effort to confine and control the vapors, which led to the development of "closed" inhalers, some of which have given excellent results.

The pendulum has again swung back, and we find the open method to the fore. Now the quality of the ether, and the knowledge of the anesthetists have improved, so that the ether is dropped, instead of poured. The advantages of the drop method are too well known to require lengthy discussion, but a review of a few points may be in order.

First of all the respiration is more free and uniform. It is also less deep, with consequently less abdominal muscular movement and rigidity, so often complained of by the surgeon when the closed method is used. Consequently less strain is put upon the respiratory apparatus, and no cyanosis is seen. There is a notable freedom from reflex laryngeal spasm, and disturbance of the respiration, due to stimuli in the area of operation. The secretion

*Presented before the Long Island Society of Anesthetists, May 31, 1911.

of saliva and mucus is much less, while coughing is infrequent. The bleeding from the wound, especially the venous oozing, is less profuse, and the blood pressure is more evenly maintained. The so called ether shock is reduced to a minimum. Headache and taste of the ether are less than by the closed method, while conscious vomiting occurs in only about one third of the cases. With all methods transient acetonuria occurs in a majority of cases, while experiments have shown that with the open drop method it is reduced to about twenty-five per cent. When compared with all other methods the risk of over dose in the hands of a beginner is the least with the open method; while the apparatus is less formidable and difficult to handle.

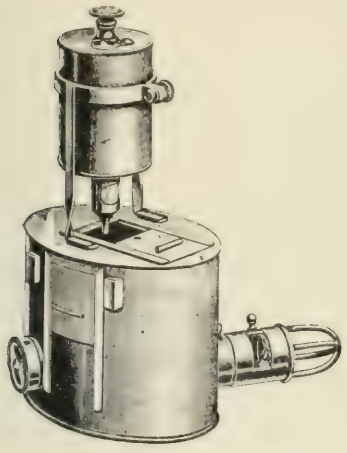


FIG. 1.—The complete inhaler, showing air-ether windows, expiratory valve, ether dropper, and nitrous oxide attachment (without bag).

It is objected that with the open drop method a large amount of ether is required, much of which escapes into the surrounding atmosphere. With the absolutely open inhaler such as the Schimmelbusch mask or the Ochsner inhaler this is true, while many anesthetists find it necessary to surround or cover them with extra gauze or towels to keep the patient under, and prevent ether from dropping on the face. With these points in mind, as well as the general requirements of the drop method, the writer has devised an inhaler which has so well met the requirements and given such satisfaction as to seem to justify its presentation to the profession. While primarily intended for ether by the drop method, attachments have been arranged for the inhaler so as readily to adapt it to the following agents and sequences:—

Ether alone.
Ethyl chloride by the spray or vapor bag method.
Ethyl chloride ether sequence.
Chloroform.
Anesthol, Schleich's, or other mixtures.
Nitrous oxide ether sequence.
Nitrous oxide, alone, or with oxygen.

The apparatus consists of two main parts; a wire dome, and a metal vapor chamber. The wire dome is covered with from six to ten layers of medium mesh surgical gauze. The dome is inserted into the lower part of the vapor chamber with the vertex upward, and the rim resting upon a flange around the inner walls of the chamber. The vapor chamber is so shaped that with a rubber cushion applied to its lower rim it fits the face snugly.

On the top of the vapor chamber is an opening, through which fresh air is admitted and ether dropped upon the crest of the gauze dome. The opening is provided with a slide shutter which may be closed when desired.

In one side of the vapor chamber, near the top, is another opening with its slide, through which the anesthetic agent is dropped when the patient's head is on one side. The shape of the inhaler is such that it can be used with the head on either side. On the same side of the inhaler, at a point below the dome, is a valve which permits escape of the expired air.

When ether alone is to be used the apparatus is set up with the upper slide open. The inhaler is raised slightly from the patient's face, and a few drops of ether are allowed to fall on the gauze through the ether window. The patient is instructed to breathe naturally and the dropping is continued, as the inhaler is lowered until it rests gently on the face. Soon the respiratory tract is anesthetized, the rapidity of the dropping is increased, and usually the exciting stage is only slightly marked, the patient passing quietly into narcosis. The anesthesia is maintained for an hour, with 100 to 110 grammes.

Now as to the effects of this method upon respiration, the chief consideration: The breathing is particularly free, as the thin gauze dome allows easy inspiration, while the windows are twice the size of the trachea. There is no extra work put upon the respiratory apparatus because of the inhalation. The vapor chamber is large enough to secure a good mixture of air with the ether. This is promoted by the expired air striking the lower surface of the gauze dome, and keeping it warm. The excess of this expired air, however, passes out through the expiratory valve, and is not forced back through the gauze, while fresh, warmed ether vapor is inhaled by the patient. Refrigeration is eliminated, and the strength of the vapor can be easily regulated to suit a child or a muscular alcoholic.

For convenience in dropping the ether, a needle valve dropper has been devised, which will hold 100 grammes of ether. It may be used either on the top, or side of the inhaler. By its use regularity in dropping may be maintained, the rate varied as required, and the right hand left free to take the pulse, etc.

In using ethyl chloride alone the side window is closed, while the upper window is one third open, and the ethyl chloride sprayed on the gauze through the opening. The inhaler is held a little away from the face at first, being gradually lowered as the inhalation progresses. The spraying is intermittent in the beginning, becoming continuous as the patient is accustomed to the vapor and passes under its influence. When anesthesia is complete the spray is again made intermittent so that just enough of the vapor is used to hold the patient.

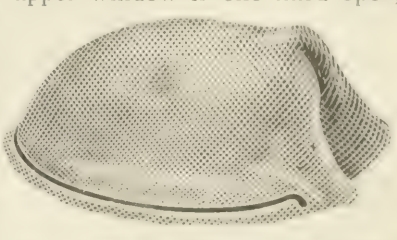


FIG. 2.—The gauze dome of the inhaler.

When the vapor bag method of giving the ethyl chloride is desired, the tip of the ethyl chloride cartridge, still covered by its cotton envelope, is in-

serted into the end of the rubber tube attached to the gas bag, and broken by lateral pressure, allowing the gas to flow into the bag from which it is inhaled as described for nitrous oxide, only with caution to open the cutoff gradually.

In the ethyl chloride ether sequence, as soon as the patient is lightly under the ethyl chloride, a few drops of ether are added, then more ethyl chloride, followed by ether, the former being withdrawn as the latter is rapidly added, the effort being to overlap the administration, which will result in a speedy, quiet, and comfortable anesthesia. This method, which is positive in result, requires a minimum of ether, with correspondingly little postanesthetic effect, and is particularly recommended for children, the obese, and alcoholics.

For chloroform, the wire dome is removed, a few layers of gauze are fastened on it by the wire spring, and the mask is held slightly away from the patient's face, as the chloroform is added drop by drop.

In using mixtures, the chloroform method is employed, or the inhaler is used with the windows wide open.

In the opposite position to that of the expiratory valve is an opening, closed by a cutoff. Into this opening fits the connection for the gas bag.

For the nitrous oxide ether sequence the gas attachment is inserted, the windows are closed, and the dropper is put in place with the tip passed through the hole in the top window. The bag is two thirds filled with nitrous oxide, the inhaler is rested gently on the patient's face, while he is instructed how to breathe. The cutoff is closed, turning the nitrous oxide into the breath stream. Expiration takes place through the side valve which is closed when to and fro breathing is desired.

As soon as the patient is sufficiently under the nitrous oxide, ether is dropped into the ether chamber from the dropper. The ether is rapidly added as the nitrous oxide is withheld, so as smoothly to overlap the administration. One of the large windows is opened as soon as the patient is sufficiently under the ether, and the anesthesia carried on in the usual way, removing the nitrous oxide attachment if desired.

Nitrous oxide can be used alone with the apparatus as described, minus the ether.

For nitrous oxide and oxygen, supplemented by ether if necessary, the apparatus is set up as for nitrous oxide, ether sequence. The supply tube of the gas bag is fitted with a Y tube, one branch of which is connected to the nitrous oxide tank, the other to the oxygen tank, and the mixture is made in the bag which is covered by a net in order to secure positive pressure and utilize rebreathing of the gases, according to the requirements of the case. The ether is ready for instant addition if required.

Oxygen may be run into the gas bag and given with the ether in any required amount, or the cutoff can be used to admit air to the respiration chamber.

It will also be seen that the inhaler can be used for the closed method, if that is the choice of the anesthetist.

The advantages of the apparatus are:

1. It is simple and efficient.
2. It is aseptic.
3. The areation is perfect and fresh warmed ether vapor is presented to the patient at each respiration.
4. Only a small quantity of the narcotic is required, hence there is a minimum of postanesthetic effect.
5. It can be used with the head in any position.
6. It is compact and complete for all ordinary inhalation anesthetics.

864 St. John's Place, Brooklyn.

ANESTHETICS IN THE BOROUGH OF MANHATTAN.*

By Alfred M. Hellman, B. A., M. D.,
New York,
Anesthetist, German and Har Moriah Hospitals.

In order to have some facts to use as a working hypothesis for this paper, and on which to base some conclusions, I framed a series of questions of which I sent a copy to each of the following twenty-one hospitals on Manhattan doing surgical work: Bellevue, Roosevelt, Presbyterian, St. Luke's, Mount Sinai, German, New York, Postgraduate, Skin and Cancer, Har Moriah, Hahneman, St. Mary's Babies', Beth Israel, French, General Memorial, Polyclinic, J. Hood Wright, Saint Vincent's, and Sydenham.

Replies were received from seventeen hospitals, and information concerning two others was gleaned from unofficial sources.

1. The hospitals ranged in size from forty-five to 4,500 beds.

2. The number of anesthesias per annum ranged from 250 to 4,000.

3. In nearly all ninteeen hospitals the internes give most of the anesthetics to ward patients, but a certain number are given by nurses, sisters of mercy, and a very few by instructing or attending anesthetists. Private patients are also, as a rule, anesthetized by the internes, but all the surgeons at these various hospitals reserve the right to call in the attending anesthetist, or in some hospitals a specialist, who may or may not have official connection with the institution.

4. Five of these nineteen institutions are without any one to look after the anesthesia work. One has a consulting anesthetist, and one a resident. The other thirteen have one or more instructing or attending anesthetists, who are frequently recent graduates of the hospital.

5. Of the fourteen that have an anesthetist in only five is this man a specialist, and by that I mean one who devotes himself exclusively to anesthesia. In most places it is a young man who uses this as a stepping stone.

6. Salaries for this work are paid only in three or four instances, and the salary is as a rule nominal; in one case being less than $300 per annum.

7. Wherever there is an attending anesthetist, he instructs the house staff; at least theoretically.

8. The attending anesthetist comes to ward opera-

*Read before the New York Society of Anesthetists.

tions whenever called; which is rarely oftener than with every change of house staff, so as to give the new man a little help.

9. The interne sometimes gives anesthesia directly upon entering the hospital; in some cases after filling some other position for three or six months.

10. The staff men retain their positions as anesthetists in some places only six weeks; in one place one year off and on, doing other work at the same time.

11. Ether is the favorite anesthetic at all the hospitals, about equally divided between the Bennet inhaler and the open method.

13. Nitrous oxide is most frequently used for induction. Chloroform, anesthol, and ethyl chloride are all used, but to varying extent.

The fact that ether is still the favorite is more than interesting just now as we are hearing and reading so much about nitrous oxide-oxygen which the anesthesia committee of the American Medical Association has proclaimed the best, and the general use of ethyl chloride which Doctor Wood has recently so vigorously condemned as unsafe in his report to the anesthesia committee.

Though the showing is far from satisfactory in many respects, there is a healthy improvement over what existed not much more than a decade ago, when probably no hospital had any one to instruct the internes, and in every case a paper and towel cone loaded with ether was applied to the face, and as long as the patient was unconscious enough for the operator to do his work, every one was satisfied regardless of postoperative results. To-day, throughout the city there is a real interest in, and discussion of the subject. In over half the hospitals a record is kept of the quantity of the anesthetic used, and every interne is anxious to study the ether *rausch*, the ether drop method, and all the newest appliances. In the three hospitals with which I am connected, nearly all the men after their six months' practice, can be trusted with most cases, and are fit to give an anesthesia if called upon to do so in private practice.

Personally I do not believe that any one without a medical training can ever become an expert anesthetist, for we know that frequently complications arise which tax the ability of the most trained. Therefore, nurses, sisters of mercy, and others should be excluded from general anesthetic work. How are they able to say that this or that patient has a cardiac, or pulmonary lesion, excluding the use of this or that particular anesthetic, as the case may be? How are they to interpret all the little signs that to the expert mean so much during anesthesia; and how are they to command the surgeon's confidence sufficiently to make him lower or raise the table or hurry his work to the utmost? How are they to appreciate the dangers that may come, later on, from too much anesthetic? I believe firmly that it should be a part of every nurse's training to learn how to handle anesthetics sufficiently to help out in a great emergency, but no more.

As to the legality of nurses, sisters of mercy, and others without a medical training, doing this work, much has been said and written of late. It all tends to prove beyond a doubt that the administration of anesthetics is legally medical practice, and as such may be handled only by graduate physicians. It is high time that hospitals and surgeons who use underpaid nurses for the slight saving it incurs, stopped this illegal procedure.

As to the handling of anesthetics outside of the hospitals, that is a difficult subject to treat. We all know that anesthetics are administered by practically every physician, whether specially trained in this line of work or not, but if the recommendations I make at the end of this paper are put into practice, all physicians will be competent to administer anesthetics and until then the major part of this work should be done by the specialist in anesthesia.

At this point, let me say a word about dentists and their methods of handling this subject. Let me, before I criticise them, compliment those among their number who have made themselves proficient in this line of work for short operations about the mouth. I know one man, and I feel sure there are many more with just as good records, who has given gas 17,000 times without a mishap, and one who has used ethyl chloride in several thousand cases with like success. But the mass of dentists open office at about the age of twenty-one years, directly after leaving dental school; and in many parts of this borough twenty-five per cent. of the dentists have not even the legal right to practise dentistry. In the school, anesthesia is not dealt with, and they have no chance to learn about it, except from the agent who sells them the apparatus. Thus it came about that so many of them have taken to somnoform, the impure ethyl chloride. The agent showed them how to use it and they went ahead. That we hear of so few anesthetic deaths means nothing, for we all know that no anesthetic deaths are reported as such, if this can be avoided.

The dentists are interested in this subject and it would require but little effort on the part of this society to have some steps taken to give them instruction. On October 19, 1911, a society of dentists with over fifty members present listened to papers on anesthesia and discussed the subject for three hours. It would be hard to get medical men to manifest a like interest. Dentists themselves would welcome instruction and ought receive it in their schools for they need it later in their work.

Now for a word about the anesthetist himself. He too frequently advocates one method of anesthesia and one method only and makes himself expert in this method alone. That so few anesthetists agree and so few surgeons agree is almost proof positive that the one perfect method has not yet arrived. This advocacy of a single method works a twofold harm. In the first place it lets the surgeon do the deciding and call the particular man who gives the anesthesia he wants in the case under consideration. In the second place, it keeps the anesthetist from properly instructing those under him in the correct use of all methods, and thereby keeps the average man from becoming a finished workman, so that the patient may be safe regardless of what anesthetic is at hand and must be used.

I did not inquire of the medical schools in Manhattan what they do for their students to make them anesthetists, because their students do not by any means all stay here, nor are New York practitioners entirely recruited from the local colleges. We all

know that in very few of the teaching institutions throughout the country do anesthetics receive a proper place in the curriculum. The average recent graduate is entirely ignorant of the methods and dangers of using anesthetics.

RECOMMENDATIONS.

To put anesthesia on a more perfect basis in a place like New York, this society should draw up a set of resolutions, submit them to the Educational Committee of the American Medical Association, in the hope that they will adopt them, and send them broadcast. The resolutions should embody the views of the large majority of members of this society, and what I offer here is only in the light of suggestion to give a committee, if formed, something with which to start work.

Every medical course should include three or four lectures on anesthesia to teach the history, theory, indications, and contraindications of the various anesthetics, the various stages of anesthesia, signs, complications, stimulants of most use, instruments, and apparatus needed. Every student during his hospital clerkship should induce at least twenty-five or thirty anesthesias with the instructing anesthetist at his side. The interne when he becomes staff anesthetist should again be placed in the hands of the instructing anesthetist of the hospital until the instructor considers his pupil proficient. Every hospital should have one or more attending anesthetists, who should receive a recompense, either in actual salary or in a large number of private cases anesthetized in the hospital, each with individual pay, and the recompense should naturally be sufficient to make it possible for the attending physician to devote his entire time to anesthetic work.

Because a certain number of cases do well, no matter who is the anesthetist, it is frequently believed that any doctor, and I was almost going to say any person, can induce anesthesia.

But with some such plan perfected as I have just suggested, anesthesia will be on the satisfactory, uniform basis that a specialty of such importance requires. To-day the specialist in this line is too little considered, and despite the advance of the last fifteen years, his services are still underestimated.

2 WEST EIGHTY-SIXTH STREET.

Tuberculosis and Genius.—Not a few of the world's greatest geniuses in art, science, and literature died from tuberculosis, and on this account certain writers, such as Dr. Arthur Jacobson and Dr. John B. Huber, think that possibly this disease may provide a certain stimulus to the genius of an already great man. Some of the great men and women of letters mentioned by Doctor Jacobson who have died from tuberculosis are: John Milton, John Locke, Alexander Pope, Dr. Samuel Johnson, Sir Walter Scott, Elizabeth Barrett Browning, Goethe, Robert Louis Stevenson, Sidney Lanier, Ralph Waldo Emerson, Voltaire, John Ruskin, Charles Kingsley, Immanuel Kant, Rousseau, E. P. Roe, and Paul Lawrence Dunbar. Among other great men who are reported to have died of tuberculosis may be mentioned Raphael, von Weber, Chopin, Nevin, Calvin, Cicero, and Cecil Rhodes.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXXII.—What medicines, dressings, etc., if any, would you recommend to equip a family medicine cabinet? Give details as to quantities, labeling, and arrangement. (Closed May 15th.)

CXXIII.—Under what circumstances do you find it advisable to prescribe the continuous use of alcohol? (Answers due not later than June 15th.)

CXXIV.—How do you treat streptococcic sore throat, in view of the possible sequelæ? (Answers due not later than July 15th.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short, if practicable no one answer to contain more than six hundred words; and our friends are urged to write on one side of the paper only.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to Question CXXI was awarded to Dr. J. W. Miller, of Cincinnati, Ohio, whose article appeared on page 1096.

PRIZE QUESTION CXXI.

HEMATURIA.

(*Continued from page 1099.*)

Dr. W. Blake Gibb, of Haverstraw, N. Y., remarks:

Blood in the urine is significant only as a symptom, and when present requires a consideration of the patient, generally with special reference to the genitourinary tract. A careful history of the patient must at first be obtained, with physical examination, greater attention than in the ordinary examination being given to the urinary system.

The location of the bleeding should next be sought. It may be renal, including kidney, pelvis, and ureter, or vesical, prostatic, and urethral. The color, bright red, suggests urethra or bladder. If "smoky" and intimately mixed, renal. If the urine first passed is blood stained, and this is followed by a clear flow, urethra or prostate. Blood may trickle from the urethra, independently of micturition. If blood is expelled only during the last part of the act, then it is from the bladder. Large flat clots are from the bladder, while cylindrical or blood casts are from ureter or kidney. If doubt exists, washing out the bladder will give a blood stained return if bladder is the cause, clear if renal. Finally, the use of the endoscope and cystoscope may be applied with catheterization of the ureters and differentiation of the kidneys. In women, blood from the uterus and vagina must be excluded. In male patients it is well to have them urinate before the physician. In many cases it is difficult to find the exact origin, and we have to depend on symptoms and physical findings. The detection of the blood is not difficult, the color, if abundant, will suffice, or if less marked the guaiac test and mi-

cystoscope will aid. A chemical and microscopical examination of the urine should be made for blood cells, varieties of epithelial cells, and portions of new growths for further information.

The next consideration is the cause. Local renal conditions, acute and congestive inflammation of the kidney, associated usually with acute infectious diseases, renal calculi, malignant growths, tuberculous disease, in young people with no other symptom but blood in urine, make us think of tuberculosis. Certain drugs are irritant to the kidney, as cantharides and turpentine, while in the tropics parasites such as the *Filaria sanguinis hominis*, and, finally, injuries causing traumatism. Ureteral hematuria is due usually to passing of stone; vesical to new growths, either malignant or benign. A profuse hemorrhage without other signs is suspicious of malignant or villous tumor, ulcerations, tuberculous or simple, acute congesion, varicose veins, calculi, parasites, and injuries. Prostatic hematuria may be due to new growths, early stage of hypertrophy occasionally, ulcerations, calculi; urethral hematuria to passing instruments, lodging of calculi, occasionally to gonorrhea. Constitutional diseases may be responsible, as hemophilia, scurvy, purpura, and malaria. But at times we are unable to demonstrate any cause, as in the vasomotor type, and the renal hemophilic form associated with Raynaud's disease.

The final consideration is treatment. Naturally, the first indication, at least to the patient, is to stop the bleeding. This may be dangerous, but rarely fatal. Drugs appear to have less effect here than on other visceral hemorrhages. When due to renal calculus, absolute rest, cold acidulous drinks, hot applications, and, if much pain, morphine, from one eighth to one quarter grain hypodermically, may be given. Hemorrhage from acute congestions requires hot fomentations, saline laxatives, and diaphoretics; vesical hemorrhage, cold applications to the hypogastrium, with ergot by mouth, or washing out the bladder with astringents, as alum, two grains to the ounce, after the bladder has been emptied. When due to malignancy, operation is needed at once if the disease has not gone too far. Tuberculous disease requires the same care as when it affects other portions of the body. Injuries, if not severe, require rest and cold applications, but if serious operation must be attempted. Constitutional causes require general treatment, as in hemophilia the calcium salts are required. But each case requires careful examination and study, with treatment appropriate to its own peculiar requirements.

Dr. Arthur T. Henrici, of Pittsburgh, writes:

Blood in the urine may be present in sufficient quantities to give it a bright red color, with perhaps clots floating in the specimen, or may be present as a dark, smoky sediment, or may be invisible to the naked eye, in which case the microscope or the guaiac and turpentine test is necessary to reveal its presence. The presence of blood in the urine, unless it has been added after micturition, as by malingerers, or during the act, as in menstruating women, indicates hemorrhage into some portion of the urinary tract.

Hemorrhages from the urethra will usually stain only the first urine passed; and in hemorrhages from the anterior urethra, blood will be passed between urinations. Such hemorrhages are caused by trauma, a very acute gonorrhea, endourethral chancre, or other infection. The treatment indicated is rest, the application of cold, and the instillation of astringent solutions, as zinc sulphate or silver nitrate in one to two per cent. solutions. In females, urethral caruncle is a source of blood in the urine. The treatment consists in removal, by excision or with the cautery.

Hemorrhages from the bladder and prostate are usually indicated by a staining of the last portion of urine passed, although in severe hemorrhages from the bladder the whole urine may be bloody. If the bleeding is due to a vesical stone, or a hypertrophied or cancerous prostate, the bleeding will occur with the last few drops, and will be accompanied by pain and tenesmus. One of the frequent causes of severe and persistent bleeding from the bladder is papilloma. The diagnosis is made by the cystoscope, and the treatment is removal, by the curette or cautery. Recurrence is frequent. Other causes of hemorrhage from the bladder are acute cystitis, tuberculous cystitis, cancer of the bladder, and bilharziasis. As a rare condition, ruptured varicose vesical veins may be mentioned. For the hemorrhage of acute cystitis, complete rest with an ice bag over the bladder, and, if necessary, the injection of a weak silver nitrate solution are indicated. Vesical tuberculosis is secondary to tuberculosis of the kidney and usually subsides after removal of the affected organ. As a palliative measure, resting the bladder by suprapubic drainage is valuable. Severe cases of hemorrhage from the bladder are best controlled by irrigations with a hot alum solution, a tablespoonful to a pint of water.

Bleeding from the kidney and ureter may be differentiated from vesical hemorrhage by several means. If the bladder is washed out several times, the last water will usually run away clear in renal hemorrhage, while it will still be blood tinged if the bleeding is from the bladder wall. Sometimes casts of the ureter are formed by the clotted blood and may be pulled out of the urethra. Finally, cystoscopy and catheterization of the ureters may be resorted to, to reveal the source of the blood. Traumatic hemorrhage from the catheters is to be avoided.

Hemorrhage from the kidney may be due to:

1. Trauma. If bleeding is severe, exposure of the kidney and suturing or nephrectomy is indicated. Often only a small part of the blood escapes into the ureter.

2. Stone in the kidney or ureter. The hemorrhage follows an attack of renal colic. The treatment is obviously surgical.

3. Tuberculosis, pyelitis, pyelonephrosis, etc. The diagnosis depends on the other urinary findings and the history. The treatment of the bleeding is the treatment of the infection, i. e., surgical (removal of the kidney).

4. New growths. Hypernephroma may cause severe bleeding, as well as other types of malignant tumors. The treatment is surgical.

5. Acute Bright's disease. In these cases, due to the toxemias of the acute infections, as smallpox, scarlet fever, etc., or to the action of various poisons, as turpentine, cantharides, croton oil, or

phenol, the blood is usually well mixed with the acid urine, which reduces the oxyhemoglobin to methemoglobin, so that often the urine has a dark or smoky color. In addition, blood casts of the renal tubules may be found. The indications are to eliminate the toxines and relieve the kidneys by catharsis and diaphoresis, and to dilute the urine by encouraging the patients to drink water. Locally, ice bags or dry cups to the loins are of value.

6. Malarial. The hematuria occurs with the paroxysms of fever. Often hemoglobin only is present in the urine. Quinine is indicated.

7. Idiopathic. There are some cases of renal hematuria, often of long standing, where no cause can be made out. Some of these cases are apparently due to varicose veins of the renal papillæ. Rest, ice bags, and the internal administration of lead acetate, ergot, or hydrastis canadensis may be tried. Turpentine in doses of five to ten minims is most valuable.

Finally, hemorrhage from the urinary tract may be a manifestation of a blood dyscrasia, as in hemophilia, pernicious anemia, or leuchemia. In these cases, caused by a reduced coagulability of the blood, the administration of human serum, according to the method of Welch, would be advisable.

(To be continued.)

Correspondence.

LETTER FROM CANADA.

The New Ontario Health Act.—Hospital Act of Ontario.—Dominion Registration.—Births, Marriages, and Deaths in Ontario.—Lister Night at the Academy of Medicine, Toronto.—Fighting Tuberculosis in Prince Edward Island.—Fee Splitting in Vancouver.—Annual Meeting of Canadian Medical Association.

Toronto, Ont., *May 25, 1912.*

The most notable feature of the new Ontario health act, passed at the recent session of the Ontario legislature, is the division of the Province into ten health districts, each to be in charge of a district health officer who is to devote all his time to the duties and be paid a salary of $2,500 per annum and legitimate traveling expenses. By this act also, the Board of Health of Ontario shall consist of six members and the Chief Health Officer, a practitioner of at least five years' standing, who shall be the secretary of the board. There is also to be a chief inspector and each district medical officer shall have an inspector to assist him. Every municipality in the Province shall have a board of health and a medical health officer; and health officers cannot be removed from office except for cause and with the approval of the Provincial board of health. Cities of over 50,000 inhabitants, which have health officers of their own, shall not come under the supervision of the district health officers. The new vaccination act provides for the administration of this act by the health officers, also for compulsory vaccination in infancy and revaccination. Formerly vaccination was at the discretion of boards of education.

The hospitals of the Province of Ontario will be improved very materially by the new hospital act passed at the recent session of the legislature. Hospitals may now receive from municipalities, societies, railways, etc., one dollar a day for a patient in addition to the regular Government grant, now twenty cents a day. In the interests of medical education all hospitals in the vicinity of a medical college shall allow the charity cases therein to be used for clinical teaching, but the teaching must be done by the active staff of the hospitals. All hospitals in the Province must make provision for tuberculous patients. Nurses receive a special status under this act; those graduating from a hospital with a training school whose course of study is deemed efficient, shall be regarded as registered nurses of the Province of Ontario. Private hospitals are also regulated, and must secure a license from the department of the Provincial secretary.

All the Provinces of the Dominion of Canada have, through their legislatures, passed the "enabling clause" essential to the ratification of the measure of Dominion registration; and the question, practically before the profession of Canada since confederation in 1867, will shortly be consummated. Years ago, the Canadian Medical Association took a prominent part in promoting this measure and placed it in the hands of Dr. T. G. Roddick, of Montreal, to bring about the desired end. Sparing no pains, time, or money, Doctor Roddick has for nigh twenty years prosecuted this campaign. He sought election to the Canadian House of Commons and succeeded, in 1902, in having the original act placed upon the statute books of the Dominion. Three Provinces at that time failed to ratify the Canada Medical Act in their legislatures, namely Quebec, Ontario, and British Columbia. Doctor Roddick, however, stuck to his task, finally got the medical representatives from all the Provinces to agree to certain amendments, and had these embodied in a bill which was passed by the Canadian Parliament in 1910. Now all the legislatures have agreed to it and all that remains is to organize the Dominion Medical Council. The Canada Medical Act is thus to be administered under the minister of agriculture, who will summon the first council meeting in Ottawa the coming summer for organization purposes. By it physicians who have been in practice anywhere in the Dominion at least ten years may practise in any Province; and students may take the Dominion Council examinations and practise in any Province without further examination. The medical profession in Canada recognize the Imperialistic nature of Doctor Roddick's services and hope to see him duly awarded for his self sacrificing labors in behalf of the Dominion.

For the year 1910, there were in the Province of Ontario 33,539 deaths, 55,871 births, and 24,036 marriages. The birth rate was 24.9 per 1,000, a slight increase over the previous year. There were 370 twin births, 364 boys and 376 girls. There were five cases of triplets with nine boys and six girls. The illegitimate births numbered 1,077. The death rate for the province was fourteen per 1,000. Tuberculosis caused 2,921 deaths or a decrease of eighty-nine from the previous year. Infant mortality was represented by 6,450 deaths under one year. The deaths from typhoid fever numbered 706. The total number of deaths from cancer was 1,587. There were 1,626 deaths from violence.

The Academy of Medicine, Toronto, devoted the evening of April 2d to a symposium on the late

Lord Lister. Dr. N. A. Powell, the president, was in the chair and the following pupils of Lister contributed papers, Dr. F. LeM. Grasett, of Toronto, Dr. St. George Baldwin, of Toronto, Dr. A. Malloch, of Hamilton, and Dr. John Stewart, of Halifax. Sir Hector Cameron, of Glasgow, contributed a paper read by Dr. W. A. Young, of Toronto. Mr. I. H. Cameron, and Dr. Geo. A. Bingham and Dr. R. B. Nevitt, of Toronto, also contributed papers. At the general meeting of the Academy of Medicine in May, Dr. R. A. Reeve was elected president, Dr. H. J. Hamilton, vice-president, Dr. Harley Smith, secretary, and Dr. W. A. Young, treasurer. The academy discussed the fee splitting question and decided that wherever it was practised it was to be done with the knowledge and consent of the patient.

A free dispensary is now being conducted in Charlottetown by voluntary subscription; and the citizens have generously appreciated the efforts of the Charlottetown branch of the Canadian Association for the Prevention of Tuberculosis. The dispensary also receives other patients for treatment. During the past year of 115 patients treated, thirty-five were tuberculous. The society is hampered somewhat for lack of funds, as the city council has shown no particular or tangible interest in the work. The society is endeavoring to bring about proper inspection of the milk supply and necessary and satisfactory provision for tuberculosis cases traveling on the P. E. I. railway.

The Vancouver Medical Society discussed the question of division of fees at its regular meeting, May 11th. They considered the practice unethical; a specialist was entitled to receive his regular fee without reference to the medical man in charge of the case, but when the regular attendant had assisted the specialist his fee might be added to that of the specialist or the two accounts rendered separately. Where a specialist was called in to diagnosticate or operate and the case remained in charge of the regular attendant the latter should send a joint account, or accounts, separately; and in such cases, the surgeon's fee should not be less than one half the amount he would charge if the case were under his sole management. Members of the society are to report to the executive cases coming to their notice where commissions are paid.

The annual meeting of the Canadian Medical Association is to be held in Calgary and Edmonton, Alta., August 10 to 14, 1912. The President is Dr. H. G. Mackid, of Calgary, and the general secretary, Dr. E. W. Archibald, 160 Metcalfe Street, Montreal.

Therapeutical Notes.

Treatment of Cough Associated with Vomiting in Tuberculosis.—Paillard, in *Progrès médical* for January 27, 1912, gives a very thorough review of this subject. Among the forms of treatment he considers most effective is that recommended by Mathieu and Roux, in 1903, viz., the administration of chloroform water directly after meals, to prevent the onset of the "gastric cough" by exerting a local anesthetic effect on the stomach. Where this preparation proves ineffective, a saturated solution of bromoform, or a flavored emulsion of menthol in the proportion of one to 1,500 or one to 750. Lion recommends the administration of twenty grammes of bismuth subnitrate in two thirds of a glassful of water, one hour before a meal. This is continued for ten or twelve successive days, after which, even though the drug is stopped, the vomiting no longer occurs. [Such large doses of bismuth as these, however, are associated with danger of poisoning.—EDITOR.] Paillard himself counsels the following measures: 1. Rest after meals; any physical effort induces dyspnea, which, in turn, may provoke coughing and vomiting. This rest should be taken in the recumbent position, the patient lying on the right side in order to favor evacuation of the stomach. 2. When the patient feels the coughing spell coming on, he is to resort to a few inhalations of oxygen from a tank placed conveniently near the couch or bed. This, according to the author's experience, either wards off the coughing spell entirely or renders it much milder, so that vomiting does not follow. If, later on, the tendency to cough reappears, further inhalations may be used. Of thirty-two cases in which these inhalations were given for a few weeks, only in three instances did the vomiting reappear; in each case the simultaneous use of chloroform water brought permanent relief. That the effect of oxygen was not a psychic one was shown when it was administered to some patients without informing them of the result expected; the usual effect was exerted in these cases. Some patients complain of dryness of the throat as resulting from the inhalations; this may be avoided by passing the gas from the tank through a small washbottle containing boiled water.

Glycerin Dressings.—An editorial writer, in *Tribune médicale* for February, 1912, states that Rusca and Arndt have recently made systematic use of glycerin dressings in treating infected wounds, phlegmonous inflammations, paronychia, adenitis, and furunculosis, with excellent results. Glycerin, by absorbing water, decongests inflamed tissues, and tends to prevent suppuration and promote repair. Lucas-Championnière has recommended the following phenol glycerin combination:

Phenol, } ..... of each 50 grammes;
Glycerin, .. }
Sterile water, ... 1,000 c.c.

This fluid should be used hot, and applied to the involved surfaces without preliminary cleansing irrigation of the latter.

Besnier advocates the use of the following mix-

Tannic acid, ... 0.1 gramme;
Glycerin, ... } ..... of each 500 grammes
Rose water, .. }

In localized hyperidrosis, glycerin should always be included in the preparation prescribed, if the latter contains formaldehyde in high percentage.

In nasopharyngeal affections the application of glycerin is a well known and effective measure. To it may be added tannic acid, sodium biborate, alum a salicylate, or formaldehyde.

On many occasions, the glycerite of starch may be substituted for pure glycerin with advantage.

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THE PATHOGENESIS OF ARTERIOSCLEROSIS.

This problem is being gradually elucidated with the aid of functions which are themselves increasingly asserting their importance in pathology, those of the adrenals. The production of arteriosclerosis by Josué by means of hypodermic injections of adrenalin has been repeated by numerous investigators, and though a few have held that the lesions they caused were hardly typical, the fact remains that, with due allowance for the difference between the experimentally produced process and the disease itself, the main lesions of the latter are faithfully reproduced.

The recent discovery of Cannon, Aub, and Binger (*Journal of Pharmacology and Experimental Therapeutics*, March, 1912) that nicotine in small doses (0.0035 to 0.0075 gramme in cats) caused an augmentation of adrenal secretion adds another link to a chain of events which connects the adrenals with arteriosclerosis, of which excessive smoking is a recognized and prominent cause. With this factor, as with all others that have been studied in this connection, the adrenals thus become an intermediary through which arteriosclerosis can be initiated and sustained. Heavy work, found by Thayer to be the cause of the disease in 62.2 per cent. of 3,804 cases, is also closely related to the adrenals in the sense that Abelous and Langlois showed, twenty years ago, that the functions of these organs were in part to destroy the waste products of muscular activity. Kept overactive during prolonged and arduous labor, they may thus cause arteriosclerosis as Josué caused it with his injections of adrenalin. Again, the febrile infections which also cause the disease in a large proportion of cases, have been found by Gilbert, Petit, Wybaux, and others to produce overactivity of the adrenals, sufficient in fact to cause the marked hypertrophy which excessive and prolonged overactivity is known to produce in most organs. Here again we have a repetition of Josué's experiment in the sense that the excess of secretion produced during the febrile process simply repeats in an exaggerated way his injections of adrenalin.

This weans us, as far as the *direct* cause of arteriosclerosis is concerned, from the idea that a multiplicity of poisons play this rôle, and imposes the conception that any poison capable of sufficiently stimulating the adrenals during a prolonged period can awaken the disease through these organs. But this in turn furnishes the keynote of the pathogenic process, for we have in the adrenal secretion precisely an agent capable of producing through its selective action on the arterioles, a phenomenon which has also become classic, viz., the participation of the vasa vasorum in the morbid process. Indeed, Councilman showed, several years ago, that in the circumscribed or nodular variety of arteriosclerosis "the primary alteration consisted in a degeneration or a local infiltration about the vasa vasorum," while Cowan noted that the vasal changes were sometimes the only visible lesions. Now if we recall that the arterioles, whose calibre is reduced or perhaps obliterated by an excess of adrenal secretion, are the terminal arteries from which the vasa vasorum receive their blood to nourish the coats of the larger arteries, the cause of the local degeneration and sclerosis becomes plain, the arterial coats are deprived of sufficient arterial blood to sustain life, and local tissue necrosis occurs.

Briefly, in the light of these facts, it seems plain that the adrenals should be looked upon as prominent factors in the pathogenesis of arteriosclerosis due to the above mentioned causes.

EXCLUDING THE MENTALLY UNFIT.

Of the many vexing sanitary and medical problems with which New York is confronted, the solution of none is attended with greater difficulty or more pressing need of immediate action than that of the control of mental defectives, and the pre-

vention of their increase. This problem is real and its solution will not bear postponement. In considering the large and increasing number of these defectives, the sources from which they are drawn are of primary concern.

The New York board of alienists shows[1] that since 1904, 2,092,746 immigrants have come into the State and the net gain in alien population for this period has been 1,653,249. During the same time the increase of population by birth was about 1,400,000. Thus is seen the preponderating influence of immigration on the increase of population. Over thirty per cent. of the total immigration into the United States has stopped in the State of New York.

According to T. W. Salmon,[2] of the board of alienists, over eighty per cent. of those immigrants found on arrival to be insane or mentally defective are destined for New York. In its report to the legislature[3] on February 14, 1912, the New York State Lunacy Commission stated that there were 33,311 committed insane patients in State institutions, of whom 31,051 were in State hospitals. Salmon places the number of alien insane in State hospitals at more than 8,000, or over twenty-five per cent. of the total insane. These figures do not include the grades of mental defectiveness classed under feeblemindedness, idiocy, and imbecility.

A special committee appointed in October, 1911, reported[4] to the Society for the Prevention of Cruelty to Children that there are now close to 7,000 distinctly feebleminded children in the New York schools, or about one per cent. of the school population. This does not include an equal number of idiots and imbeciles not attending school, nor does it include morally defective children, or borderline cases. The committee places the total number of feebleminded children at approximately 10,000, and concludes that the presence of many of them here is due to the nonenforcement of the national immigration laws at this port, thirty per cent. of the feebleminded children in the general population, according to the census statistics, being the progeny of aliens or naturalized citizens. Thus it can safely be said that the presence of 3,000 of these feebleminded children can be attributed to alien immigration. This regrettable condition exists solely because Congress has persistently refused the appropriations asked for by Commissioner of Immigration Williams[5] to permit the provision of adequate facilities for examination as to mental condition on Ellis Island.

Recognizing the important rôle of immigration in the increase of the insane and mentally defective in the State of New York, the State Board of Alienists has made a careful study of the question from all standpoints, and has submitted to the State Commission in Lunacy certain recommendations for changes in the Federal immigration law.[6] These changes (five in number) are aimed to give the State better protection against the importation of insane and mentally defective immigrants, and to facilitate the deportation of those who obtain admission to the country in violation of law, or who become public charges from causes existing prior to landing.

The first recommendation is that insanity shall be added to the list of diseases for bringing which the transportation company responsible is fined $100. The list now includes idiots, imbeciles, epileptics, the tuberculous, and those afflicted with a loathsome or dangerous contagious disease. This change is in accord with the suggestions of Commissioner Williams that bringing excludable aliens to the United States should be made to entail the greatest possible financial loss on the steamship companies. The same change has been recommended by the Commissioner General of Immigration.[7]

The second change is a provision that alienists of the United States Public Health and Marine Hospital Service should be detailed at all large ports of entry for the mental examination of immigrants, and be provided with proper facilities for the examination of suspects. As now conducted, even at Ellis Island, there is no plan to have this examination continuously in the hands of medical officers specially trained in the diagnosis of mental disease.

The third proposed change provides that aliens who have entered in violation of the law, or who have become public charges from causes existing prior to landing, can be deported within five years, instead of three as at present. This change has also been recommended by the Commissioner General of Immigration.

The fourth recommendation seeks to insure more humane treatment of patients during deportation by authorizing the Secretary of Commerce and Labor to send an attendant at government expense with deportation patients whose mental and physical condition is such as to require personal care. At present the matter rests entirely in the hands of the steamship companies, and the treatment accorded to insane steerage passengers is often inhuman.

[1] Annual Report, State Board of Alienists, page 29, for year ending September 30, 1911.
[2] Salmon, T. W., Insanity and the Immigration Law. *New York State Hospital Bulletin*, November, 1911.
[3] *Annual Report* of Commissioner in Lunacy to Legislature, February 14, 1912.
[4] *Special Report to Board of Directors*, New York Society for Prevention of Cruelty to Children, February 13, 1912.
[5] Williams, William, Commissioner of Immigration for Port of New York. *Annual Report* for year ending June 30, 1911.
[6] *Memorandum* of January 30, 1912, State Board of Alienists to State Commission in Lunacy.
[7] Keefe, Daniel L., Commissioner General of Immigration. *Annual* [illegible] year ending June 30, 1911.

The fifth change makes it a misdemeanor for a steamship company to refuse passage to any alien inmate of a public institution, provided such alien was brought to this country by the same steamship company, that a proper medical officer certifies that the alien can travel without danger to himself or others, that he is properly attended, and that no expense devolves upon the steamship company. With such a law at least 400 more insane aliens in our hospitals could be deported each year. These are cases where the relatives or friends are anxious to pay the expense incident to removing the patient to his family and his own country, but where the steamship lines flatly refuse to transport him. The board of alienists believes that this attitude is adopted by the companies through the influence of foreign governments, and that there is a concerted attempt on the part of the steamship companies to prevent persons who have been insane from returning to Europe. The facts on which this belief is based are known to but few, and have been learned largely through the work of this board. The great opposition to this proposed amendment would come from the steamship companies, but if it became generally known that they were engaged in such discrimination against this country, the popular demand for the law would be irresistible.

The medical profession can well afford time for thoughtful consideration of this entire question. The valuable and strategic work being done by the board of alienists deserves commendation.

A PROPOSED GOVERNMENT HOSPITAL BUREAU.

A bill has been introduced into Congress to authorize and empower the Public Health and Marine Hospital Service to collect, maintain, and make available plans and descriptive matters relative to hospitals, asylums, dispensaries, and like institutions, and make provision therefor. The chairman of the committee which drafted this bill is Dr. S. S. Goldwater, superintendent of the Mount Sinai Hospital, of this city, who has the cooperation of the surgeon general of the service concerned. The idea is to establish a hospital bureau to bear to hospital administration and development a relationship similar to that which the United States Department of Education bears to education in the various States.

Examination of the Report on Benevolent Institutions of the United States Census will bear out the somewhat astonishing statement that there are States, which far from possessing 500 hospital beds to the 100,000 population, as in Europe, or 350 approximately, as in New York State, have only ten, fifteen, or twenty beds. Hospital administrators are said to be unanimous in support of this bill, and we are assured that a bureau such as that proposed would become an invaluable centre for the collection and dissemination of information most useful to all engaged in hospital work. It would enlighten the various communities of the country as to the needs, ways, and means to promote hospital development along the lines of scientific management. Not only would the bureau so serve State, municipal, and voluntary hospitals, but also the three great departments of the Government which maintain hospitals on a large scale, viz., the army, the navy, and the Public Health and Marine Hospital Service.

RELATIONS OF THE HYPOPHYSIS TO OTHER GLANDS.

Livon and Peyron report in the *Bulletin de l'Académie de médecine* for April 23d, having excised two thirds of the anterior lobe of the pituitary of a dog, producing a condition of chronic insufficiency of this structure. One month later the wound had practically healed and the animal was in good spirits, though slightly deaf. Eleven weeks after the operation he showed a considerable deposition of fat. He was suddenly taken with violent epileptiform spasms, which later recurred at intervals. Phenomena subsequently observed were continued gain in weight, depression of spirits, indifference, and gradual loss of the power of locomotion. Finally the weight fell again, almost to its original level, and the animal died seven and one half months after the operation. The autopsy revealed extreme pallor of all organs, pronounced diminution of weight of the heart, liver, kidneys, suprarenals, spleen, and thyroid, as compared with those of a normal animal of equal weight, and a layer of fat 3 to 4 cm. thick under the skin of the trunk. Much fat also surrounded the abdominal and pelvic organs. The posterior lobe of the pituitary was practically intact, the remaining third of the anterior lobe enclosing it on either side. Light cicatricial adhesions were found between convolutions and meninges at the area where bone had been removed at the operation; these adhesions accounted for the epileptiform attacks shown by the animal. The thyroid gland was reduced to less than one fifth its normal weight, and appeared on each side as a thin, fibrous plate, with atrophy of the follicles, disappearance of most of the colloid material, and caryolysis. The parathyroids were intact. The liver and kidneys showed well marked degenerative changes, but the pancreatic acini and islands were normal. The cortex of the adrenals showed an adenomatous hyperplasia, but the medulla was largely normal. This is the first detailed experimental observation, the authors contend, of the effects of insufficiency of the anterior pituitary upon the other internal secretory organs. The thyroid lesion was of long standing, and must have followed very closely upon the ex-

perimentally produced lesion of the hypophysis. The hepatic and renal changes were much more recent. In the adrenals, the condition of the cortex suggested a slow, sustained hyperplastic reaction; the medulla, on the other hand, showed degeneration in certain parts. Strangely, the parathyroids, choroid plexuses, and islets of Langerhans showed neither degeneration nor hyperplasia. Apparently the functional disturbances and pathological changes resulting from a localized lesion of the system of internal secretory glands, are due less to general toxic or cytolytic properties arising in the blood than to the presence of new conditions in relation to each gland, necessitating excessive functional activity.

INFLUENCE OF NEUTRAL FAT.

Bylin reports, in *Roussky Vratch* for March 10, 1912, the results of his experiments on dogs undertaken to determine the depressing effect of fats on gastric secretion. When oil of poppy seeds (a common oil in Russia) was introduced into the dog's stomach twenty minutes before a meal of meat, the type of gastric secretion deviated considerably from the normal. There was a marked depression of the secretion of gastric juice during the first or reflex phase, extending to the second or chemical phase, and only at the expiration of four or five hours did the inhibitory effect disappear. The total quantity of gastric juice was diminished; the duration of the secretion increased, and the ferments as well as the hydrochloric acid were diminished. Several experiments were undertaken to determine whether the neutral fat or the resulting products of fat digestion—fatty acids and glycerin—are the cause of the inhibition. The results showed that the fatty acids as well as the soaps possess an inhibitory effect similar to that of the neutral fats. On the other hand, neither soda nor glycerin produced any changes in the character of the gastric secretion. Experiments undertaken to prove the effect of fats on pancreatic secretion showed that neutral fats and soaps are specific stimulants, acting on the nerve mechanism of the pancreas, and producing a secretion particularly rich in ferments.

MEASLES IN MONKEYS.

Lucas and Pizer report (*Journal of Medical Research*, April, 1912) the results of their experiments carried on in four monkeys in order to study the production of measles with special reference to the changes in the blood picture. The disease can be experimentally reproduced and possesses a definite incubation period. The most interesting point is that the virus of measles is present in the blood serum at some time exceeding twenty-four hours before the appearance of the Koplik spots, and persists until more than thirty-six hours after the appearance of the skin eruption. During the preeruptive stage there is a leucopenia involving the polymorphonuclear neutrophiles, the lymphocytes, and the large uninuclear leucocytes. This leucopenia develops in from five to ten days after inoculation.

ANALES MEDICOS DE PUERTO RICO.

Porto Rico has added a quarterly journal to our medical literature. It is the first medical paper which has appeared in the island, and we are very glad to see our Spanish speaking confrères succeed so well. The editor is Dr. Cayetano Coll y Toste, who has the assistance of nineteen physicians. After a programme, and a copy of the resolutions which resulted in the creation of the journal, we find an interesting list of essays, clinical notes, and other items of interest

We congratulate the medical profession of Porto Rico and hope they will be successful in their literary undertaking.

A NEW ENGLISH MEDICAL PUBLICATION.

We are glad to welcome *The Review of Bacteriology, Protozoology, and General Parasitology*, for May, 1912. The publication is an epitome of the recent literature of the subjects referred to in the title and of laboratory methods, and this number is the first of a new series. It is to be issued five or six times a year at ten shillings and sixpence annual subscription, single copies not being on sale. The business offices are at 36 and 38 Whitefriars Street, London, E. C., and the editors are Alexander G. R. Foulerton, F. R. C. S., and Charles Slater, M. A., M. B.

Medical Law.

I. RIGHTS TO PRACTISE MEDICINE AND SURGERY.

The difficulties attending a proceeding to revoke a license to practise medicine are illustrated in the case of Board of Medical Examiners v. Eisen, 123 Pacific Rep. 52, recently decided in the State of Oregon.

Under the statutes of Oregon, the State Board of Medical Examiners has authority to revoke a license to practise medicine and surgery, for unprofessional or dishonorable conduct, and by those statutes the term "unprofessional or dishonorable conduct" is declared to mean, among other things, the procuring or aiding and abetting in procuring a criminal abortion. Criminal abortion is defined, or rather described in a further statute wherein it is provided: "If any person shall administer to any woman pregnant with a child, any medicine, drug, or substance whatever, or shall use or employ any instrument or other means with intent thereby to destroy such child, unless the same shall be necessary to preserve the life of such mother, such person shall, in case the death of such child or mother be thereby produced, be deemed guilty of manslaughter."

It is specially provided by the act that before a license to practise can be revoked by the board for unprofessional or dishonorable conduct under the provisions of the act "a complaint of some person under oath must be filed in the office of the secretary of said board, charging the acts of unprofessional or dishonorable conduct and facts complained of against the licentiate accused, in ordinary and concise language."

In the Eisen case, a complaint had been filed with the State Board of Medical Examiners, which read as follows:

William Eisen is accused by Ben L. Norden, by this complaint, with unprofessional and dishonorable conduct, committed as follows: That the said William Eisen did, on or about the 13th day of October, 1910, in the county of Multnomah and State of Oregon, then and there being, wrongfully and unlawfully procure and aid and abet in procuring, a criminal abortion upon one Anna Foleen by means unknown to complainant, the said Anna Foleen then and there being pregnant with child, and the said abortion then and there not being necessary to preserve the life of said Anna Foleen, and contrary to the statutes in such cases made and provided, and against the peace and dignity of the State of Oregon.

In support of this complaint, the testimony of a doctor who was called to treat Mrs. Foleen about October 30th was received, from which it appeared that he demanded of her that she should sign, and that she did sign the following writing: "Portland, October 30, 1910. Doctor Eisen operated on me at his office, October 13th, to bring me around. Doctor Pelgram cleaned the womb October 29. (Signed) Anna Foleen. R. Brown, Nurse."

The Board of Medical Examiners revoked the license and the Circuit Court affirmed the action of the board, but upon appeal, the Supreme Court reversed the judgment upon two grounds:

First, because the complaint was insufficient in law, and, second, because of error in admitting the testimony of the doctor who was called to treat Mrs. Foleen, and her signed statement.

Upon the first ground, the court called attention to the fact that under the act it is necessary that the complaint shall state the acts of unprofessional or dishonorable conduct charged; that it is not sufficient to state merely legal conclusions. Says the court:

In this report the initial pleading in question is defective; for although it draws a conclusion that the defendant was concerned in procuring a criminal abortion, it does not state facts sufficient to authorize the court to make the same deduction that the action of the defendant was criminal. For instance, an intent to destroy the child is an element of the crime defined in section 1,900 L. O. L., and another element is that the death of the child or of the mother must be produced by means of the administration of the medicine, drug, or other substance or by the employment of the instruments or other means mentioned in the statute. None of these elements appear in the complaint.

Upon the second ground, the court calls attention to the fact that the testimony of the doctor who was called to treat Mrs. Foleen, and her written statement were hearsay, incompetent, and irrelevant. Speaking further upon the subject, the court said:

If the death of Mrs. Foleen had been made an issuable fact by the allegations of the complaint, it would have been competent to inquire into her declarations as to the cause of her death, if they had been made under the sense of impending death. . . . Granting for the sake of argument, that the writing indicates the cause of the death of Mrs. Foleen, if the same were properly alleged, the evidence is totally at variance with the idea that the declaration was made under the sense of impending death. The testimony, on the contrary shows that she was hopeful of life, and told the physician that if she got well, he must not tell any one of the statements. . . . This was the only evidence in the record tending to show that the defendant did any act toward producing a criminal abortion on Mrs. Foleen. His own testimony flatly contradicts the charge.

News Items.

Changes of Address.—Dr. E. Foskett, from 314 West Eighteenth Street, to 121 West Seventy-second Street.

Florida Medical Association.—The annual meeting of this association was held at Tampa on the 8th, 9th, and 10th of May. Miami will be the next place of meeting in 1913.

New Plant for the Homeopathic College.—The New York Homeopathic College and Flower Hospital has grown so rapidly that the trustees of the institution are making plans for the purchase of a new site and the erection of new buildings at an approximate cost of $1,000,000.

Arkansas Medical Society.—At the annual meeting of the State Medical Society of Arkansas, held in Hot Springs on May 17th, the following officers were elected: Dr. Edward P. Dibrell, of Little Rock, president; Dr. G. A. Hebert, of Hot Springs, first vice-president; Dr. St. Cloud Smith, of Fort Smith, second vice-president; Dr. C. P. Merriwether, of Little Rock, secretary; and Dr. John S. Wood, of Hot Springs, treasurer.

Iowa Medical Society.—The sixty-first annual meeting of this society was held in Burlington on May 8th, 9th, and 10th, under the presidency of Dr. L. W. Littig, of Davenport. Officers for the ensuing year were elected as follows: President, Dr. Vernon L. Treynor, of Council Bluffs; first vice-president, Dr. C. P. Frantz, of Burlington; second vice-president, Dr. E. E. Dorr, of Des Moines; treasurer, Dr. W. B. Small, of Waterloo. Des Moines was selected as the meeting place for 1913.

Smallpox in Florida.—Two cases of smallpox, those of a man and a woman, were found last week in the county jail at Tampa among the prisoners. The patients were immediately transferred to the pest house, but escaped in a rowboat, and are still at large. In the city there are other cases. According to the United States Marine Hospital Service *Annual Report for 1911*, there were in Florida last year 3,155 cases of smallpox, of which 482 were treated at the hospital near Jacksonville.

Ontario Medical Association.—The following officers to serve for the ensuing year were elected at the annual meeting of the Ontario Medical Association, held in Toronto on May 22d: Dr. Charles McGillivray, of Whitby, president; Doctor Shillington, of Ottawa, first vice-president; Doctor Taylor, of Goderich, second vice-president; Doctor Park, of Woodstock, third vice-president; Doctor Hair, of Cobalt, fourth vice-president; Dr. F. A. Clarkson, of Toronto, secretary; Dr. J. H. Elliott, of Toronto, treasurer.

Women's Medical Society of Springfield.—This organization of the women physicians of Springfield, Mass., formed three years ago, held its first banquet on the evening of May 23d. In addition to the members of the society, there were present women physicians from Boston, Northampton, Westhampton, Holyoke, and Greenfield, Dr. Blanche A. Denig, of Boston, being the guest of honor. Dr. Delia L. Chapin presided and Dr. Clarice J. Parsons was toastmistress. Dr. Mary Sanderson, Dr. Sarah M. Wilbur, and Dr. Clara M. Sweet responded to toasts, and Doctor Denig delivered the address of the evening, her subject being Women in Medicine and out of Medicine. Doctor Chapin is president of the society.

Personal.—Dr. Harry T. Summersgill, who for the past three years has been medical superintendent of the New Haven Hospital, New Haven, Conn., has been appointed superintendent of the New York Postgraduate Medical School and Hospital, to succeed Dr. Fred Brush, who resigned recently to become superintendent of the Burke Relief Foundation.

Dr. George Dock has resigned as dean of the Medical School, Washington University, St. Louis, Mo., but retains the chair of medicine.

Dr. A. M. Fernandez de Ybarra, the medical biographer of Christopher Columbus, is spending a few months at Tampa. He will shortly return to New York, where he has practised for twenty-five years.

Dr. Albert C. Thomas, assistant physician at the Connecticut State Insane Asylum, at Middletown, has been appointed superintendent of the New Haven Hospital, to succeed Dr. H. T. Summersgill.

Hookworm Dispensaries in Virginia.—The Virginia State Department of Health is planning to open a number of dispensaries this summer for the treatment of hookworm disease. The general extent of the disease has been determined by a systematic school inspection, and a vigorous campaign will be conducted by the health authorities to eradicate the disease. Provision will be made for the proper treatment of all patients who are unable to pay for the attendance of a physician.

Vital Statistics of France.—Official statistics published a few days ago show that in France during the year 1911 there were reported 742,114 births and 776,983 deaths. It is said that this is the lowest number of births ever recorded. The marriages reported numbered 307,788, a slight increase over 1910. Although the birth rate is diminishing in all European countries, the French statistics are considered deplorable, as in all other countries the number of births exceeds the deaths.

Infectious Diseases in Chicago.—During the week ending May 18, 1912, the total deaths from all causes, exclusive of stillbirths, reported to the Department of Health of Chicago numbered 649, corresponding to an annual death rate of 14.8 in a thousand of population. Cases of communicable diseases, with the deaths therefrom, were reported as follows: Typhoid fever, 9 cases, 1 death; measles, 274 cases, 2 deaths; scarlet fever, 270 cases, 16 deaths; whooping cough, 102 cases, 6 deaths; diphtheria, 93 cases, 10 deaths; cerebrospinal fever, 1 case, 8 deaths; tuberculosis, 78 cases, 69 deaths; pneumonia, 35 cases, 112 deaths. Twenty-nine deaths from diarrheal diseases, under two years of age, were reported, and 35 from congenital defects and accidents.

Doctor Kunitzer Enjoins the County Medical Society.—At the regular monthly meeting of the Medical Society of the County of New York, held May 27th, Dr. Charles Gilmore Kerley, president of the society, announced that he had been served with a temporary injunction restraining the society from taking any action on the resolutions relating to the expulsion of Dr. Robert H. Kunitzer. Doctor Kunitzer was tried by the board of censors of the society, in December, 1910, on charges which implicated him in the falsification of the records of Sydenham Hospital, for which Dr. L. A. Ewald was expelled after he had carried his objections to the Appellate Division of the Supreme Court; he is still combating the decision. Doctor Kunitzer confined his appeal to medical jurisdiction, and his application for an injunction is the first step he has taken in civil proceedings.

Congress of Medical Electrology and Radiology.—As decided at the Barcelona meeting, the sixth congress will be held at Prague, July 26 to 31, 1912, with the following programme: 1. Radioactivity, reported by Professor Bertolotti, of Turin; 2. Treatment of Joint Affections by High Frequency Currents, reported by Doctor Morlet, of Antwerp; 3. Skin Resistance, reported by Professor Doumer, of Lille; 4. Phototherapy by Means of Light Baths, reported by Professor Peyri, of Barcelona; 5. Reinforcing Screens, reporter to be appointed; 6. Ionization, reported by Doctor Sarazin, of Angers; 7. Present Status of Extra Rapid Radiography, reported by Mr. Dessauer, of Frankfort a.M. For further information, address Dr. Krist. Hynek, professor of medical pathology, General Hospital, Prague, Austria.

Louisiana State Medical Society.—The thirty-third annual meeting of the Louisiana State Medical Society was held in New Orleans on April 23d, 24th, and 25th, under the presidency of Dr. R. O. Simmons, of Alexandria. Baton Rouge was selected as the place for holding next year's meeting, and the following officers were elected: President, Dr. A. Ledbetter, of New Orleans; first vice-president, Dr. G. E. Chandler, of Shreveport; second vice-president, Dr. George F. Bel, of New Orleans; third vice-president, Dr. J. L. Adams, of Monroe; secretary, Dr. J. D. Martin, of New Orleans; treasurer, Dr. Maurice Gelpi, of New Orleans. An interesting feature of the programme was the unveiling of a bronze memorial statue of the late Stanford E. Chaillé, formerly dean of the Medical Department of Tulane University, by Dr. Rudolph Matas, who paid a glowing tribute to Doctor Chaillé.

Vital Statistics of New York.—During the week ending May 11, 1912, the following cases of communicable diseases, with the deaths therefrom, were reported to the New York Board of Health: Pulmonary tuberculosis, 487 cases, 174 deaths; diphtheria and croup, 284 cases, 24 deaths; measles, 1,671 cases, 29 deaths; scarlet fever, 444 cases, 20 deaths; chickenpox, 143 cases, 0 death; typhoid fever, 29 cases, 4 deaths; whooping cough, 84 cases, 10 deaths; cerebrospinal meningitis, 10 cases, 4 deaths. Deaths from other causes were as follows: Diarrheal diseases, 41 deaths; diarrheal diseases, under five years of age, 35 deaths; pneumonia, 120 deaths; bronchopneumonia, 133 deaths; organic heart diseases, 139 deaths; Bright's disease, 106 deaths; congenital debility and malformations, 105 deaths; suicides, 13; homicides, 2; accidents, 82. The total deaths from all causes numbered 1,461, corresponding to an annual death rate of 14.73 in a thousand of population, as against a rate of 16.62 for the corresponding week in 1911.

Assistant Pharmacologist in the Bureau of Chemistry.—The United States Civil Service Commission announces that an examination will be held for the purpose of securing a list of eligible persons from which to make certification to fill a vacancy in the position of assistant pharmacologist, Bureau of Chemistry, Department of Agriculture, Washington, D. C. The salary is $1,800 to $2,000 a year. The position affords an excellent opportunity for study and research in pharmacology and physiology, and the laboratory equipment is of the best. An educational training equivalent to that required for the degrees of B. S. and M. D., or for the degree of Ph. D., is a prerequisite to consideration for this position, and applicants must be able to show at least two years' work in chemistry. No application will be considered unless properly executed and filed with the commission in Washington prior to the hour of closing business, June 15, 1912. For application blanks and further information regarding the scope of the examination write to United States Civil Service Commission, Washington, D. C.

Thompson-McFadden Pellagra Commission.—Equipped with a full field laboratory, the Thompson-McFadden Pellagra Commission left New York on Monday night, May 27th, to spend five or six months in Spartansville, S. C., in the study of pellagra. An arrangement has been made whereby patients will be brought to the New York Postgraduate Hospital for observation and treatment. On the commission are Dr. Joseph F. Siler, captain, Medical Corps, United States Army; Dr. Philip E. Garrison, passed assistant surgeon, United States Navy, and Dr. Ward J. MacNeal, assistant director, Department of Laboratories of the New York Postgraduate Medical School. Doctor Siler and Doctor Garrison have both been interested in the Government investigation of the disease for the past three or four years, and Doctor MacNeal was a member of the Illinois Pellagra Commission. On reaching Spartanburg the expendition will be joined by two entomologists who have been on the field for some time working under Dr. L. O. Howard, of the Department of Agriculture. The expedition is made under the direction of the Division of Tropical Medicines of the Postgraduate Laboratories.

Decline in Death Rate from Tuberculosis.—In the decade from 1901 to 1910, the death rate from tuberculosis in the United States declined from 196.9 for each 100,000 persons living, to 160.3, a decrease of 18.7 per cent., while the general death rate, including all causes of death, declined only one half as fast, or at the rate of 9.7 per cent., from 1655.0 to 1495.8. These figures were given out in a statement issued May 16th by the National Association for the Study and Prevention of Tuberculosis. They are based on data abstracted from the reports of the United States Bureau of the Census, and cover the registration area in this country. According to the statement, the tuberculosis death rate has declined steadily since 1904, when it was 201.6. On the other hand, the general death rate shows a fluctuation downward in general, but not as steady as the tuberculosis rate. The decline in the tuberculosis death rate in the last ten years means a saving of 27,000 lives at the present time. In certain cities, such as New York, Boston, Cleveland, and Chicago, and in States like Massachusetts, Rhode Island, and Connecticut, the decline in the tuberculosis death rate is much more marked than in the country at large.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

May 16, 1912.

1. Albert N. Bridgett: Guy Patin: Life and Character as Contained in His Letters.
2. James Warren Sever: Gonorrheal Arthritis.
3. A. E. Austin: Cold Water Cure for Nervous Dyspepsia.
4. John B. Hawes, 2d.: Hemoptysis, Significance and Treatment at Out Patient Departments, Dispensaries, and in Private Practice.
5. Roland C. Mackenzie: Prevention of Ophthalmia Neonatorum
6. Louis L. Williams: Salvarsan and Measles.

2. Gonorrheal Arthritis.—Sever reports a case which illustrates the liability of old foci to cause symptoms, the necessity of joint protection and treatment, and the rapid, marked improvement that follows prostatic and vesicular massage.

6. Salvarsan and Measles.—Williams reports a case in which 0.6 gramme salvarsan was injected intravenously, a few hours before an onset of measles. This furnishes some evidence that salvarsan does not affect the development and course of the disease, and in view of the antagonism of the drug to some of the pathogenic protozoa it may have some bearing on the question of the nature of the organism concerned in the causation of measles.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

May 18, 1912.

1. William G. Spiller and Edward Martin: Treatment of Persistent Pain of Organic Origin in Lower Part of Body by Division of Anterolateral Column of Spinal Cord.
2. Williams B. Cadwalader and J. E. Sweet: Experimental Work on Function of Anterolateral Column of Spinal Cord.
3. George H. Hoxie: Blood Picture of Autointoxication Due to Chronic Colonic Stasis.
4. F. D. Tonney and H. H. Pillinger: Vacuum Bottle in Infant Feeding.
5. James G. Cumming: Hydrophobia (Rabies).
6. Ernest S. Bishop: Morphinism and Treatment.
7. Karl von Ruck: Prophylactic Immunization against Tuberculosis.
8. William Lintz: Rapid Staining Funnel.
9. Robert T. Morris: Female Perineum from General Surgeon's Point of View.
10. W. J. Cranston: Salvarsan in Pellagra.
11. Arthur W. Rogers: Fatal Hematoporphyrinuria, Following Prolonged Use of Trional and Sulphonal.
12. Malcolm E. Smith: Face Mask.

1. Pain in Lower Part of Body; Division of Anterolateral Column of Spinal Cord.—Spiller's conclusions as to the location of pain fibres within the spinal cord agree with the work of Pétren, and affirm their existence and location in the anterolateral columns; second, if division of the anterolateral columns alone will remove pain, if may be possible, if the other parts of the cord are left intact, to avoid paralysis of the lower limbs, bladder, and bowels by this operation, although it would probably cause ataxia. In a patient coming under his care and operated upon by Martin, this line of reasoning was borne out. The relief of pain continued for more than a year. The writer advises the operation only in extreme cases, "when life has almost become a burden, because of severe suffering." In his case there was a growth on the left side and lower part of the spinal cord almost as large as a goose egg, the cord being implicated, and the tumor being regarded as malignant and irremovable.

2. Function of the Anterolateral Column of the Spinal Cord.—Cadwalader and Sweet, as germane to the preceding case, made investigations at the suggestion of Spiller. Their object was completely to destroy the anterolateral region, including Gower's tract, and not to injure the area occupied by the dorsal cerebellar tract or any part of the gray matter. Dogs were the subjects of the experiments. In two dogs the immediate effect of operation was motor paralysis, which, however, disappeared rapidly and was replaced by marked ataxia. The dogs had a definite, though incomplete, loss of cutaneous sensation for pain and for extreme heat, and a very marked ataxia of the hind legs and rump. Connected with the thalamus, and situated close to the tractus spinocerebellaris ventralis, whose function is chiefly the regulation of purposive movements, are the fibres whose function is to conduct painful sensations.

3. Blood Picture of Autointoxication Due to Chronic Colonic Stasis.—Hoxie confesses that he is an adherent of the belief that autointoxication from the intestinal tract is a possibility and in fact a fairly frequent occurrence. The causes of colonic stasis may be bands, adhesions, pericolitic membranes, kinks, or splanchnoptosis, but the resulting symptoms appear approximately stable. The patients are nervous and depressed. Dirty discolorations of the skin appear, especially about the eyes and neck, in the axillary folds, and where the skin has an abundance of loose connective tissue underlying it. The appetite may be ravenous. Headache is generally present, and backache with periodical or intermittent abdominal pain. The colon, at least in spots, seems usually distended and tender. While the urine shows indicanuria and an excess of phenols, the presence of indican is unimportant, as indicanuria may be present and the colon not be an offender. The blood picture shows normal red cell count and high percentage of hemoglobin. The white corpuscles are normal in number (usually 9,000 or under). There is a diminution in the number of polymorphonuclears (usually below seventy per cent.), and a corresponding increase of lymphocytes. Of the latter, the larger forms with angular nuclei and wide sustained borders are most frequent. The mast cells are infrequent. The ripe eosinophiles are about normal, and in some specimens there are many polymorphonuclears with oxyphilic granules. The platelets are apparently diminished in number. With Wright's stain, the multinuclears show an increased proportion of cells containing large ambophilic granules, which give a dark appearance to the protoplasm. The granules are large and purplish and lie in a mauve cytoplasm. As the patient gets rid of the toxines the proportion of these heavily staining cells decreases, by which the degree of intoxication may be estimated quite closely. This blood picture may be an aid in differentiating appendicitis and other intraabdominal inflammations.

MEDICAL RECORD.

May 18, 1912.

1. George Van N. Dearborn: Neurology of Voluntary Movement.
2. James J. Walsh: Vaccine of Tuberculosis: Dual Existence of Contagious Diseases.
3. Wallace Blanchard: Passing of Bismuth Paste.
4. H. F. L. Liegel: I. Pneumonia Simulating Localized Peritonitis. II. Typhoid Fever Observed during Incubation Period.
5. C. G. Am Ende: Treatment of Tuberculosis.
6. Charles A. Bucklin: New Crutch for Exposing Perineum.

1. Neurology of Voluntary Movement.—Dearborn states, as a necessary preliminary to the

exact neurology of the will, that every deliberate movement, however simple, must be accorded a personal motive, often intricate, whose factors, in part merely neural, must be sought for. Each of these factors, psychological or physiological, implicit in a voluntary movement, has as its concomitant a functional set of nervous impulses. Last, because of the variety and complexity of the factors determining it, every deliberate movement must be considered the resultant of influences coming from practically every part of the brain or even of the entire gray matter of the nervous system. Voluntary movement is primary, as in the paramecium (a ciliated protozoon of many forms), inherent in the body protoplasm and not in nerve especially, or of bodywide determination (universal in the action of animal bodies). The psychomotor outfit of the newly born infant consists of first, impulse which determines action of some kind; second, a "reflex" organism, the neuromuscular part of it made up of a series of circuits and "reflexes"; third, a series of purely reflex inhibitions; and fourth, a well determined set of innate desires dominated by dull pleasure and pain. The first step in the personal evolution of voluntary movement is what the writer calls "chemotactic neuronal integration or intergrowth." The second step is a gradual, conscious clarification of the "motor ideas" (the practice and gradual deliberateness of the reflex inhibitions). The third step is the desire to make deliberate movements. The fourth step is *spatiality* (development of the concept of space). The fifth and final step is self confidence in motor ability. The neurology of adult deliberate action is concerned with, first, the nervous circuits (between muscle and gray cord, between gray cord and brain); second, the cerebral influences of spatiality or the coordination of these circuits of nerve influence and their control as agents of initiative and truly personal voluntary movements (through the ocular and visual muscles, the retinæ, the semicircular canals, the active muscles of the limbs, etc., and the local sign element of kinesthesia and of touch kinesthesia); third, the gray fabric of the hemispheres, which includes all the neurons that have their cells in the hemispheres, the cortex, the optic thalamus, and the gray matter at or near the base of the brain, the probable factors of the gray fabrics resultant being first, ideas of usefulness; second, memory or images of movements, etc.; third, awareness of ability, or self confidence in the power to make any particular movement; fourth, interests and the emotional tones, the former including those which are vegetative and under sympathetic control (food, sex, etc.), the latter including the effects of pleasure, dispositions, moods, and temperaments; and fifth, inhibition.

2. **Vaccination of the Tuberculous.**—Walsh bases his paper on the well known observation of the infrequent concurrence of tuberculosis with other contagious diseases. He quotes Flick: "I have been unable to find a single authenthicated case in which any other contagious disease was concomitant with consumption." Welet, of the Philadelphia Municipal Hospital, although having seen upward of 5,000 cases of smallpox, could recall no case in which there was also well marked phthisis. The writer's observations on the relation of vaccination and smallpox to tuberculosis coincide with those of Flick, that tuberculous persons were comparatively insusceptible to both variola and vaccinia. The writer's study comprises vaccination of patients in all stages of active pulmonary tuberculosis, with and without its usual complications, and also cases in which the disease had been arrested.

3. **Passing of Bismuth Paste.**—Blanchard, after a wide experience with bismuth paste in the treatment of tuberculous bone sinuses, and a larger number with a nontoxic substitute with greater success, offers a vigorous protest against the further use of the former, because of the likelihood of the heavy bismuth settling down in the sinuses and cavities and becoming permanently residual. From this cause the writer has seen several cases of severe poisoning and heard of several deaths.

BRITISH MEDICAL JOURNAL

May 11, 1912.

1. F. W. Mott: Sanity and Insanity.
2. D. Forsyth: Coma and Differential Diagnosis.
3. R. T. Caesar: Galvanization of Brain.
4. W. A. Evelyn: Typhoid Fever with Cerebrospinal
5. F. L. Golla and H. D. Rolleston: [illegible] Proprietary Pill.
6. H. T. Gray and L. Parsons: [illegible] Shock (*Lecture II. Part I*)

1. **Sanity and Insanity.**—Mott finds that five per cent. of the total number of inmates of the London County Asylums are closely related, many in the direct line. He believes this to be a strong argument in favor of the influence of heredity, for it is not reasonable to suppose that of any 20,000 persons taken at random from the population of London such a high percentage would be closely related. He has often found the association of insanity and suicide in a stock preceded by, or associated with the existence of individuals of the melancholic, suspicious, brooding, self centred, hypochondriacal temperament. Associated with these temperamental evidences of degeneracy of a stock there may be chronic alcoholism, dipsomania, hysteria, exophthalmic goitre, neurasthenia etc. Alcohol and drug habits, so frequently assigned as the cause of insanities, are, in Mott's opinion, rather the results of an inborn factor. It will be conceded by all that Nature could best mend a degenerate stock by coalescence of the unsound germinal determinants in a few of the offspring, leaving the germ plasm of the others more or less free. This would lead to an intensification of the disease and its appearance in the offspring at an earlier age. Mott has found such to be the case and he is of the opinion that one in four or five of the offspring of such stock becomes insane and his records show that the insanity arises on the average twenty or more years earlier than in the parent; also the form of the disease in the offspring is especially an incurable and progressive dementia (dementia præcox). He has been able to find the very interesting occurrence of considerable similarity in the pattern of the fissures in the brains of closely related insane. These observations on heredity have considerable value, 1, in the prognosis of the risk of insanity in the child of an insane parent, for the risk of its development rapidly decreases after the age of twenty-five; 2, in the solution of the question of the value of social surgery of the insane, for when the first attack oc-

curs in the parent all of the children have usually been born, sterilization would therefore be applicable to very few of the parents at the time of their admission to asylums.

3. **Galvanization of the Brain.**—Caesar reports the beneficial results of this procedure in accomplishing the absorption of old blood clots in the brain and suggests that it is also applicable to the hastening of absorption of the remains of other effusions and of the products of inflammation. In patients where the brain injury or inflammation has been associated with much shock he believes that one should wait for at least six weeks before starting the treatment. In the application of the current it should be turned on very slowly and carefully measured by a galvanometer. In the recorded case he passed from 2 to 30 milliampères of current through the brain for periods of fifteen minutes at a time.

6. **Mechanism and Treatment of Shock.**—Gray and Parsons discuss the causes of the vasomotor variations in abdominal surgery and conclude that they are due to: 1. Local vascular changes, from the direct stimulus of those nerve fibres proceeding from the semilunar ganglia to the arteries of the mesentery and intestine. Fatigue of these may occur experimentally, and this fatigue may be termed "local visceral shock." 2. Centripetal impulses, that is symptomatic of central or "systemic shock. The fall of blood pressure after prolonged operations in the abdomen is due to afferent pressor fatigue and the consequent domination of active central depressor impulses. This fall is actively broken by the local splanchnic stimulation mentioned above. The beneficial results of blocking the centripetal depressor impulses (as by spinal anesthesia) cannot be overestimated. According to the duration and extent of dragging or manipulation of the mesentery and peritoneum will depend both the degree of local vasoconstriction and the degree of centripetal stimulus initiated, from the varying number of fibres excited. In operations on the stomach and in the region of the diaphragm the splanchnic system plays hardly any part. Here vagus inhibition predominates both in respect to the heart and blood pressure and to the respiration. This vagus inhibition greatly slows the pulse and very markedly inhibits respiration. It is to be noted that various toxic agents associated with inflammatory conditions induce a paresis of the pressor paths in proportion to their virulence. Thus in a very toxic subject very little stimulus, such as that due to operation, is sufficient to complete the pressor fatigue and initiate the depressor stage of shock.

LANCET.

May 11, 1912.

1. THOMAS BEATSON: Treatment of Acute Appendicitis.
2. C. M. PAGE: Hedonal as General Anesthetic by Intravenous Infusion.
3. J. B. HURRY: Vicious Circles in Disorders of Nose, Throat, and Ear.
4. D. W. BUXTON: Vital Phenomena Occurring under Anesthesia.
5. B. G. BROCK: Prevalence of Syphilis in the South African Native.
6. H. W. SINCLAIR and V. H. KIRKHAM: Heating of Schoolrooms by Closed Stoves.

1. **Treatment of Acute Appendicitis.**—Beatson believes that an operation should not be done at once in the vast majority of cases of acute appendicitis, but that careful treatment of the patient should be tried to allow the acute condition to subside and thus convert the operation into an interval one. In acute appendicitis with localized peritonitis, he endeavors to diminish peristalsis by the use of Dover's powder in doses of 2.5 to 5 grains along with 5 grains of bismuth subnitrate and thus to limit the spread of the inflammation. This medication is to be repeated at intervals according to the indications. If judiciously used it need not mask the indications of an unfavorable progress. In the presence of much gastrointestinal disturbance a quarter of a grain of gray powder may be given along with the Dover's and bismuth. Moderate sized enemata are of use to empty the colon. On such lines he continues the treatment until the attack is over and the pulse, temperature, and blood count have returned to normal. In general suppurative appendicitis he establishes drainage of the peritoneum at once by an incision in the right iliac region through which the gangrenous appendix can be removed, and in addition by an incision low in the mid line of the abdomen just above the symphysis. In both of these openings he inserts drainage tubes. Dover's, bismuth, calomel, and even saline purges are of value in the further treatment of these cases. He reports 3.3 per cent. of deaths in his series of 273 operations under this system.

2. **Hedonal as a General Anesthetic.**—Page reports his results with the intravenous use of this drug as a general anesthetic in 75 cases. He employs a 0.75 per cent. solution of the drug in normal saline, which solution is sterilized by boiling. The injection is given continuously and after the induction of anesthesia the rate and amount of the injection is reduced to the needs of the particular circumstances. The average total amount of the solution required to induce anesthesia in an adult is 500 c.c. Page summarizes his observations as follows: 1. The intravenous infusion of a 0.75 per cent. solution of hedonal in normal saline solution produces general anesthesia. 2. Administration of the solution by continuous infusion gives good results. 3. The anesthesia is steady and complete; is associated with great relaxation of the muscles, and has a wide margin of safety. 4. During anesthesia the respiration remains steady and the pulse good; the blood pressure usually falls slightly. 5. The induction of anesthesia is subjectively very pleasant to the patient; little if any excitement occurs during this stage. 6. Anesthesia is established in from five to ten minutes; the rate of inflow of the fluid should be from 50 to 150 c.c. to the minute; a slower rate generally delays the induction of anesthesia; a more rapid one may produce signs of cyanosis. 7. The comparatively slow rate at which the drug is excreted makes it possible to maintain anesthesia for prolonged periods without infusing a very large volume of fluid. 8. The anesthetic stage usually merges into one of deep sleep, which lasts from six to twelve hours. 9. Vomiting or headache at the postoperative period is uncommon. 10. Pulmonary complications are rare. 11. The dangers which may arise during anesthesia are respiratory depression from an overdose of the drug and respiratory obstruction from falling back of the tongue and jaw. 12. The method is very suitable for operations about the head and neck; the muscular relaxation

and quietness of the respiratory movement also make it a valuable anesthestic for operations in the upper part of the abdomen.

6. Heating of Schoolrooms.—Sinclair and Kirkham found that the use of closed slow combustion stoves burning coke did not cause the presence in the air of even the worst ventilated rooms of an amount of carbon monoxide greater than one part in 30,000. This is a negligible amount, for Haldane showed that persons developed toxic symptoms only when the concentration reached one part in 2,000.

AUSTRALASIAN MEDICAL GAZETTE.

April 15, 1912.

1. J. W. Barrett: Significance of Intermediate Hospitals.
2. P. T. Thyne: Treatment of Hydatid Cysts.
3. C. G. Jung: Doctrine of Complexes.
4. Sigmund Freud: Psychoanalysis.

BULLETIN DE L'ACADÉMIE DE MÉDECINE.

April 23, 1912.

1. E. Kirmisson: Transverse Ecchymosis at Bend of Elbow as Sign of Fracture of Lower Extremity of Humerus.
2. Ch. Livon and Peyron: Hypophysoglandular Synergisms. Results of Subtotal Hypophysectomy with Prolonged Survival.

1. Transverse Ecchymosis at Bend of Elbow in Fracture of Lower Extremity of Humerus.—Kirmisson states that the ecchymosis referred to is found so constantly in association with fracture of the lower portion of the humerus with forward displacement of the upper fragment as to be of assistance in the diagnosis of this variety of fracture from backward dislocation at the elbow. If the case is seen early, the ecchymosis is very distinct and exactly transverse, as though produced by a blow with a thin, heavy instrument. Later, it becomes diffused and is less distinct.

2. Partial Hypophysectomy and Relations of the Hypophysis to Other Glands.—See editorial article, p. 1154.

LYON MÉDICAL.

April 14, 1912.

1. V. Cordier, A. Badolle, and H. Brissaud: Pneumonia Caused by the Pneumobacillus.

April 21, 1912.

2. Vorsin and L. Follet: Premature Labor Induced in Diabetic Women.

April 28, 1912.

3. Joseph F. Martin: Double Hematoma beneath the Dura Mater.
4. René Hérand and Henri Favot: Exstirpation of a Displaced Ovary, the Growth Resembling a Testicle in Structure (*Type Séminome*), Hernia of the Uterus, and Various Malformations.

1. Pneumonia Caused by the Pneumobacillus.—Cordier, Badolle, and Brissaud, after careful study of this subject, conclude that in some typical cases of pneumonia the pneumococcus cannot be found, but the bacillus of Friedlander only as the sole etiological factor, and in which there are no anatomical or clinical features specially to differentiate it. In a large majority of cases the pneumobacillus caused a lobar hepatization of a special type, the identity of which is beyond dispute and whose clinical peculiarities are sufficient to determine the diagnosis and particularly the prognosis.

3. Double Hematoma Located beneath the Dura Mater.—Martin reports this case in which the lesion was a double hematoma situated between the visceral layer of the dura mater and the thickened parietal layer of the arachnoid. The large size and the absolute symmetry of the two hematomata are sufficient to claim our attention. More important, however, is the explanation of the case. The patient, a private gardener, appeared to enjoy perfect health until one day he fell, striking his head. After a few days' rest he resumed his work. Three months afterward he died with cerebral symptoms. The family claimed damages from the employer and demanded a medical examination. Now, in such a case, what should the expert's course be? Should he say the patient fell because of vertigo, the primary manifestation of the disease which after a period of remission caused his death? This hypothesis is not an improbable one; are not these bilateral hematomata the principal symptoms of these cases of hemorrhagic pachymeningitis which are ushered in by an attack of vertigo and continue for some time before causing death? If the latter is true, the accident was one occurring in the course of the man's work, but was not attributable to it, and all indemnity should be refused. On the other hand, did not the fall on the head cause the formation of these hematomata, which later, from their development and the occurrence of a fresh hemorrhage into the traumatic area, may have caused the patient's death? In this case the family of the victim would be entitled to damages and the employer and insurance company would be liable. The solution of this problem is not easy and the arguments in favor of each hypothesis are of equal value. However, it seems reasonable to decide in favor of the traumatic origin, the appearance of the lesions being rather that of a hemorrhage than a pachymeningitis; the clot being the prominent feature and the meningeal lesions of minor or secondary importance.

PARIS MEDICAL.

May 11, 1912.

1. René Gaultier: Influence of Intra-uterine Life.
2. Reboul-Lachaux: Pseudo-hypertrophic Muscular Dystrophy and Genital Luxation.
3. Amblard: Arterial Hypertension.
4. Gilbert: Treatment of Acute Rheumatism.

3. Arterial Hypertension.—Amblard, after discussing the factors entering into the phenomenon of blood pressure states that the great cause of hypertension is renal insufficiency. The retention of endogenous or exogenous poisons determines spasm of the small peripheral vessels. A rational treatment, therefore, would be, 1, to diminish the supply of toxines by regulating diet, and, 2, to favor elimination of toxines by rest, milk or vegetable diet, purgation, mineral waters, theobromine.

4. Treatment of Acute Rheumatism.—Gilbert avers that sodium salicylate is the sheet anchor in treatment. It may be contraindicated in acute or chronic nephritides, but this is rare, owing largely to the youth of the majority of the patients. Substitutes of value are salol, salophen, aspirin, methyl and amyl salicylates, essential oil of wintergreen, antipyrine, salipyrin. Low diet is demanded during the treatment, also even temperature of the sick-room, and hot applications to the painful joints.

PRESSE MEDICALE

May 1, 1912.

1. B. A. Houssay: Action of Pituitrin.
2. Effect of Pituitrin on Unstriped Muscle Fibre.
3. E. Juvará: Total Emasculation.

1. Therapeusis of Pituitrin.—Houssay and Ibanez have isolated a crystalline extract of the hypophysis which is diuretic and provokes or strengthens contractions of the bladder, uterus, intestine, stomach, gallbladder, and bronchial muscles, dilates the pupil of the enucleated eye of a frog, and shortens the isolated esophagus of the toad. Its action is the opposite of that of adrenalin. The active principle comes from the posterior part of the gland. Administered hypodermically it causes lively borborygmata, somewhat painful contractions, and prompt movement of the bowels, even in cases resistant to enemata and purgatives. It is much more reliable than hormonal. The extract is also markedly oxytocic and thus useful in uterine inertia; owing to the action on the bladder it is also valuable in vesical paralysis or atony. Further valuable therapeutic applications are confidently expected.

3. Total Emasculation.—Juvara describes his operation for malignant tumors, which includes the testicles, scrotum, inguinal glands, and all the penis save the roots of the corpora cavernosa, and part of the corpus spongiosum and urethra. A vertical slit is left through which the subject urinates easily and straight forward.

SEMAINE MÉDICALE

May 15, 1912.

L. Cheinisse: Medical Forms of Acute Dilatation of Stomach.

Acute Gastric Dilatation.—Cheinisse points out that this phenomenon, not infrequent after certain abdominal operations, and even after anesthesia, may follow a mere dietary indiscretion. It is by no means uncommon in typhoid fever, cholera, puerperal fever, and the dyscrasias, and is not unknown in pneumonia in which it is caused by the increase in weight of the affected lung. Aerophagy is thought by Mathieu to be a cause in other diseases, especially when solid food is administered for the first time in convalescence. The dilatation may have fatal consequences, the cardia being closed by the action of the gases accumulating in the upper portion of the stomach. One severe case occurred in a hospital ward after a fit of laughing by the patient over a ventriloquial performance by another inmate. Distention may be differentiated from peritonitis by the absence of fever, the state of the pulse, etc. It must be remembered, however, that sometimes the dilated stomach falls very low in the abdomen. If diagnosis remains difficult, catheterism, followed by lavage will clear it up and give great relief if the condition is a mere dilatation. Catheterism is not dangerous, even in collapse.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

April 4, 1912.

1. E. Feer: Treatment of Diphtheria.
2. Eugen Fraenkel: So Called Hodgkin's Disease.
3. Rothe: Spontaneous Tuberculosis of Rabbits.
4. Friedrich Adolf Hesse: By Effects of Hormonal.
5. F. Blum: Lead Poisoning.
6. Paul Mulzer: Early Treatment of Syphilis with Salvarsan.
7. A. Pohlmann: Use of Physiological Salt Solution Containing Soda in the Wassermann Reaction.
8. Paul Herz: Prolapse of Anus and Rectum.
9. Emil Engel: Scarification of Uterus by General Practitioner.
10. Berger and Max Henius: Röntgen Rays in Diagnosis and Treatment of Diseases of Stomach and Intestine (*To be concluded*).
11. Engelken-Drager: Combined Injection and Suction Apparatus.
12. A. M. Sklepinski: Combination of Neisser-Siebert Lues Prophylacticum.
13. Daeubler: Influence of Climate of Tropics upon Europeans and Colored Race.
14. J. Kaup: Tuberculosis and Habitation.

April 11, 1912.

15. Th. Jung: Treatment of Climacteric Difficulties in Women.
16. L. Seitz: Hyperemesis from Intoxication of Pregnancy.
17. M. Neustaedter and William C. Thro: Experimental Acute Poliomyelitis.
18. Vorbrodt: Family Paralysis.
19. G. Voss: Psychological Adjuvants of Modern Psychiatric Diagnosis.
20. H. L. Richartz: Dechloridization in Excessive Secretion of Stomach.
21. G. Graul: Transitory Motor Aphasia with Paragraphia in Diabetes Mellitus.
22. Karl Meyer: Doses of Tuberculin.
23. Waelli: Plaster of Paris Impression of Urethra.
24. Gustav Brühl: Ear, Nose, and Throat in Affections of Metabolism (*To be continued*).
25. Hugo Hecht: Reinfection after Abortive Treatment of Syphilis.
26. Lenzmann: Treatment of Lues.
27. Berger and Max Henius: Röntgen Rays in the Diagnosis and Treatment of Diseases of the Stomach and Intestines (*Concluded*).
28. Zernik: New Remedies, Specialties, and Nostrums.

April 18, 1912.

29. Heinrich Rosin: Pathology and Therapeutics of Cardiac Asthma.
30. H. Kossel: Human and Animal Tuberculosis.
31. B. Möllers: Specific Antibodies in Blood Serum of the Tuberculous.
32. A. Baginsky: Period of Infection in Scarlet Fever.
33. P. P. Smirnoff: Salvarsan in Recurrent Fevers.
34. M. Nagayo and O. Nakayama: Stenosis or Obliteration of Left Iliac Vein at Junction with Vena Cava.
35. M. Eschenbach: Suture of Sphincter.
36. Gustav Brühl: Ear, Nose, and Throat in Affections of Metabolism (*To be concluded*).
37. A. Loewy and P. Sommerfeld: Investigations in Case of Infantile Myxedema.
38. Oskar Rosenberg: Icterus in Hereditary Syphilis.
39. Richard Hahn: Hemorrhagic Nephritism in Hereditary Lues
40. Eugene Andronescu: Salvarsan in Hereditary Syphilis.
41. Willy Vogel: Severe Itching of the Palm of Hand and Sole of Foot Following Salvarsan Injection.
42. Werner Rave: Treatment of Pruritus Ani with Röntgen Rays.
43. Hermann Boehme: Technique of Venous Infusion.

2. Hodgkin's Disease, So Called.—Fraenkel, after reviewing the symptomatology and the post mortem examination, says that the etiology of Hodgkin's disease has not been clearly demonstrated. The virus is very similar to the tubercle bacillus, although not identical with it. The entrance into the body seems to be through the mouth, as the glands are mostly the first objects of attack. The prognosis is very bad, as the disease does not take longer than about eighteen months to come to a fatal ending; about four times as many men are attacked as women, mostly between twenty and forty years of age. The therapeutics is very discouraging. Surgical operation is absolutely useless and internal remedies are of no avail; neither tuberculin, Röntgen rays, nor salvarsan has been of any use.

4. By Effects of Hormonal.—Hesse remarks that hormonal is not without danger. He cites three cases from the literature and believes that the drug has a depressing effect upon the blood pressure and remarks tentatively that it would be possibly a good idea to add adrenalin to hormonal, thus to overcome the depressing effect of the drug upon the blood pressure.

7. Use of Physiological Salt Solution Containing Soda in the Wassermann Reaction.—Pöhlmann observes, from his experience, that a physiological salt solution containing soda should not be used in the Wassermann reaction, as the test with such a solution may become negative from its use.

16. Hyperemesis from Intoxication of Pregnancy.—Seitz thinks that vomiting in pregnancy is never a result of reflex or psychogenic action. He bases his statement upon the severe anatomical changes after hyperemesis found in post mortem examination in women who had died under typical or atypical eclampsia. These changes can occur only through the influence of certain toxines in pregnancy. The author says that it is a logical

conclusion, as proposed by French and American writers, to compare severe with light cases, and to accept the same etiology for both. Extensive processes in the liver, in the kidneys, and in other organs, found in severe cases of vomiting, will induce us to look for minor complications if the vomiting is not so severe. This would lead to the proper treatment of hyperemesis in pregnancy, following the idea that chemical agents are responsible.

17. **Experimental Acute Poliomyelitis.**—Neustaedter and Thro furnished this communication in English to the issue of the JOURNAL for October 21, 1911 (see also the communication of these authors which appeared in the issue of the JOURNAL for September 23, 1911).

18. **Family Paralysis.**—Vorbrodt describes a case of family paralysis; the father was the first to be sent to the insane asylum and died three months afterward. While he was still at the institution his wife was admitted, who stated that she had been infected with syphilis from her first husband, by whom she had a healthy child, who died, however, in infancy. The first five pregnancies from her second husband terminated in abortion. The sixth pregnancy resulted in the birth of a son, who was at admission fourteen and a half years of age and was received at the institution the day following his mother's entrance. The father presented the picture of a severe tabes. Mother and son were typical paralytics. The son died very soon after admission and the post mortem examination of the brain demonstrated even macroscopically the correctness of the diagnosis. The mother is still alive.

23. **Plaster of Paris Impression of the Urethra.**—Waelli reports a case of a patient whose urethra was filled with hardened plaster of Paris, who admitted masturbation, but denied introduction of the plaster. Röntgen examination showed that the sphincter vesicæ had prevented the introduction of the plaster of Paris into the bladder. As it was impossible to free the entire urethra by mechanical means, a urethrotomy under local anesthesia at the lower end was successful. The wound healed well.

30. **The Relation between Human and Animal Tuberculosis.**—See editorial article on page 1101 of the issue of the JOURNAL for May 11th.

32. **Period of Infection in Scarlet Fever.**—See editorial article on page 1104 of the issue of the JOURNAL for May 25th.

PRAGER MEDIZINISCHE WOCHENSCHRIFT

April 18, 1912.

1. ERNST P[illegible]MERBRUNG: Prizes for Midwives to Induce Mothers to Nurse Their Own Babies.
2. FRIEDERICH KANNGIESSER: Hippocrates and Attic Plague.

April 25, 1912.

3. THURE HELLSTROM: Acute Poliomyelitis.
4. HUGO PRIBRAM: Amount of Cholesterin in Blood of Normal and Diseased.
5. HANS ROTKY: Pylorus Reflex in Relation to Some Cases.
6. EDMUND HOKE: Demonstration of Leucocytic Substances in Leuchemic Serum.

May 2, 1912.

7. THEODOR PETRINA: Sarcoma of Left Frontal Lobe.
8. H. PRIBRAM and J. WALTER: Acute Yellow Atrophy of Liver.
9. EDUARD WERDACK: Experience of a Military Surgeon with Bier's Hyperemia.

1. Prizes for Midwives to Induce Mothers to Nurse Their Own Babies.—There have appeared in the *Wochenschrift* several articles on prizes to be given to midwives for inducing mothers to nurse their own babies, a system which has been adopted in Bohemia, especially in the manufacturing districts. We have reviewed these articles and spoken of them editorially. The important point in this subject is the opening of nursing rooms in factories, where the mothers who work therein may at certain hours attend their babies under the supervision and instruction of nurses or midwives. Pomerenig adds a very interesting chapter to this subject in which he makes several proposals. He proposes that the government should tentatively grant about four hundred dollars yearly for the years 1913, 1914, and 1915, to be distributed in certain districts of northern Bohemia, to midwives who will take up the instruction to mothers.

3. Acute Poliomyelitis.—Hellström takes up, among other questions, the contagiousness and prophylaxis of acute poliomyelitis. We see that in Sweden the class of a school in which a case of acute poliomyelitis occurred was closed for fourteen days; the room and the books were disinfected, also the clothing of the children who had attended the class. Families in which cases occurred were quarantined for fourteen days. If they lived in a tenement house the same action took place for the whole house. Employees of the postoffice and railroads were ordered to stay away from the offices. Children who came from infected districts were kept under observation.

WIENER KLINISCHE WOCHENSCHRIFT

April 18, 1912.

1. R. KRAUS and K. ISHIWARA: Action of Embryonal Cells toward Serum of Normal Persons and Carcinomatous Patients. (*IV.*)
2. RICHARD FRÜHWALD: Infection with Blood of Syphilitics.
3. W. A. MERKURIEW: Demonstration of Arsenic in Urine after Use of Salvarsan.
4. HERMANN HINTERSTOISSER: Lost Compresses. An Addition to History of Foreign Bodies in Abdominal Cavity.
5. W. SKÓRCZEWSKI and I. SOHN: Action of Atophan in Organism.
6. OSKAR ADLER: Carcinoma of Colon with Repeated Discharge of Exposed Tumors in Feces.
7. JOSEF TORNAI: New X Ray Apparatus.

April 25, 1912.

8. R. KRAUS and K. ISHIWARA: Action of Embryonal Cells toward Serum of Normal Persons and Carcinomatous Patients. (*V.*)
9. CONSTANTIN J. BUCURA: Gynecological Items.
10. ANNA POLZI: Small Cystic Degeneration of Ovaries as Probable Cause for Uncurable Bleeding from Genitals.
11. SIEGMUND ERBEN: Differential Diagnosis of Pain in Leg.
12. ERNST FUCHSIG: Poisoning with Arsenic from the Uterus.

2. Infection with Blood of Syphilitics.—Frühwald has followed Karl Spengler's experiments with the blood of syphilitics. Through injection with the blood of syphilitics into the ear of normal or syphilitic rabbits he has produced an inflammation, or necrosis of the cartilage of the ear, in which *Spirochætæ pallidæ* could not be demonstrated. As he has been able to produce the same changes with the blood of nonsyphilitics, he concludes that Spengler's experiments cannot be taken as a proof of the specific infection of blood from syphilitics.

3. Demonstration of Arsenic in the Urine after the Use of Salvarsan.—Merkuriew has made daily examinations of the urine of thirty-five patients who received salvarsan, of whom sixteen were injected twice. He was able to demonstrate arsenic up to six months after the injection.

12. Poisoning with Arsenic from the Uterus.—Fuchsig reports a case of a woman, twenty-two years of age, who stated that by a fall downstairs a large piece of kindling wood had entered her vagina, causing severe pain. Two days later she entered the hospital, where it was found that the vagina was

severely lacerated, but the injury was not severe enough to be explained by the accident alone. The author suspected abortion and the statement of the accident to be an untruth. Twenty-four hours after the reception at the hospital the patient died, and the post mortem examination showed arsenic in the uterus. The doctor's suspicion about the abortion was verified, but the question could not be answered by whom the arsenic had been introduced into the uterus, where it must have remained for about five days.

ZENTRALBLATT FÜR CHIRURGIE.

May 4, 1912.

1. H. Finsterer: Technique of Paravertebral Conduction Anesthesia.
2. E. Jegle: New Clamp for Production of Lateral Anastomoses between Bloodvessels without Interruption of Blood Current.

ROUSSKY VRATCH.

March 3, 1912.

1. N. N. Vitstnrik: Views of Certain Epochs on Diagnosis and Treatment of Internal Diseases.
2. B. N. Choltzoff: Perineal Urethrostomy.
3. A. Z. Bylin: Influence of Neutral Fat and Its Constituents on the Secretion of the Gastric and Pancreatic Glands.
4. B. I. Viliamovsky: Pseudoanthrax.
5. M. G. Moliakoff: Treatment of Scarlet Fever with Nucleinate of Sodium.
6. A. A. Malinovsky: Intraabdominal Rupture of Bladder.
7. V. P. Kalashnikoff: Atrophy of Optic Nerve Following Treatment of Syphilis with Atoxyl.

March 10, 1912.

8. L. M. Pussep: Complete Removal of Gasserian Ganglion in Three Cases, with a Special Method of Holding Head.
9. V. N. Derevenko: Rupture of Hydronephrosis and Pyonephrosis.
10. C. E. Ostrovsky: Urobilinuria and Urobilinogenuria in Infants.
11. A. Z. Bylin: Influence of Neutral Fat and Its Constituents on the Secretion of the Gastric and Pancreatic Glands.
12. C. M. Shastny: So Called Chronic Plague of Rats in Odessa.
13. I. P. Michajlovsky: Artificial Chemical Mummification of Bodies of Men, Birds, Warm Blooded and Cold Blooded Animals.
14. V. P. Kalashnikoff: Atrophy of Optic Nerve during Treatment of Syphilis with Atoxyl.

2, Urethrostomy.—Choltzoff reports seven cases of stricture of the urethra in which perineal urethrostomy gave very satisfactory results. He points out the following indications for the operation: 1. Cicatricial degeneration of the major portion of the urethra in cases where urination is extremely painful or the stricture does not yield to dilatation or the dilatation is extremely painful, or generally when there is no hope of further improvement by the usual methods. 2. Occlusion of a certain portion of the urethra with cicatricial degeneration of a considerable portion of the rest of the canal. 3. Suppurating urethral fistulas which do not yield to treatment. 4. Certain defects in the pendulous urethra which cannot be remedied. The author prefers the temporary urethrostomy suggested by Poncet.

4. Pseudoanthrax.—Viliamovsky reports a fatal case of pseudoanthrax of the lungs in a woman, forty-five years old, who came to autopsy. Bacteriological examination of the organism observed in the sputum during life and isolated from the pleuritic effusion after death showed the following characteristics: Long, spore forming rods with square ends, occurring in chains, not decolorized by Gram's, aerobic, motile. Bouillon is rendered cloudy with the formation of flocculi. Milk is rapidly coagulated. Gelatin is liquefied without the formation of a crater. On the other media the growth is identical with *Bacillus anthracis*. It proved pathogenic to animals.

5. Treatment of Scarlet Fever.—Moliakoff employed sodium nucleinate in ninety cases of scarlet fever. He injected from thirty to fifty c.c. of a sterile solution of the drug in proportion of 0.1 gramme for each year of the child up to 1.0 gramme, the injection being made into the subcutaneous tissue of the abdomen, under strict aseptic precautions. The results obtained were very favorable, particularly in the beginning of the disease, when, following the injection, the temperature became normal in two or three days, and all the other symptoms disappeared. In the later stages the results, while favorable, were not so marked. He also employed nucleinate of sodium in five cases of erysipelas, eight cases of acute articular rheumatism, and ten cases of typhoid fever. Favorable results were obtained in erysipelas and rheumatism, but no effect whatever was observed in the cases of typhoid. The author attributes the effect of the nucleinate of sodium to the production of hyperleucocytosis, particularly the polymorphonuclears, thus enabling the organism to overcome streptococcic infection.

8. Removal of Gasserian Ganglion. — Pussep reports three cases of removal of the Gasserian ganglion and presents a study of the pathological changes. In connection with the operation he shows his method of hyperextension of the head with a block under the neck, which, he avers, greatly facilitates the operation. He found that by the instillation into the eyes of atropine and irrigation with a solution of boric acid, neuroparalytic keratitis may be prevented. Relapses following the removal of the ganglion he explains by the assumption that either the extirpation was not complete or else the patient was at the time in the first stages of locomotor ataxia, the latter affecting the roots of the trifacial nerves.

10. Infantile Urine. — Ostrovsky determined the presence of urobilin and urobilinogen in the urine of 123 infants varying in ages from one week to one year. Twelve were perfectly healthy, and in three of these a slight Ehrlich reaction and in one a slight Schlessinger reaction were obtained. Of ten premature infants one gave a slight and another a marked Ehrlich reaction. Of three infants with hereditary syphilis only one gave slight Ehrlich and Schlessinger reactions. In one case of simple acute intestinal catarrh a marked benzaldehyde reaction was obtained. Of forty-eight cases of catarrhal penumonia, mostly following grippe, sixteen showed a slight and ten a marked benzaldehyde reaction. Of twelve cases of generalized tuberculosis, nine showed a positive Ehrlich reaction. The other cases were bronchitis, otitis, rhachitis, purpura, and marasmus. Deducting the twelve cases of healthy infants, there remain 111 affected with various diseases in whom a positive reaction of urobilinogen was obtained in forty-three or 38.9 per cent. Of seventy-nine infants, a positive urobilin reaction was obtained in fifteen, or nineteen per cent. The author concludes from these studies that positive reactions for urobilin and urobilinogen are practically absent in health and, when present in disease, indicate a pathological condition of the organism, probably a functional disturbance of the liver. However, they do not possess any diagnostic significance so far as individual infectious diseases are concerned.

11. **Influence of Neutral Fat.**—See editorial article, p. 1155.

13. **Mummification.**—Michajlovsky reports in a preliminary note a new method of embalming and preserving bodies of various animals. For the human cadaver the following process is employed: 1. The body is suspended head down. 2. A trocar is introduced into the rectum close to the spine, penetrating the abdominal and part of the thoracic cavities, and the following solutions are introduced: (a) A saturated solution of sodium chloride (3,000 to 4,000 c.c.) and calcium chloride (400 c.c). The body is allowed to remain in the vertical position for twenty-four hours, and then put in a horizontal position for another twenty-four hours. While in this position the body is immersed in a saturated solution of sodium chloride and alum. 3. The process is repeated, injecting a saturated solution of sodium bicarbonate and immersing the body in the solution of salt and alum. 4. The injection is repeated, using a saturated solution of alum and a solution of calcium chloride (200 to 400 grammes to 500 or 600 c.c. of water.) This completes the treatment. The cadaver can no longer undergo decomposition and may be kept at ordinary temperatures, becoming in time mummified. The drying may be hastened by covering the cadaver with a mixture of common salt and burnt alum. The disadvantages of the method are: 1. A marked change in the eyes (they may be replaced by artificial eyes); 2, sinking in of the abdominal walls (may be corrected by plaster of Paris or paraffin); 3, marked shriveling of the extremities (may be corrected by plaster of Paris); 4, the falling in of the ala nasi (may be corrected by plaster of Paris); 5, darkening of the skin. The advantages are: 1. Permanent preservation of the cadaver under ordinary temperatures; 2, excellent preservation of all the internal organs; 3, the coverings of the body remain intact; 4, satisfactory preservation of the face, ears, lips, and genital organs; 5, simplicity and cheapness of the process; 6, ease with which the defects caused by shrinking may be corrected by plaster of Paris, which may be colored to a flesh tint. The mummifiction of birds is simplified by using only the internal treatment, while the bodies of cold blooded animals are subjected only to the external treatment.

14. **Optic Atrophy under Atoxyl.**—Kalashnikoff reports a case of atrophy of the optic nerves following repeated injections of atoxyl in the treatment of recent syphilitic infection. From a study of the literature and his own case, the author draws the following conclusions: 1. When there is a marked intoxication with atoxyl, the peripheral endings of the optic nerve are first affected, followed by degeneration of the entire nerve, which stands in intimate relation with the constriction of the retinal vessels. The clinical picture consists of a gradual decolorization of the papilla of the optic nerve, preceded by a marked concentric narrowing of the visual field, particularly on the inner side, followed by constriction of the retinal arteries, and in some cases complete loss of color perception. 2. Atoxyl is markedly toxic to the visual apparatus, even in moderate doses, particularly when administered for a long time. 3. In view of the toxicity of atoxyl, it is necessary to make a careful study of its physiological effects, and to employ great care in its administration. The eyes should be constantly watched, and with the slightest disturbance of the visual field the administration of the drug should be discontinued. This precaution is particularly timely, since Metchnikoff recommended the use of atoxyl as a prophylactic agent.

AMERICAN JOURNAL OF DISEASES OF CHILDREN.

1. J. P. Sedgwick: The Creatin and Creatinin Excretion in Recurrent Vomiting; Relation of Adenoids to Recurrent Vomiting.
2. O. M. Schloss and L. J. J. Commiskey: Etiology and Treatment of So Called Hemorrhagic Disease of Newborn.
3. E. H. Schorer: Recent Developments in Pasteurization of Milk for a General Market.
4. G. E. Price and C. E. G. Shannon: Juvenile Tabes.
5. S. V. Haas: Acute Glandular Fever in Children.
6. B. R. Hoobler: Admissible Metabolism Basal for Infants and Young Children.
7. W. P. Lucas: Wassermann Reaction in Syphilis, Results of Current Literature.

1. **Creatinin and Creatin Excretion; Adenoids and Recurrent Vomiting.**—Sedgwick uses a method in determining the excretion of creatinin based upon Folin's method, published in 1904. The urine is treated with picric acid and sodium hydrate, and the resulting color compared with a half normal solution of bichromate by means of a colorimeter (Dubosc). According to Folin creatinin output seems to be an indicator of endogenous nitrogen metabolism. Creatin has not been considered a normal constituent of the urine of children; creatinin and creatin are abnormal during an attack. In twenty-two patients with adenoids and recurrent vomiting, Sedgwick finds that twenty had adenoids or enlarged tonsils. Most of them had fever during the attacks. The posterior cervical glands were usually enlarged. A very common prodrome of the attacks was sore throat or nasal discharge. Chorea minor, rheumatism, and endocarditis were complications in three cases. In some of these there was surprising improvement as a result of the removal of the adenoids.

2. **Etiology and Treatment of the So Called Hemorrhagic Disease of the Newborn.**—Schloss and Commiskey draw the following conclusions: 1. In the hemorrhagic conditions of the newborn, the coagulation of the blood may be normal, delayed, or absent. 2. A deficiency or absence of thrombin or fibrinogen may give rise to imperfect blood coagulation and uncontrollable hemorrhage. 3. In some cases of hemorrhage in the newborn in which blood coagulation is apparently normal, it seems probable that the hemorrhage is due to some localized vascular lesion or defect present only in the areas from which the bleeding occurs. 4. The subcutaneous injection of whole blood is harmless and of apparent value in the treatment of hemorrhage.

ARCHIVES OF PEDIATRICS.

1. Charles W. Banks: Is There Any Valid Objection to Vaccination?
2. B. Van D. Hedges: Contact Infection in Contagious Diseases.
3. Royal Storrs Haynes: Physician and Contagious Diseases.
4. Isabella Thomson Sayre: Duty of Community to Defective Children.
5. Walter Lester Carr: Outdoor Life for City Children.
6. D. J. Milton Miller: Diagnosis of Atypical Scarlet Fever.
7. Max Michaelis: Rudolph Leo[illegible]
8. David L. Wark: What Next [illegible]

6. **Diagnosis of Atypical Scarlet Fever.**—Miller arrives at the following conclusions: 1.

The differentiation of unusual forms of scarlet fever will remain a stumbling block to the practitioner, until we have discovered the cause of the disease, and are able to employ tests similar to those that we now apply in diphtheria, typhoid fever, syphilis, etc. 2. Not one of the individual symptoms can be depended upon to establish the diagnosis. The disease may occur without rash, desquamation, fever, or strawberry tongue. The whole clinical picture must be carefully considered and the individual symptoms critically studied. 3. The most constant symptom is the angina; and its presence, associated with a scarlatinal eruption, however slight, however evanescent, and however limited in its distribution, should be regarded as sufficient to establish the diagnosis, or, at least, to demand isolation and close observation. 4. Next to the throat, the condition of the tongue is the most reliable symptom, some enlargement of the papillæ of the tip and border being usually observable, although this symptom is much more frequently missing than is the angina and may occur in other conditions. 5. Of all the exanthemata, scarlet fever is the most varied and uncertain in its symptoms; and of all the symptoms the rash presents the greatest vagaries. Hence, no rash, especially in a child, is too trivial to be disregarded, whatever the general symptoms may be. 6. Scarlet fever with well marked rash may occur without desquamation. 7. Rubella scarlatinosa is often diagnosticated when scarlet fever presents itself as a pronounced erythema with mild constitutional symptoms. This error is a fruitful source of dissemination of the more serious affection. The diagnosis of rubella should be accepted only upon the strongest evidence. 8. The history of a previous attack of scarlet fever should not prevent us from treating with suspicion apparently anomalous cases of the disease. 9. Differential blood counts have produced nothing of value in the diagnosis of scarlet fever. 10. Surgical scarlet fever and that following burns are scarlet fever in the wounded, and should be regarded as ordinary cases of the disease. 11. Scarlet fever without eruption, and other anomalous forms, are a fruitful source of dissemination of the disease. 12. All patients with doubtful erythemata, and with a rash in any way resembling scarlet fever, should be quarantined until the diagnosis is reasonably established.

7. Rumpell-Leede Phenomenon of Scarlet Fever.—Michael studied 150 normal children to determine the presence or absence of this phenomenon in children who did not have scarlet fever. In the first series of 100 cases, a muslin bandage was placed half way up the arm, drawn tight enough to produce a decided blue discoloration of the forearm, and left in place from three to eight minutes. At the end of this time, in ninety-eight of the children petechiæ appeared on the anterior surface of the elbow joint. In some instances there were but two or three, in others the spots were too numerous to count. Boys reacted more readily than girls. In a second series of fifty normal children, the arm band of the Riva-Rocca blood pressure apparatus was adjusted, and the pressure kept at sixty mm. for ten minutes. Of these cases, sixty per cent. gave positive findings. The Rumpell-Leede phenomenon cannot therefore be regarded as a diagnostic sign of scarlet fever.

JOURNAL OF BIOLOGICAL CHEMISTRY.

April, 1912.

1. C. P. Sherwin and P. B. Hawk: Fasting Studies. VII. Putrefaction Processes in the Intestine of Man during Fasting and during Subsequent Periods of Low and High Protein Ingestion.
2. T. Brailsford Robertson: Refractive Indices of Solutions of Certain Proteins. VI. Proteins of Ox Serum; New Optical Method of Determining the Concentration of the Various Proteins Contained in Blood Sera.
3. H. Steenbock: Quantitative Determination of Benzoic, Hippuric, and Phenaceturic Acids in the Urine.
4. J. H. Elliott and H. S. Raper: Pentosuria Presenting Unusual Features.
5. R. C. Collison: Estimation of Lecithin.
6. C. B. Bennett: Purins of Muscle.
7. Frank P. Underhill and Clarence L. Black: Influence of Cocaine upon Metabolism, with Special Reference to the Elimination of Lactic Acid.
8. Otto Folin and W. Denis: Creatin in the Urine of Children.
9. Otto Folin and F. F. Flanders: New Method for Determination of Hippuric Acid in Urine.
10. Otto Folin and A. B. Macallum: Blue Color Reaction of Phosphotungstic Acid (?) with Uric Acid and Other Substances.

1. Intestinal Putrefaction during Fasting.—Sherwin and Hawk found intestinal putrefaction as measured by the output of urinary indican to be markedly decreased during the fasting interval. The seventh fasting day showed an indican excretion of 13.7 mg. as against 60.5 mg. for the second fasting day. During a postfasting period of low protein ingestion, putrefaction was increased in a very pronounced manner, the indican values rising far above those obtained during the normal period preceding the fast. The data collected tended to verify a conclusion previously reached, viz., that the drinking of copious or moderate volumes of water with meals decreases intestinal putrefaction as measured by the urinary indican output, and also indicated that there is no uniform relationship between the urinary indican and the output of bacteria in the feces, even when the diet of the subject is of the same general character.

5. Estimation of Lecithin.—Collison found that the most satisfactory method for determining the amount of lecithin in animal tissues is that in which the combined alcohol and ether extracts are analyzed for phosphorus without previous filtration with ether. Precautions must, however, be taken to secure dry reagents for use, as crude reagents seem to render soluble certain forms of phosphorus, which render the readings by that much too high.

6. Purins of Muscle.—Bennett concludes from his researches that muscle tissue contains small amounts of adenin and guanin, very likely in the form of thymus nucleic acid, and that some of this, perhaps all of it, is found in tissues other than the striated muscle fibres themselves. More guanin is present than adenin. Inosinic acid is probably present in the striated muscles of all warm blooded animals, although in apparently very varying amount. Since it is easily obtained by extraction with cold water, it is hardly probable that it is confined to the nuclei of the muscle cells. This is supported by the fact that the nucleic acid in other tissues is found, after death at least, united with proteins in the form of nucleoproteins, which are rather insoluble in cold water and must first be digested with some alkali or acid to liberate the nucleic acid. Inosinic acid, however, is obtained fairly pure by precipitating the cold water extract of meat with basic lead

acetate. It is probably a nucleic acid only from the chemical standpoint and not from the histological.

7. Influence of Cocaine upon Metabolism.—Underhill and Black found, in confirmation of previous investigation, that cocaine introduced subcutaneously into dogs causes a temporary but significant increase in body temperature. With daily doses of ten mg. of cocaine hydrochloride to each kilo of body weight for short periods of time, no influence can be detected upon nitrogenous metabolism nor upon fat utilization, but when daily injections of fifteen mg. are administered, fat utilization is slightly impaired and body weight is considerably decreased. With twenty mg. doses a distinct lowering of both nitrogen and fat utilization is noted. Lactic acid excretion in the urine is markedly increased in well fed dogs and rabbits as a result of cocaine injection. In a starving condition the dog eliminates less lactic acid after cocaine injections than is excreted by the normal well fed animal. It is not unlikely that the increased lactic acid elimination after cocaine injections is associated with increased muscular activity induced by the drug. Lactic acid and carbohydrate metabolism are presumably intimately associated, although there are indications that lactic acid may at times arise from more than a single antecedent.

8. Creatin in the Urine of Children.—Folin and Denis corroborated, by analyses conducted in three healthy children, the recent unexpected finding of Rose that creatin is nearly always present in the urine of children. This creatin does not depend, as Rose suggests, on a peculiar carbohydrate metabolism, but is due to an excessively high level of protein consumption.

JOURNAL OF MEDICAL RESEARCH.
April, 1912.

1. C. F. Craig: Morphology of Parasitic and Cultural Amebas.
2. A. S. Warthin: Molasses Plate Method, a Modification of the Huber-Scmorl-Obregia Method.
3. P. G. Weston: Colorimetric Test for Cholesterol.
4. L. F. Rettger and J. A. Sperry: Antiseptic and Bactericidal Properties of Egg White.
5. O. T. Schultz: Formation of Pigment by Dermal Chromatophores.
6. W. de B. MacNider: Renal Epithelium in Various Types of Acute Experimental Nephritis; Relation between Epithelial Changes and Total Output of Urine.
7. E. H. Schorer and M. J. Rosenau: Efficiency of Pasteurization of Milk under Practical Conditions.
8. G. C. Weil: Cultivation of Tissues *in Vitro*.
9. W. P. Lucas and E. L. Prizer: Measles in Monkeys.

1. Morphology of Parasitic and Cultural Amebas.—Craig calls attention to the necessity of differentiating the amebas parasitic in man from the free living type, and gives in detail the results of a comparative morphological study of stained preparations of certain parasitic species and of cultural amebas. The organisms studied are *Entamœba coli, Entamœba hystolytica, Entamœba tetragena,* and one named by the author *Amœba lobospinosa.* In as much as *Entamœba coli* may be found in five to fifty per cent. of healthy individuals in almost every locality, it is evident that one should become able to differentiate it from the pathogenic species concerned in the production of dysentery. Otherwise, many individuals may be treated for amebic dysentery when in reality only harmless *Entamœba coli* is present. The parasitic amebas of man are entirely distinct in morphology and life cycle from the cultural species. Two plates illustrate very clearly the points of difference between the four organisms.

5. Formation of Pigment.—Schultz concludes that the young pigment cells in mycosis fungoides, produced by the inflammatory proliferation, must have come originally from the senile chromatophores in the normal skin. These young cells show changes indicative of a high degree of physiological specialization. In the beginning of the process of differentiation, chromatin is thrown out of the nucleus into the cytoplasm, leading to the formation of a functional chromidial net. The chromatin that is present in the cytoplasm becomes changed into a material which has the staining reactions of nucleolar substance. Further change leads to the transformation of this material into pigment. The pigment produced is, therefore, derived directly from nuclear substances. It is not a hemoglobin derivative nor is it a degeneration in the ordinary sense, but the product of the specialized physiological activity of the cell by which nuclear derivatives are transformed directly into pigment.

6. Relation between Changes in Renal Epithelium and Total Output of Urine.—MacNider carried out a series of experiments in a study of the renal epithelium in various types of acute experimental nephritis, with the object of determining to what extent the total output of urine may be correlated with changes in the renal epithelium, especially those of an obstructive nature. In the twenty-nine dogs used it was found that certain poisons possessed an increased affinity for the vascular or for the epithelial elements of the kidney, also that those nephrotoxic substances with the most marked affinity for the tubular epithelium are those which most rapidly cause either a reduced output of urine or an anuria. On the other hand, those nephrotoxic substances, such as arsenic, which cause an early and pronounced vascular injury, with late epithelial involvement, are the poisons which have the least tendency to produce anuria. In the experiments reported, which have shown either a pronounced decrease in the output of urine or anuria, there constantly have been associated epithelial changes which produced in different degrees an obstruction of the lumen of the tubules. In those experiments, however, in which the output of urine did not decrease, and in those in which it was increased beyond the normal, such epithelial changes either did not exist, or they were histologically slight.

7. Efficiency of Pasteurization of Milk.—Schorer and Rosenau undertook to determine the efficiency of pasteurization by conducting experiments on a large scale in a fully equipped dairy. In this instance the "holding" method was the one employed. In this the milk is heated to a temperature between 140° and 155° F., and then placed in a receptacle where it is held at approximately this temperature from twenty minutes to an hour. In conducting the tests the desired temperature was not attained. In some of the runs it fell seriously below that desired and the pathogenic organisms were not all killed. In two tests with *Bacillus diphtheriæ* but one succeeded, in two with *Bacillus typhosus* a similar result was obtained. In two with *Bacillus tuberculosis* (human) both failed and in two with the bovine type one succeeded and one failed. As a result of the tests made the authors believe that the best temperature to meet practical conditions is 145° F. and the milk should be held at

this point from thirty to forty-five minutes. Observations also indicate that a single holding tank is not as trustworthy as two, three, or four in series. There is a necessity for official control over all pasteurizing plants.

8. Cultivation of Tissues in Vitro.—Weil gives an interesting account of various methods by which tissues have been grown *in vitro,* and includes the results observed during the growth of different tissues. The connective and spleen tissues of adult mammalia grow most easily. No difficulty was experienced, however, in growing liver and epithelial tissues from embryonic chicks. In these latter the connective tissues grow most profusely in cultures of all organs. One of the most interesting features of the observations has been the deposit of fat in the various cells. Liver and connective tissues always accumulate fat in great quantities. This usually appears about the fourth day of growth and continues to increase during the life of the cell.

9. Experimental Study of Measles in Monkeys.—See editorial article, p. 1155.

JOURNAL OF NERVOUS AND MENTAL DISEASE.

April, 1912.

1. Henry H. Goddard: Height and Weight of Feeble Minded Children in American Institutions.
2. Edward L. Hanes: Acute Delirium in Psychiatric Practice, with Special Reference to So Called Acute Delirious Mania (Collapse Delirium).
3. J. F. Munsen: Sclerotic Foci in Cerebrum of Infant.

1. Height and Weight of Feeble Minded Children in American Institutions.—Goddard has compiled comprehensive statistical tables and charts of the height and weight of the different types of the feeble minded, based upon the data obtained from nineteen American institutions, and representing nearly 11,000 individuals. He finds a remarkable correlation between physical growth and mental development; the idiot has not only a disturbed brain function, but his entire organism is disarranged and growth processes upset. In the imbecile the same is true, but to a less extent. In the moron (high grade imbecile) the growth is normal during the immature years, but is arrested earlier than is normal. All defectives are heavier than normal at birth, and the evidences of heredity seem to disprove the theory of cerebral traumatism at birth as an important etiological factor. Sex differences are less and less marked, the lower the grade of defect.

3. Sclerotic Foci in Cerebrum of Infant.—Munsen reports the case of an infant that died at the age of twenty-seven months, the brain presenting numerous indurated areas which seemed to be identical pathologically with those of multiple sclerosis, in which classification the author places the case despite the age of the patient and the limitation of the post mortem examination to the brain alone. The prominent clinical symptoms were defective mentality, slow motor development, and epileptiform convulsions, the patient dying in the status epilepticus.

BRITISH JOURNAL OF CHILDREN'S DISEASES

April, 1912.

1. Arthur F. Hertz: Congenital Dyschezia.
2. J. L. Bunch: Hereditary Syphilis; Treatment by Arsenobenzol.
3. T. McCririck: Purpura Fulminans as a Sequela of Scarlet Fever.
4. A. M. Gossage: Family with Membranous Discharge from the Nose.
5. Macleod Yearsley: Median Dermoid Cyst of the Nose.

1. General Dyschezia.—Hertz defines dyschezia (a coined term) as a form of constipation in which there is no delay in the arrival of feces in the pelvic colon, although their final expulsion is not adequately performed. In another group, which he calls intestinal constipation, the passage of feces through the intestine is delayed while defecation is normal. Owing to the acute angle formed at the pelvirectal flexure, the passage of feces along the intestine is obstructed at this point. In newborn infants reflex defecation is stimulated by entry of feces into the rectum, in older children by the sensation of fulness. The rectum is insensitive to tactile and chemical stimulation, and the call to defecation is a form of muscle sense, depending upon the distention of the rectum which occurs as soon as feces pass beyond the pelvirectal flexure. Hertz particularly draws attention to a class of dyschezia which depends upon a congenital deficiency of the muscle sense of the rectum. In a mild form it is not uncommon in infants, and occasionally congenital dyschezia is the starting point of dyschezia which lasts through life. The condition should always be suspected in severe cases of constipation in infants and children when ordinary methods of treatment by diet, aperients, and abdominal massage have failed. Dyschezia soon leads to secondary retention of feces in the pelvic colon; the irritation caused is likely to give rise to colitis. The treatment avoids the use of aperients and abdominal massage, with an unchanged diet. If defecation is difficult and painful liquid paraffin is given and the child required to sit at stool for at least ten minutes after breakfast. If this fails, water or a glycerin enema is given and the attempt repeated. Glycerin is most effective, one ounce the first day; next day 0.5 drachm of the glycerin is replaced by water; third day one drachm, etc., until all is replaced by water and finally the lactic acid is omitted. The amount used is reduced by one twentieth part at a time until no more is required. In all cases in children a cure eventually results, but if allowed to continue until adult life it may be necessary to use enemata permanently. If the injection is given under low pressure, and the glycerin is as dilute as possible, and as little water used as possible, the enemata never lose their effect.

2. Hereditary Syphilis Treated by Arsenobenzol.—Bunch says that the recorded cases of hereditary syphilis treated with "606" are few in number, especially in England. Hereditary syphilis is an extremely fatal disease, and is responsible besides for a greatly increased diminution of resistance to, and a marked incapacity to recover from disease. The chances of a heredosyphilitic dying under fifteen years of age are nearly seven times greater than that of a child of three years from syphilis. In his first cases the drug was injected intramuscularly, later intravenously. The records show that injecting the nursing mother gives little if any benefit. Bunch gives the clinical history and treatment in three cases, but, unfortunately, not the results in all of his trials. As a rule one decigramme of the drug per kilo of body weight is given. One patient was only eight weeks old and received one intravenous injection and another subsequently into the glutei. A negative Wassermann

reaction was then obtained. It is impossible as yet to discuss the cure of syphilis by "606," since no case has been under treatment for a sufficiently long time, and the mere fact that the Wassermann reaction remains negative for a year or two after treatment is no proof of cure, for the full significance of this reaction has not yet been worked out. In babies it is rare to need more than two injections of salvarsan. Additional treatment by mercury is favored after the first or second dose of "606," in order to avoid later recurrence. We have in salvarsan a drug which at least has wonderful powers of rapidly curing syphilitic symptoms, and, when combined with mercury, of curing the disease in the shortest time at present possible.

3. Purpura Fulminans as a Sequela of Scarlet Fever.—McCririck reports a case of purpura fulminans in a boy, five years old. Of sixty-four cases of purpura fulminans published up to the present, seventeen have followed scarlet fever, the ecchymoses occurring usually in the second, third, or fourth week of the disease.

GLASGOW MEDICAL JOURNAL.

April, 1912.

1. James A. Wilson: Keratitis as a Cause of Myopia.
2. Arthur J. Ballantyne: Concomitant Squint Following Injury to the Head and Eye.
3. Matthew J. Stewart: Tuberculosis of the Uterus.
4. John Parlane Granger: Plague as a Factor in History (*concluded*).

1. Keratitis as a Cause of Myopia.—Wilson believes that far too little attention has been paid to keratitis as a cause of myopia in childhood, and reviews the work of others on this subject, adding the results of his own investigations. He has observed and tabulated 100 consecutive patients with corneal opacities. Of these seventy-nine had both eyes affected, the remainder had opacities in one eye only. Of these 200 eyes, including the ones that were not affected, forty-six per cent. had myopic astigmatism, mostly compound, twenty-one per cent. had myopia, two per cent. had mixed astigmatism, while the remaining thirty-one per cent. had hypermetropia, hypermetropic astigmatism, or emmetropia. The first three groups added together give a total of sixty-nine per cent. of some form of myopia. Of these thirty-one per cent. had less than 1.5 D of myopia, thirty-nine per cent. between 1.5 D and 4 D, thirty per cent. over 4 D; averaging a little over 3 D. For comparison he gives the result of the examination of 2,181 school children, which agree very closely with those obtained by other workers. Myopia and myopic astigmatism amounted to 1.9 per cent., mixed astigmatism to 3.5 per cent. Even if it be granted that some of the children with opacities would have been myopic anyway, this can apply to only a few, and there remains sufficient in his opinion to establish the fact that there is a relationship between keratitis and myopia, and that this relationship is greater than is usually supposed.

4. Plague.—Granger concludes his paper on the plague as a factor in history with about these words: It is evident that the rat and rat flea hypothesis do not hold the whole truth. The last word has not been said. The bacillus has been discovered which is the immediate cause, but history teaches that something more is necessary to create a great pestilence. The soil must be prepared. We hope, but do not know that the strong sanitary cordons with which all civilized communities now hedge themselves may be sufficient to protect us. Something may prepare the soil to give this fateful and malignant pest opportunity again to become an important factor in the world's history.

JOURNAL OF LARYNGOLOGY, RHINOLOGY, AND OTOLOGY.

April, 1912.

1. A. Brown Kelley: International Collective Investigation of Ozena.
2. J. S. Fraser and J. K. Milne Dickie: Operations for the Relief of the Mastoid, Labyrinthine, and Endocranial Complications of Suppurative Otitis Media.
3. Ferdinando Massei: Teaching of Otology and Laryngology in Italy.

PRACTITIONER.

April, 1912.

1. Richard Douglas Powell: Medical Aspects of Life Insurance.
2. Victor Bonney: Diagnosis and Operative Treatment of Carcinoma of the Vulva, Vagina, and Uterus.
3. W. Stuart-Low: Nasal Catarrh.
4. Seymour Barling: Pneumococcal Peritonitis in Children.
5. L. E. Barrington Ward: Intestinal Stasis in Children and Its Surgical Treatment.
6. Alex. Maclennan: Gridiron Incision; Where to Make It and Where to Enlarge It, with Special Reference to Retrocecal Appendicitis.
7. W. Gordon: Pulmonary Gangrene; Operation; Recovery.
8. Leslie Thorne Thorne: Relation of Cardiac Systole to Arterial Tension.
9. T. S. Tirumurti: Importance of Examining the Scrotum in Tumors of the Abdomen. Undescended Testis and Malignant Tumors of the Testis.
10. H. Gordon Webb: Simplicity of Major Surgery.

3. Nasal Catarrh.—Stuart-Low finds that there are two causes for recurrent colds in the head, one the person's unhealthy habits or unhealthy surroundings, or his breathing a damp, musty, smelling, foul, or dusty atmosphere, the second, abnormal anatomical conditions in the nasal cavity. The second he finds to be the more common and potent as a determining cause. Turbinectomy of either the middle or the inferior turbinate he performs as a submucous resection. An incision is made along the turbinate, the soft structures are dissected up, the bone thus laid bare is resected, and then the flaps are allowed to fall together on the outer wall of the nose, where their integrity is maintained. Special instruments are necessary for the operation. The writer is not pleased with the results obtained by vaccines in the treatment of nasal catarrh. An acute catarrh, or one with no sinus trouble behind it, may be one that might yield to vaccines; but where, as in the great majority of cases, there are anatomical disturbances in the nasal passages, no measures other than surgical will ever remove these mechanical conditions, which maintain congestion and so keep up obstruction of the nasal passages and, therefore, the liability to catarrh. He also urges the adoption of paper pocket handkerchiefs in place of ordinary linen, and says that he is sure that he has often obtained great assistance by ordering the patient a new suit of clothes, because the pocket gets contaminated with secretions from the nose by the foul handkerchief carried in it, so that septic infection is renewed and carried again and again to the nose, thus perpetuating the trouble.

4. Pneumococcal Peritonitis in Children.—Barling discusses the incidence, mode of infection, pathology, clinical features, diagnosis, prognosis, and treatment. Diagnosis is easy when a pneumococcal lesion is present elsewhere in the body,

but in many cases the first and sometimes the only symptoms are abdominal, and the onset is most likely to be confounded with an acute appendicitis, especially when the maximum tenderness, rigidity, and dullness become localized in the right iliac fossa. Diagnosis is sometimes impossible, but early and diffuse rigidity and tenderness are suspicious signs, and if these are accompanied by initial diarrhea there is a strong suspicion that the case is one of pneumococcal peritonitis. The condition is septichemic from the first. Incision and drainage, however early performed, fail to relieve many patients, and the mortality is high. Drainage of all collections of pus will aid the defensive powers of the body. Treatment with vaccines has not met with the expected success for two reasons; first, because the infection is so overwhelming sometimes that all resistance of the patient is paralyzed; second, because there are many strains of pneumococci, and immunizing against one of these may not protect against the other, so the use of a stock vaccine is unsatisfactory, while the production of an autogenous vaccine takes up much valuable time that can ill afford to be lost.

5. Intestinal Stasis in Children.—Ward says that under certain conditions intestinal stasis, exactly comparable to that found in adults, may occur in children; that such stasis has a profound bearing on the course of such diseases as tuberculous joint disease, rheumatoid arthritis, and ulcerative colitis; that intestinal stasis can be effectually cured by ileocolostomy; and that the cure of the stasis is followed by relief of the local and general symptoms.

8. Cardiac Systole and Arterial Tension.—Thorne makes these four points: 1. A high blood pressure is generally associated with a feeble cardiac systole, and as the latter is strengthened under treatment the blood pressure drops. 2. The power of the cardiac systole has no material effect upon the blood pressure. 3. The only important factors in the production of arterial tension are the contractility and elasticity of the arteries and capillaries, and any agent which produces a pathological contraction of the vessels, or a degenerative hardening and rigidity, will ultimately produce hypertension and cardiac failure. 4. A slowing of the cardiac action is not necessarily accompanied by a rise in arterial tension, but often by a fall.

JAHRBUCH FÜR KINDERHEILKUNDE.

April, 1912.

1. Hans Rietschel: Breast Milk Feeding during the First Weeks of Life.
2. Moltschanoff: Pirquet Reaction in Acute Infectious Diseases.
3. J. Vas: Development of Children with Congenital Lues.
4. Neumann: Subcutaneous Fat in Children.
5. Kassowitz: Rhachitis and Osteochondritis Rhachitica.

1. Early Breast Feeding.—Rietschel states that in general, infants should receive only five feedings in twenty-four hours (Czerny), but there are three classes of babies that should receive nourishment oftener: 1. Premature infants; 2, infants with severe gastrointestinal disturbances; 3, infants usually of primiparæ who nurse poorly, or where there is little milk in the breast. He discusses only the third class. Often infants do not gain sufficiently in the first few weeks of life if they have only five feedings. A normal infant should have regained its birth weight in about ten days. This weight is often not attained in ten days if the infant is nursed only five times in twenty-four hours. It is not possible to tell from the beginning how many feedings an infant should have daily during the first six to eight weeks of life. Some infants gain in weight in five feedings, while others need six, seven, and even eight feedings to show a sufficient gain in weight. Most bottle fed infants do well on five feedings daily, but if they do not take sufficient food in five feedings they should receive one or more feedings in addition. Very interesting weight curves accompany the paper.

2. Pirquet Reaction.—Moltschanoff says that the Pirquet reaction is absent in severe cachexia and in miliary tuberculosis. It is also absent, according to Pirquet, during the eruption period of measles, and appears again after the eruption has disappeared. Other observers have noticed that the reaction disappears during the course of several other infectious diseases, such as scarlet fever, croupous pneumonia, typhoid fever, and, at times, in diphtheria and erysipelas. Moltschanoff observed the course of the Pirquet reaction in a very large number of cases of measles, scarlet fever, and diphtheria, and came to the following conclusions: In 100 per cent. of cases of measles the Pirquet reaction disappears during the period of eruption and appears again after the eruption has faded. In eighty-five per cent. of cases of scarlet fever the Pirquet reaction disappears during the eruptive period, and in the remaining fifteen per cent. of cases the reaction becomes less intense. In only 12.5 per cent. of cases of diphtheria does the Pirquet reaction disappear, and in fifty per cent. of cases it becomes less intense. The former disease causes the reaction to become less intense while varicella and *Diplococcus anginæ* have no effect on the reaction.

Proceedings of Societies.

AMERICAN ACADEMY OF MEDICINE.

Annual Meeting, Held at Lehigh University, South Bethlehem, Pa., April 3 and 4, 1912.

The President, Dr. Alexander R. Craig, of Chicago, in the Chair.

The Conservation of School Children.—Mr. Andrew W. Edson, of New York, opened the meeting with the statement that feeble minded children who should be in attendance at the public schools were those who, while below par in mental acumen, were susceptible of intellectual growth. All others presented institutional cases. The right of the child to all the education he was capable of receiving carried with it the duty of the State to provide the training. The following suggestions were made regarding the care of subnormal children: 1. There should be a recognition of the conditions, and a search made for such children. 2. Suitable classrooms in regular school buildings should be secured. 3. The classes should be small to permit of individual training. 4. Specially qualified teachers should be selected. 5. The management should be kind and sympathetic. 6. The course of study should lead to some vocation. 7. The instruction should include physical and manual

training. 8. The skilled teacher and the skilled physician should work side by side. 9. If the school authorities did not, or could not undertake this work, an appeal should be made to people of means for aid to secure its doing.

Mr. J. H. Van Sickle, of Springfield, Mass., stated that State supervision over feeble minded boys should begin before the development of criminal tendencies. To prevent the marriage of feeble minded girls and shield them from temptations was an obvious duty and one which the State could perform more effectively and at less expense than the local community. For a number of years these boys and girls might be grouped in special classes and taught in public schools. In borderline cases several years might pass before it could be determined whether a child was feeble minded or merely backward; hence the value of the special class in the public school. Except in the exceedingly small number of instances where the feeble minded child had a good home, local communities could not safely retain feeble minded children beyond the age of adolescence. The public school could render its best service by teaching the feeble minded such elements of simple industry as would most nearly render them self supporting upon entering the custodial home. The special class in Springfield was limited to fourteen pupils. During the past six years thirteen pupils had gone from the class to the State institution at Waverly, sixteen had regained their places in the school grades, three had entered parochial schools, eleven had moved away, eighteen were regularly employed, and twenty-nine had had physical defects remedied.

Dr. E. Bosworth McCready, of Pittsburgh, pointed out that the solution of many, if not all, of the problems which confronted the sociologist of the present day depended upon the elimination of the defective classes from the competition of every day life. The question of the responsibility of the public school to the feeble minded child should be considered in relation: 1. To the child himself. 2. To his fellow pupils. 3. To society in general. In the special class the feeble minded child might progress up to a certain point, but not to the same extent as in a well conducted institution. The speaker would summarize as follows: 1. The public school was not the proper place for the education of the feeble minded child. 2. Careful examination should be made of all children when first entering school. 3. Those found to be feeble minded should be excluded and segregated in institutions. 4. Doubtful children and those backward in their development, after the correction of physical defects, faulty environment, etc., should receive the necessary training in special classes and be under the observation of physicians specially trained in this sort of work.

Dr. William G. Schauffler, of Lakewood, N. J., said that while he agreed with the readers of the papers upon the need of segregation of feeble minded children, the parents, in their own eyes at least, had just as much right to say what should be done with these children as had the physician or educator. Parents had rights whether they were ignorant or otherwise, and the State could not go into the home and say that a child was on the borderline and must go to an institution and—if they would go by what some had said—stay in an institution all their lives that they might not be a menace to the community. To his mind the first thing to do was to find out who these children were and then do the best they could under the circumstances. Their law in New Jersey required that children three years behind the normal must be provided for in special classes, not to exceed fifteen. The feeble minded, merely backward, and the physically disabled were looked after separately when found to have been more than three years in one grade. They had only one institution for the feeble minded in New Jersey and only one for the epileptic and these were overflowing all the time.

Miss Johnson, of New York, thought that until they could get proper institutions for these children they must do something for them in the schools. The social service side of the public school work was very valuable, just as it was in the hospitals. They should have paid social workers. The only way by which they could hope to place children where they belonged was to get the parents' good will. The social worker could do that when the teacher would fail.

Dr. L. L. Button, of Rochester, observed that a point to be considered was the great advantage to the normal child when his grade was relieved of the influence of the subnormal child. He thought there should be some official control of these children for their protection when they went out into the world. It seemed to him also that the time must come when if the State had to aid or correct in these cases because of the criminal acts of the child, it should have the right to interfere in the matter of segregation or asexualization for the benefit of the community at large.

Dr. M. P. E. Groszmann thought the discussion was being obscured by confounding the terms "feeble minded," "a degree of dulness," "a little subnormal," etc. He did not consider it a discourtesy on his part to call attention to a classification which he presented in 1909 at a meeting of the academy at Atlantic City. At that time the subject was well discussed, and they tried to agree upon a classification and onomatology upon which they could base their discussions.

Doctor Schauffler felt personally that they might go a step further and make it compulsory to report every case of feeble mindedness coming under observation. Legislatures should give the right to segregate these people who were the greatest social menace of the age to-day.

Dr. Z. L. Straw, of New Hampshire, asserted that the absolutely first step in any of this work was legislation; without compulsory medical inspection laws, no work could be done.

Doctor Edson, in closing, agreed that in regard to onomatology, that if in speaking of the mentally defective they meant those children incapable of intellectual advance, their place was not in the public school, and the school ought not to be burdened with them. He was speaking from the public school point of view. They had a dozen groups in their school outside of the normal. When a child was capable of improvement they felt that it was more likely to be able to make a livelihood later on if educated. That such a child became more of a menace than if it was ignorant, ought not to influ-

ence them. The child ought to receive as much education as he was capable of receiving and the moral element should be brought in. They had a number of children in their city not capable of improvement, and yet there was no place for them. They had taken them into the schools as a matter of charity. He thought the harm to normal children sometimes predicted was not so imminent as many would have them believe, provided the deficient children were in a room by themselves under close supervision and with the teacher in attendance upon their play.

Doctor McCready was very much in favor of the special class, but thought very strongly that the special class for the feeble minded was simply a compromise. Each feeble minded child should be examined as he came into the school and steps should be taken to segregate him.

Child Labor versus the Conservation of School Children.—Mr. Owen R. Lovejoy, of New York, considered that a system which took out of the public school at least twelve million children under sixteen years of age deserved the most careful attention of the educator. The Child Labor Committee had not had time to establish statistics proving that children should not work a twelve hour day, or a twelve hour night; that little boys should not bend for nine hours a day over the choking dust of anthracite in a coal breaker; or that a seven year old child should not work all winter in an oyster packing house on the Gulf coast, and all summer in a vegetable cannery in Maryland. To the physician, hospital manager, or health officer the problem should be equally intimate. He was confident that we must all take higher ground in relation to the care and training of children. We must apply the same scrutinizing attention to this human product that manufacturers and merchants were applying to specialized methods of securing business efficiency. He ventured to predict that we should recognize that the child was so truly an asset of the State, that during his entire period of minority the State would secure supervision of his care, physical training, and educational opportunities. The relation of parent to child would not be less than now, but greater. The service rendered would be larger and more significant. From the mere consideration of the wage earning value of education parents and children should be led to an appreciation of its service in citizenship and the higher requirements of life. The situation required more than we had yet demanded of our educators and health officers. We must insist that education and health were the paramount assets of our civilization.

Mr. Louis Nusbaum, of Philadelphia, thought they were all agreed upon the right of what Mr. Lovejoy had said, but what were we going to do when the mother of five or six children, the eldest of whom was thirteen, came to the school and stated that she could not let her oldest boy come to school because the father was sick with tuberculosis and that they were living in one room, the rent of which was paid by a charity organization? Was it fair that we let this generation suffer to improve the second?

Mr. Lovejoy doubted whether in the aggregate the percentage of those in such dire circumstances was very great. Laws had been passed pensioning mothers required to keep their children in school. Oklahoma had been the first State to start the pension system. It was the duty of society to see that the child had a chance without throwing the penalty on the poor parent.

Doctor Groszmann said that child labor was the result of economic conditions. There must be the constructive legislation as well as the forbidding legislation. If we were able to introduce into our country some of the constructive legislation enacted on the other side, we might obviate some of the difficulties presented.

Mr. Lovejoy, in closing, insisted that alcohol was a great cause of child labor. While the saloon and child labor might not always go hand in hand, in many sections women were left helpless and poor through the ravages of that curse.

Teaching Hygiene in Public Schools.—Dr. Seneca Egbert, of Philadelphia, speaking as a physician, thought that we should first have the pupils know their bodies as vital entities, and to realize that no one might reasonably hope for excellence in living, if either the spiritual, mental, or physical personality was neglected. The development suggested involved a working knowledge of human anatomy and physiology and the need of teachers competent to give such instruction who had a real enthusiasm for the subject. Instruction of the very young might be given by the inculcation of comparatively few and simple truths and by directing them to good examples for practice and imitation. A beginning might be made with the Nature studies, leading almost unconsciously to the proper apprehension of sex hygiene. Because of the large number leaving school at fourteen a course in hygiene including as many of its subdivisions as could be comprehended, should be made a part of the schedule for the grammar school. Such a course should appeal strongly to the pupil's personal consciousness and sense of self profit in the higher sense. For the high school he would enlarge the course until it involved an extensive scope of the general subject, and until the altruistic appreciation of it supplanted the egoistic and it was actually apprehended as being in truth, the science of public health. Every high school graduate should look upon health as the greatest personal asset next to moral character. A great need for the accomplishment of the work was competent teachers.

(To be continued.)

Letters to the Editor.

BACTERINS IN INFLAMMATION OF ALVEOLUS.

Chicago, Illinois, *May 15, 1912.*

To the Editor:

My attention was attracted by a little note on page 965 of your issue for May 4th, in which Dr. James P. Prestley, of Newton, Illinois, calls attention to the fact that there is a possibility of alveo-

litis being connected with certain infections of the eye.

In the case referred to certain teeth were removed, a more or less serious infection controlled, and "the infected conjunctivitis" is now rapidly recovering its normal condition after at least ten days' local treatment of no benefit.

It occurs to me that in such a case the use of bacterial vaccines—bacterins they should be called—would have been the most advisable procedure, for teeth are valuable and there is more than one way to control an infection of this character.

Suffice to say that the treatment both of conjunctivitis and pyorrhea is very possible with bacterins, and this subject has not received nearly the emphasis in medical literature that it deserves and will get in the future.

HENRY R. HARROWER, M. D.

ANOTHER EARLY BACTERIOLOGIST; WHO WAS HE?

TORONTO, *May 11, 1912.*

To the Editor:

In a little duodecimo volume printed in Paris, 1707, and entitled *La Cacomontade ou Histoire politique et philosophique de mal de Naples*, par Simon Nicolas Henri Linguet, are to be found several hits at medical men. Among them is the one cited below. Can you, or any of your readers, inform me who was that charlatan, who, so much in advance of his times, taught the microbic theory of disease (including *le mal de Naples*)?

WILLIAM RENWICK RIDDELL.

After giving (page 12) "the complete theory of the disease developed by one of its best historians . . . clear, concise, intelligible," the author proceeds: "Charlatans have sometimes taken the trouble, however, to give another theory. For example, a celebrated one appeared in Paris in 1727. He asserted that all human infirmities, including that we are now occupied with, are produced by little animals which introduce themselves into the blood. According to his system, what is called a remedy, is a mixture of other little animals, irreconcilable enemies of the former. These make a vigorous attack upon their adversaries.

Accordingly the body of a sick man is a field of battle; there prodigies of valor are performed. Fever leads there her light squadrons; cacomontade her coagulating infantry. Soon is seen arriving the Faculty, heavily armed, with battalions of quinquina or mercury. The Faculty deploy in succession the different corps of that redoubtable militia. The fight is long sustained with vigor, until the animalcules of quinquina conquer those of fever, or the corrosive mites are driven from the field by the metallic insects—unless, indeed, the field of battle itself overwhelmed by such terrible efforts sinks exhausted to the ground, swallowing up with it conquerors and conquered—and that is what generally happens.

If that idea is not true, it is at all events comforting.

But the gravity of the doctors has proscribed it. Annoyed at seeing themselves reduced by this theory to be nothing more than colonels of a regiment of rhubarb or senna, they have laid violent hands upon all these little armies which are given to them to lead. They have preferred to remain generals of certain blind corpuscles, rather than be commanders of legions, numerous and alive. They have preferred to leave to chance the restoration of harmony in the humors by the rule of material instruments rather than to bring these into good order by the use of troops, active and well disciplined. Is that not to prefer inaction to movement, death to life—just as the current reproach goes?"

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

The Treatment of Shortsight. By Professor Dr J. HIRSCHBERG, Geh. Med. Rat in Berlin. Translated by G. LINDSAY JOHNSON, M. D., F. R. C. S. With Twelve Illustrations. New York: Rebman Company, 1912. Pp. vii-123. (Price, $1.25.)

Anything from the pen of so distinguished an author as Professor Hirschberg naturally compels our attention. The present brochure is the embodiment of a lecture on myopia that was published a few years since in von Leyden's *German Clinic*. It embraces quite a comprehensive review of the literature of the subject, to which the author adds the results of his own vast experience.

Concerning the optical correction of myopia there is much in this little volume to arrest the attention of the American (or rather United States) ophthalmologist. Here are a few statements to which we feel the whole ophthalmic profession in this country would demur. For instance, "On the whole, the choice of the right spectacles for myopic persons is no simple affair." So far very good. But this is followed by the following extraordinary statement: "We cannot *leave it entirely to the opticians!*" (The italics and exclamation point are our own.) Heaven forefend any such practice in this country of ours! If there is one thing that we in our insistence on the carefullest refraction have demonstrated as a profession in this country, it is the preventive action of thorough refraction against the development of high myopia. The work of Norris, Oliver, de Schweinitz, Jackson, and especially Risley (not to speak of many others all over the United States) in this particular connection is too well known to need anything more than casual mention. The evidence abounds that the most painstaking search for every iota of astigmatism and the wearing of the fullest possible correction of the spherical error is the most nearly certain method of controlling the advance of the myopia.

In all that follows concerning the management of high myopia after it has developed, the author is characteristically thoroughgoing and beautifully clear in his statements. Especially is this true in the portion of the brochure devoted to the operative treatment of high myopia by removal of the crystalline lens. And yet it must be repeated, that if in Germany the ophthalmic profession believed in the doctrine of the prevention of high myopia by the most thoroughgoing refraction and the use of full or nearly full corrections in all young myopes, a very small proportion of such cases would go on to malignant high myopia, leading at times to operation.

On Gastroscopy. With a Description of a New, Easy, and Efficient Method of Œsophagogastroscopy, Combining Direct and Indirect Vision, and a Plea for Its Employment by Gastric Experts. By WILLIAM HILL, B. Sc., M. D. (Lond.), Surgeon for Diseases of the Throat, Nose, and Ear, St. Mary's Hospital, London, etc. With Forty-seven Illustrations. London: John Bale, Sons & Danielsson, Ltd., 1912. Pp. vii-45. (Price, 3s. 6d.)

The author is a specialist in diseases of the nose, throat, and ear, but the following quotation from his preface explains his interest in this work, apparently so remote from his own chosen field: "Although the study of gastric disease lies entirely outside my special line of practice, I feel no apology is needed for my having taken up more or less as a temporary hobby the solution of the problem of safe and efficient gastroscopy, for my not inconsiderable experience of direct and indirect endoscopic procedures in the throat and gullet peculiarly qualified me to extend, with modifications, the endoscopic method to the stomach. . . . The idea of combining direct and indirect vision gastroscopy as essential for efficiency and safety was first suggested by me in the correspondence columns of the *British Medical Journal* in November, 1909."

His ideas were originally put into practice by Doctor

Herschell, but the employment of that instrument on several patients, led him to modify it "by incorporating improvements, both in principle and design." He credits Kussmaul as being the first, with some measure of success, to employ direct vision endoscopic examination of the stomach *per vias naturales*. His patient was a "sword swallower," the interior of whose stomach he demonstrated to the Freiburg Society of Naturalists, by means of a straight, direct vision gastroscopic tube forty-seven cm. long and thirteen mm. in diameter. His report appeared in 1868. Nitze, of cystoscopic fame, was apparently the first, in 1879, to employ indirect or periscopic vision, though, despite Kussmaul's experience, Nitze asserted that a straight, rigid tube could not be passed. He constructed a flexible, jointed instrument, which, after blind insertion, could be subsequently straightened. In 1881, Mikulicz had a rigid, periscopic tube made, sixty-five cm. long and fourteen mm. in diameter, the distal third of which was bent at an angle of thirty degrees from the straight, supposed by him to be necessary on account of the projection of the lower dorsal vertebræ. This instrument has been again brought to the notice of the profession by some recent investigators, but so much danger is attached to its employment, several serious and at least one fatal accident being placed to its account, that it stands discredited.

The author then discusses the evolution of the more modern instruments, some with proximal, others with distal illumination, the attachment for inflation, and the technique of the method advised in using the special instrument elaborated by himself. The little book will prove of interest to those engaged in gastroenterological work, and may serve to arouse in them a keener interest in an instrument which promises much in the direction of earlier and more exact diagnosis, and in deciding in any given case whether operation is necessary or not.

Zahnärztliche Chirurgie. Von Prof. Dr. med. Fritz Williger, Direktor der chirurgischen Abteilung des königlichen zahnärztlichen Universitäts-Instituts zu Berlin. II vermehrte und verbesserte Auflage. Leitfäden der praktischen Medizin, Herausgegeben von Professor Dr. P H. Bockenheimer, Berlin, Band I. Leipzig: Dr. Werner Klinkhardt, 1911. Pp. 142.

It is always a satisfaction to see a second edition follow quickly a first one. In most cases it is a deserved testimonial to the author, that his labors have been well appreciated. So in the book before us, which gives a full account of dental surgery and is as such not only meant for the dentist but much more for the general practitioner and oral surgeon. Without bringing anything new it is a good review of the science of the dental oral branch of medicine.

Die Zuckerkrankheit (Diabetes) ihre Ursachen, Wesen und Bekämpfung. Gemeinverständlich dargestellt von Dr. med. A. Sopp, Spezialarzt für Magen-, Darm- und Zuckerkranke zu Frankfurt am Main. Würzburg: Curt Kabitzsch, 1912. Pp. 71.

In this small publication of some seventy pages, the author gives a concise review of the conditions relating to diabetes. Starting with a discussion of the underlying changes in the disease, there follow brief chapters on the causes of these changes and the various forms in which diabetes may present itself. The course, the possibility of cure, and the methods by which the disease may be warded off are briefly mentioned. The greater part of the monograph is given over to the treatment, mainly dietary in character, taking up in detail the general nutrition of the individual, giving the menu for breakfast, dinner and supper and extra meals. Various forms of food are also discussed at some length in this chapter. A few pages are devoted to the treatment by methods other than dietary. A page on surgical interference and several tables complete the book. These latter include a list, as recommended by von Noorden, of food that may be freely permitted. A second table gives the foods that may be permitted in limited amount, and is followed by a third, in which are given various forms of foods that correspond to twenty grammes of white bread and its contained percentage of carbohydrates. The fourth table consists of a list of the ordinary foods with the percentage content of albumin, fat, hydrocarbon, and calories to the 100 grammes. Substances allowed the diabetic are in heavy print. A good table of contents closes the article. Although not exhaustive, this little treatise is of distinct value in giving a clear résumé of the facts of the case. The tables contain much information, presented in a way that makes for ready reference.

NEW PUBLICATIONS.

Tubby, A. H.—Deformities of the Bones and Joints. A Textbook of Orthopedic Surgery. Second Edition. Illustrated by Seventy Plates and Over 1,600 Figures, of Which Nearly 400 are Original, and by Notes of Fifty-four Cases. In Two Volumes. Volume I: Congenital and Static Deformities, Injuries, and Diseases of Muscles, Tendons, Bursæ, and Fasciæ. Pp. xxi-883. Volume II: Diseases of the Bones and Joints, and Paralytic Deformities. Pp. xxiv-867. London: Macmillan & Co., 1912. (Price, $16.)

Jordan, Whitman H.—Principles of Human Nutrition. A Study in Practical Dietetics. New York: The Macmillan Company, 1912. Pp. xxi-450. (Price, $1.75.)

Transactions of the College of Physicians of Philadelphia. Third Series. Volume XXXIII. Philadelphia: Printed for the College, 1911. Pp. xcii-416.

Proceedings of the Eleventh Annual Conference of the Sanitary Officers of the State of New York. Held in New York on Wednesday, Thursday, and Friday, October 25, 26, and 27, 1911. Pp. 136.

Cheyne, Sir W. Watson, and Burchard, F. F.—A Manual of Surgical Treatment. New Edition. Entirely Revised and Largely Rewritten with the Assistance of T. P. Legg, M. S., F. R. C. S., and Arthur Edmunds, M. S., F. R. C. S. In Five Volumes. Volume II. The Treatment of Surgical Affections of the Skin and Subcutaneous Tissues, the Nails, the Lymphatic Glands and Vessels, the Muscles, the Tendons and Tendon Sheaths, the Nerves, the Veins, the Arteries, and the Bones; Amputations. Philadelphia and New York: Lea & Febiger, 1912. Pp. xxviii-570.

Lovett, Robert W.—Lateral Curvature of the Spine and Round Shoulders. Second Edition, Revised and Enlarged. With 171 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1912. Pp. xi-192. (Price, $1.75.)

Chapman, Mrs. Woodallen.—How Shall I Tell My Child? With a Foreword by Edward Bok, Editor of the Ladies' Home Journal. (The Edward Bok Books of Self Knowledge No. 1.) New York, Chicago, Toronto, London, and Edinburgh: Fleming H. Revell Company, 1912. Pp. 62. (Price, 25 cents.)

Bisseker, H.—When a Boy Becomes a Man. A Little Book for Boys. With a Foreword by Edward Bok, Editor of the Ladies' Home Journal. (The Edward Bok Books of Self Knowledge No. 2.) New York, Chicago, Toronto, London, and Edinburgh: Fleming H. Revell, 1912. Pp. 46. (Price, 25 cents.)

Brubaker, Albert P.—A Compend of Human Physiology. Especially Adapted for the Use of Medical Students. Thirteenth Edition, with Thirty-six Illustrations. Philadelphia: P. Blakiston's Son & Co., 1912. Pp. viii-248.

Larned, J. N.—The Life and Work of William Pryor Letchworth, Student and Minister of Public Benevolence. Boston and New York: Houghton Mifflin Company, 1912. Pp. viii-472. (Price, $2.)

Report Relating to the Registration of Births, Marriages, and Deaths in the Province of Ontario for the Year Ending December 31, 1910. Being the Forty-first Annual Report. Pp. 281.

Bulkley, L. Duncan.—Compendium of Diseases of the Skin. Based on an Analysis of Thirty Thousand Consecutive Cases. With a Therapeutic Formulary. Fifth Revised Edition of the *Manual of Diseases of the Skin.* New York: Paul Hoeber, 1912. Pp. xi-286. (Price, $2.)

Leichtenstern, Otto.—Influenza. Als zweite Auflage vervollständigt und neu herausgegeben durch Prof. Dr. Georg Sticker in Bonn. Mit dem Portrait weil. Prof. Leichtensterns, 7e, Abbildungen und 1 Tafel. Wien und Leipzig: Alfred Hölder, 1912. Pp. vi-250.

Klopstock, M. and Kovarsky, A.—A Manual of Clinical Chemistry, Microscopy, and Bacteriology. Only Authorized Translation from the Last German Edition. Thoroughly Revised and Enlarged. Illustrated with Forty-three Textual Figures and Sixteen Colored Plates. New York: Rebman Company, 1912. Pp. 371. (Price, $3.)

Ehrlich, Paul.—Abhandlungen uber Salvarsan. Gesammelt und mit einem Vorwort und Schlussbemerkungen herausgegeben. Band II. Mit 4 Tafeln und 29 Figuren im Text. Munchen: J. F. Lehmann, 1912. Pp. viii-669.

Von Frankl-Hochwart, L., von Noorden, C., und von Strümpell, A.—Die Erkrankungen des weiblichen Genitales in Beziehung zur inneren Medizin. I Band: Die Erkrankungen des Herz-Gefässapparates, des Harnapparates, des Respirationsapparates, der Knochen und Gelenke, des Blutes, des Stoffwechsels und der inneren Sekretion, des Intestinaltraktes. Mit 12 Abbildungen. Wien und Leipzig: Alfred Hölder, 1912. Pp. xvi-994.

Brosch, Anton.—Das subaquale Innenbad. Unter Mitwirkung von Dr. Otto von Aufschnaiter. Zweite, vermehrte Auflage. Mit 10 Abbildungen im Text. Leipzig und Wien; Franz Deuticke, 1912. Pp. iv-114.

Hansell, Howard F., and Reber, Wendell.—The Ocular Muscles. A Practical Handbook on the Muscular Anomalies of the Eye. With Three Plates and Eighty-two Other Illustrations. Second Edition, Rewritten and Enlarged. Philadelphia: P. Blakiston's Son & Co., 1912. Pp. viii-223. (Price, $2.50.)

Mosse, M., and Tugendreich, G.—Krankheit und soziale Lage. Bearbeitet von Prof. Dr. Alfr. Blaschko, Dr. W. Fischer, Schularzt Dr. M. Fürst, Dr. med. Ad. Gottstein, Prof. Dr. Felix Hirschfeld, et al. 1. Lieferung. München: J. F. Lehmann, 1912. Pp. 232.

Grashey, Rudolf.—Atlas typischer Röntgenbilder vom normalen Menschen, ausgewählt und erklärt nach chirurgisch-praktischen Gesichtspunkten, mit Berücksichtigung der Varietäten und Fehlerquellen, sowie der Aufnahmetechnik. Zweite, bedeutend erweiterte Auflage. Mit 207 Tafelbildern (Autotypien) in Originalgrösse und 201 Textabbildungen (Konturzeichnungen, Situationsskizzen u.a.). München: J. F. Lehman, 1912. Pp. xii-214.

New and Nonofficial Remedies, 1912. Containing Descriptions of the Articles Which Have Been Accepted by the Council on Pharmacy of the American Medical Association Prior to January 1, 1912. Chicago: American Medical Association, 1912. Pp. 298. (Price, Cloth, 50 cents; paper, 25 cents.)

Couch, Louis Bradford.—Our Country! Our Flag! National Anthem. New York: Harding's Music House, 1912. (Price, 12 cents.)

Salant, William, and Rieger, J. R.—The Toxicity of Caffeine. An Experimental Study on Different Species of Animals. Bureau of Chemistry Bulletin No. 148. Washington: Government Printing Office, 1912. Pp. 98.

Quarterly Report of the Bureau of Health for the Philippine Islands. Fourth Quarter, 1911. Pp. 45.

Meetings of Local Medical Societies.

MONDAY, *June 3d.*—German Medical Society of the City of New York; Brooklyn Hospital Club; Roswell Park Medical Club, Buffalo; Utica Medical Library Association; Hornell Medical and Surgical Association; Niagara Falls Academy of Medicine; Practitioners' Club, Newark, N. J.; Hartford, Conn., Medical Society.

TUESDAY, *June 4th.*—Clinical Society of the West Side German Dispensary and School for Clinical Medicine; Buffalo Academy of Medicine (Section in Surgery); Ogdensburgh Medical Association; Syracuse Academy of Medicine; Oswego Academy of Medicine; Amsterdam City Medical Society; Lockport Academy of Medicine; Hudson County, N. J., Medical Association (Jersey City); Bridgeport, Conn., Medical Association.

WEDNESDAY, *June 5th.*—Long Island Society of Anesthetists; Society of Alumni of Bellevue Hospital; Harlem Medical Association (annual); Elmira Academy of Medicine.

THURSDAY, *June 6th.*—Brooklyn Surgical Society; Practitioners' Club, Buffalo; Dansville Medical Association; Geneva Medical Society.

FRIDAY, *June 7th.*—Gynecological Society, Brooklyn; Manhattan Dermatological Society; Practitioners' Society of New York; Corning Medical Association.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending May 24, 1912:

CHOLERA—FOREIGN: *India,* March 24-May 30, 19 cases, 11 deaths; *Turkey* (Aleppo), April 14-20, 5 cases, 1 death.

YELLOW FEVER—FOREIGN: *Brazil,* March 16-April 27, 24 deaths; *Ecuador,* April 1-15, 38 cases, 17 deaths; *Venezuela* (La Guayra), April 16-30, 1 case, 1 death.

PLAGUE—INSULAR: *Philippine Islands* (Manila), April 6, 1 death.

PLAGUE—FOREIGN: *Brazil* (Pernambuco), March 16-April 15, 3 deaths; *Chile* (Iquique), April 7-20, 5 cases; *China* (Hongkong), March 24-April 13, 98 cases, 86 deaths; *Egypt,* Jan. 27-April 24, 71 cases, 40 deaths; (Cairo), April 22-25, 2 cases, 1 death; *Great Britain* (Liverpool), April 27-30, 1 death; *India,* April 7-13, 293 cases, 250 deaths; *Japan,* March 17-April 20, 40 cases, 33 deaths; *Java,* April 1-6, 4 cases, 4 deaths; *Mauritius,* March 1-14, 21 cases, 18 deaths; *Peru* (Salaverry), April 18-24, 1 case; *South Africa* (Durban), April 5-19, 3 cases, 3 deaths; *Trinidad,* April 1-25, 4 deaths.

SMALLPOX—UNITED STATES: *California,* March 1-31, 67 cases; April 1-30, 76 cases, 1 death; *Louisiana* (New Orleans), May 5-11, 6 cases; *Maine,* April 1-30, 69 cases, 3 deaths; *Michigan,* April 1-30, 46 cases; *Nebraska* (Lincoln), April 1-30, 4 cases; *Oregon,* Feb. 1-29, 86 cases, 1 death; March 1-31, 61 cases; *Virginia,* April 1-30, 94 cases.

SMALLPOX—INSULAR: *Philippine Islands* (Manila), April 1-9, 8 cases.

SMALLPOX—FOREIGN: *Brazil,* March 16-April 15, 104 cases; *Canada,* May 4-11, 13 cases; *China,* March 24-April 13, 82 cases, 48 deaths; *France* (Paris), April 21-27, 3 cases; *Germany* (Hamburg), April 21-27, 1 case; *India,* April 7-13, 375 cases, 53 deaths; *Italy,* April 14-May 4, 14 cases, 2 deaths; *Java,* April 1-6, 3 cases, 1 death; *Mexico,* Feb. 25-May 11, 3 cases, 6 deaths; *Roumania,* Feb. 1-29, 2,912 cases, 104 deaths; *Russia,* Feb. 25-April 28, 65 cases, 23 deaths; *South Africa* (Durban), April 1-6, 1 case; *Straits Settlements,* April 1-6, 2 cases, 2 deaths; *Switzerland,* March 30-April 13, 2 cases; *Turkey* (Constantinople), April 22-28, 16 deaths.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service, for the seven days ending May 22, 1912:

Ashford, F. A., passed Assistant Surgeon. Relieved from duty at Ellis Island, N. Y., and directed to proceed to Montreal, Can., for duty in the office of the Inspector of Immigration, in the medical examination of arriving aliens. **Bierman,** C. H., Pharmacist. Upon arrival of Pharmacist J. L. Osborn, relieved from duty at Baltimore, Md., and directed to report to the medical officer in command, Marine Hospital, Portland, Me., for duty and assignment to quarters. **Boggess,** J. S., Passed Assistant Surgeon. Directed to proceed to Kansas City, Mo., and other points along the Missouri River, to assist in the collection and study of data to determine the relation of the pollution of water supplies to the spread of typhoid fever in interstate traffic. **Cofer,** L. E., Assistant Surgeon General. Detailed to attend the Thirty-seventh Annual Meeting of the American Academy of Medicine, to be held at Atlantic City, N. J., May 31 and June 1, 1912, and to present a paper upon the Medical Examination of Arriving Aliens. **Ebert,** H. G., Passed Assistant Surgeon. Directed to report to the commanding officer of the Marine Hospital, San Francisco, Cal., for duty and assignment to quarters. **Cassaway,** J. M., Surgeon. Granted one month's leave of absence, on account of sickness, from May 16, 1912. **Hunt,** Reid, Professor of Pharmacology. Detailed to attend the meeting of the American Medical Association, to be held in Atlantic City, N. J., June 3 to 7, 1912, and to represent the Service in the Section in Pharmacology and Therapeutics. **Lumsden,** L. L., Passed Assistant Surgeon. Directed to deliver an address at a health conference and exhibit to be held in Chesterton, Md., on May 22, 1912. **Osborn,** J. L., Pharmacist. Relieved from duty at Fort Stanton, N. M., and directed to report to the medical officer in command, Marine Hospital, Baltimore, Md., for duty and assignment to quarters. **Schereschewsky,** J. W., Passed Assistant Surgeon. Directed to attend the meeting of the Infant Hygiene Conference at Phil-

adelphia, Pa., May 22, 1912, for the purpose of making an address on the subject of the prevention of summer diarrheas in children. **Stimpson,** W. C., Surgeon. Directed to proceed to Northfield, Vt., to advise precautionary and suppressive measures against smallpox in quarantine camp of Vermont militia. **Warner,** H. J., Assistant Surgeon. Directed to report to the commanding officer of the Revenue Cutter *Itasca,* for duty during the practice cruise of the cadets of the Revenue Cutter Service.

Boards Convened.

Board of medical officers convened to meet at the Bureau, upon the call of the chairman, for the purpose of grading the examination papers of Assistant Surgeons A. J. Lanza and Robert Olesen to determine their fitness for promotion to the grade of Passed Assistant Surgeon. Detail for the board: Assistant Surgeon General W. J. Pettus, chairman; Assistant Surgeon General L. E. Cofer, member; Passed Assistant Surgeon L. L. Lumsden, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending May 25, 1912:

Bartlett, C. J., Major, Medical Corps. Leave of absence extended ten days. **Bevans,** James L., Captain. In addition to his other duties, is designated as medical superintendent of transports at San Francisco, Cal., Vice-Captain Edwin W. Rich, Medical Corps, who is hereby relieved. **Church,** James R., Major, Medical Corps. Ordered to Concord, N. H., to confer with the Adjutant General of New Hampshire Militia, June 8, 1912; will then proceed to Camp of Instruction at Weare Center, N. H., to make annual inspection of the Sanitary Troops, New Hampshire Militia, June 10 to 15, 1912. **Davis,** William R., Captain, Medical Corps. Ordered to proceed to the camp of instruction for medical officers, New York Militia, Peekskill, N. Y., June 22 to 29, 1912, for duty as an instructor. **Dutcher,** B. H., Major, Medical Corps. Ordered to proceed to the camp of instruction for medical officers, New York Militia, Peekskill, N. Y., June 22 to 29, 1912, for duty as an instructor. **Hartnett,** E. H., Major, Medical Corps. Granted thirty days' leave of absence. **Hess,** L. T., Major, Medical Corps. Ordered to proceed to the camp of instruction for medical officers, New York Militia, Peekskill, N. Y., June 22 to 29, 1912, for duty as an instructor. **Huntington,** B. L., Lieutenant, Medical Corps. Ordered to Fort Casey, Wash., for temporary duty. **King,** Edgar, Captain, Medical Corps. Relieved from duty at Fort McDowell, Cal., and ordered to the Army Medical School, Washington, D. C., for special course of instruction. **Lloyd,** Samuel, First Lieutenant, Medical Reserve Corps. Ordered to active duty, May 29 to June 2, 1912, and to repair to Washington, D. C., for the purpose of delivering the address to the graduating class of the Army Medical School, May 31, 1912. **McKinney,** Garfield L., Captain, Medical Corps. Granted leave of absence for one month and fifteen days, effective about August 17, 1912. **Murray,** Alexander, Captain, Medical Corps. Relieved from duty at Fort Casey, Wash., and ordered to Fort McDowell, Del., for duty. **Phalen,** James M., Captain, Medical Corps. Ordered to proceed to the camp of instruction for medical officers, New York Militia, Peekskill, N. Y., June 22 to 29, 1912, for duty as an instructor. **Pinkston,** Omar W., Captain, Medical Corps. Granted seven days' leave of absence. **Russell,** F. F., Major, Medical Corps. Granted ten days' leave of absence. **Smith,** L. L., Captain, Medical Corps. Relieved from duty at the Army Medical School, Washington, D. C., and ordered to the Walter Reed General Hospital, Takoma Park, D. C., for duty. **Walker,** Thomas C., First Lieutenant, Medical Reserve Corps. Left Fort H. G. Wright, N. Y., on ten days' leave of absence. **Wertenbaker,** C. I., First Lieutenant, Medical Reserve Corps. Ordered to duty with the 16th Infantry from Alaska to the United States; upon completion of this duty, will comply with War Department orders in his case. **Weston,** Henry R., First Lieutenant, Medical Reserve Corps. Granted ten days' leave of absence. **Wild,** William F., First Lieutenant, Medical Reserve Corps. Relieved from duty at Army Medical School and will proceed to his home; upon arrival there will stand relieved from active duty in the Medical Reserve Corps.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending May 25, 1912:

Furlong, F. M., Surgeon. Detached from the Naval Hospital, Boston, Mass., and granted sick leave. **Grieve,** C. C., Passed Assistant Surgeon. Detached from the *Prairie* and ordered to the *Indiana* and the *Iowa.* **Pollard,** J. B., Assistant Surgeon. Detached from the Naval Recruiting Station, Des Moines, Iowa, and ordered to Washington, D. C., for examination for promotion. **Rennie,** W. H., Passed Assistant Surgeon. Detached from the *Tennessee,* and ordered to the *Prairie.* **Smith,** C. W., Assistant Surgeon. Detached from the Naval Hospital, Philadelphia, Pa., and ordered to Washington, D. C., for examination for promotion. **Stuart,** D. D. V., Assistant Surgeon. Ordered to the Naval Hospital, Philadelphia, Pa. **Thompson,** J. C., Surgeon. Detached from all present duty and ordered to the *Albatross.*

Births, Marriages, and Deaths.

Born.

Gorton.—In Brooklyn, N. Y., on Thursday, April 25th, to Dr. David Allyn Gorton and Mrs. Gorton, a son and a daughter.

Married

Klein—Martin.—In New York, on Wednesday, May 22d, Dr. Alvin Walter Klein, of Greenwich, Conn., and Miss Katherine Ambrose Martin. **MacDuffie—Diamond.**—In Albany, N. Y., on Wednesday, May 22d, Dr. Donald MacDuffie and Miss Beatrice Diamond. **McMahon—Casey.**—In Elmhurst, N. Y., on Wednesday, May 22d, Dr. Denis Edward McMahon and Miss Anna Lucille Casey. **Marcy—Cullom.**—In Peoria, Ill., on Tuesday, May 21st, Dr. Milton S. Marcy and Miss Leora Cullom. **Minner—Rogers.**—In Reading, Pa., on Thursday, May 16th, Dr. Edwin S. Minner and Miss Carrie C. N. Rogers. **Reineke—Baynes.**—In Dubuque, Iowa, on Wednesday, May 15th, Dr. Edward L. Reineke and Miss Dollie Baynes. **Robinson—Barth.**—In Lewistown, Pa., on Wednesday, May 15th, Dr. Charles Irwin Robinson and Miss Mary Edna Barth.

Died.

Asdale.—In Beaver Falls, Pa., on Sunday, May 19th, Dr. William Joseph Asdale, aged seventy years. **Bancroft.**—In Keokuk, Iowa, on Thursday, May 16th, Dr. Walton Bancroft, aged eighty-four years. **Belding.**—In Malone, N. Y., on Saturday, May 18th, Dr. Dexter R. Belding, aged sixty-six years. **Burdick.**—In Brooklyn, N. Y., on Sunday, May 19th, Dr. James T. Burdick, aged eighty years. **Calivia.**—In New York, on Thursday, May 23d, Dr. Francis Calivia, aged twenty-four years. **Elliott.**—In Los Angeles, Cal., on Tuesday, May 7th, Dr. Carroll Cleaveland Elliott. **Howard.**—In Irondale, Ala., on Thursday, May 16th, Dr. John W. Howard, aged fifty-three years. **Linden.**—In Cleveland, Ohio, on Thursday, May 16th, Dr. John Linden, aged sixty-five years. **Lyle.**—In Scio, Ohio, on Tuesday, May 14th, Dr. George W. Lyle, aged eighty years. **Ostrander.**—In Brooklyn, N. Y., on Wednesday, May 22d, Dr. John Wright Ostrander, aged sixty-eight years. **Overfield.**—In Elizabethtown, Pa., on Thursday, May 16th, Dr. Joseph W. Overfield, aged forty-nine years. **Rabe.**—In New York, on Tuesday, May 21st, Dr. Frederick E. Rabe, aged fifty-eight years. **Roberts.**—In Wellsburg, W. Va., on Friday, May 17th, Dr. Arthur A. Roberts, aged thirty-seven years. **Rowell.**—In Fresno, Cal., on Thursday, May 23d, Dr. Chester Rowell. **Weisel.**—In Williamsport, Pa., on Monday, May 20th, Dr. George Weisel, aged sixty-seven years. **Yorgey.**—In Pottstown, Pa., on Wednesday, May 22d, Dr. Lewis C. B. Yorgey, aged sixty-two years.

New York Medical Journal

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Lectures and Addresses.

THE BEST MEANS OF COMBATING INFANT MORTALITY.*

BY ABRAHAM JACOBI, M. D., LL. D.,
New York,
President of the American Medical Association.

My principal duty and intense pleasure is to tender my thanks to the House of Delegates which selected me for the highest honor in the gift of the medical profession of America, and to my colleagues of all the fifty States who were good enough to approve of its choice. Nor am I under less obligation for their attendance on this occasion to such citizens, men and women, as by their presence here exhibit their interest in things medical and sociopolitical.

My everlasting gratitude is due for the mode in which this great honor was conferred upon me. Being duty aware of the small measure of my merits, I was overjoyed to have reason to believe that I owed my election to my lack of efforts to secure it. My democratic training and the gentlemanly nature of thirty-five thousand members of the American Medical Association, like the principled citizens of all parties, resent electioneering importunities and abhor the humiliation and demoralization caused by gesticulating and shouting candidates for office and honor. I have the confidence that if there is in this or any other cultured assembly anybody looking for the highest office for the sake of power and preferment only, he will be deservedly disappointed. Whoever sets out to be the first, let him be the last. There is only one thing that is and must forever remain first—that is the medical profession of America, as represented in this American Medical Association, and its object, which in all its aims is only one and indivisible. That one and inseparable object is to promote the art and science of medicine, to unite into one compact organization the medical profession of the United States for the purpose of fostering the growth and the diffusion of medical knowledge, of promoting friendly intercourse among American physicians, of safeguarding the material interests of the medical profession, of elevating the standard of medical education, of securing the enactment and enforcement of just medical laws, of enlightening and directing public opinion in regard to the broad problems of hygiene, and of representing to the world the practical accomplishments of scientific medicine.

With all this, my professional friends are conversant. I want to impress it, however, on our guests, lay friends both present and absent, for I want them to understand from the very wording of the constitution of the American Medical Association that their interests and ours are closely related.

In order to be powerful and influential, you must not only be wise but numerous. In last year's official report you were told that it was not prudent to increase our number. In fact, you are 35,000, and the largest medical association of the world. But please remember that yours is also the largest country of the world. There are 100,000 medical men besides us, with the same rights to enter and the same duties to perform. We have been told that reasons of finance are amongst those which should restrict our number. I appeal to you and to those 100,000 outside. A big bank account appeals to our treasury, but glittering gold never saved a country nor a soul. If you have money, it is yours to spend as you have made it. See to it that your House of Delegates spends it in increasing and consolidating and strengthening your Association. Our colleagues in the vast country want to be invited: then they will come in. They must learn what we are, and where their interests are—and the interests of the public—from better sources than the hordes of irregular manufacturers and the "freedomers" whose bitter attacks convey what knowledge many millions are permitted to have, of the American Medical Association. Let the people understand the meaning of the American Medical Association and its doctors through our doings, and not through the scurrilous lies of our and the people's enemies. My hope is for an annual increase of thousands of members. Multiply and be fertile. Stand still awhile, and you invite decline.

It is by vast numbers only that our profession will ever attain its legitimate influence in politics and in society, and such beneficent power as Socrates, Descartes, Kant, and Gladstone claimed for it. The proclamation of a great principle may impress many philosophical minds, but its realization demands the labor of the enlightened democratic masses. That is why from this exalted position of mine I beg to contribute a share to the discussion of a subject which has enjoyed an important place in the best brains and the warmest hearts of our enlightened and philanthropic era. I allude to the great mortality of the infant, and the numerous efforts to combat it. You are acquainted with them all. Many fair results have been accomplished; to add to them, is my ambition. For infants must not be born merely to be sick or to die.

*President's address, delivered at the Sixty-third Annual Session of the American Medical Association, held at Atlantic City, June, 1912.

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The Committee for the Reduction of Infant Mortality of the New York Milk Committee has made an arrangement with the Russell Sage Foundation which will furnish nurses who will look after a thousand pregnant women, with a view to enable them to bear infants with improved resistance. The mother will be provided for in case she is overworked. Which one of the poor is not overworked?

According to the Milk Committee, and other authorities, seventeen per cent. of infant deaths are caused by congenital troubles. One third of all of them occur before the first month has passed. Two great remedies are recommended. One is that no midwife be allowed to handle any of these cases; the other is that after confinement rest be provided for the mothers, and that the children be referred to milk stations. There is no worthier organization than that committee. What it sets out to do, it performs. It cannot help being restricted to charity so long as one half of us is condemned to ask and take it, and the other obliged to give and teach. The latter is probably the most valuable performance of the committee. As its activities, like those of its kind all over the country, are meant to be thoroughly altruistic, it is entitled both to praise and to criticism. I hope it will appreciate the former and make use of the latter.

Look at that programme: First, no midwife for any of the thousand mothers. You ask, "but who?" Second, the milk station for the child because the charitable people want rest provided for the mothers, *at the expense of the babies.* If that is a good programme for one thousand women and one thousand babies, if that is the best that can be invented or discovered for the one thousand lucky enough to fall into the hands of charity, what is to be done with or for or against those thousands beyond the reach of the Sage Foundation. But you suggest, these one thousand mothers and babies are to serve as object lessons only, to be imitated by the millions. The least, then, we must hope and work for, is that the thousands of women to be confined and the thousands of babies to be born now and in the future, should participate in the same benefaction which is promised a few. The universal object is to save and raise babies. My programme is different, inasmuch as it suggests additions and changes.

If seventeen per cent. of infant deaths are caused by congenital trouble, study these congenital troubles and obviate them. The baby's life and pathology begin nine months before its birth.

If one third occur in the first month, study and combat that first month and the indications arriving during and after labor.

Your dealings are not with children but with infants; not with infants only but with the newborn that is just terminating its embryonal and fetal evolution and expects to be treated like a newly born human animal and not like a calf.

No midwife is to handle the case; indeed no midwife *will* handle any of your cases, for you have none, with rare exceptions. It is proper attendance, however, which society owes to the woman and the newborn, as a duty to them and to itself. They are valuable assets, both of them. Unless *that* be granted, no discussion is competent.

In one of the programmes to relieve the coming child and the struggling mother, I read the demands of absolute rest for at least four weeks before and from six to eight weeks after confinement; nursing and feedings, both gratuitous when required; and hospitals for the illegitimate and—when needed—the legitimate confinements.

By the Milk Committee, satisfactory *rest* is wanted for the mother. That means that she did not have it in time, before or after the baby came. If rest means a long rest in bed, and milk station and no breast feeding, you deprive her of her most important woman's privilege and office in life after child bearing, and of the facility of getting well radically and physiologically. For without nursing the breast is liable to become atrophic and the uterus subinvolved. And the infant? Well, the infant, to give "rest" to the mother, is deposited on the altar of a milk station.

I shall be as brief as possible, for I do not believe that the speaker should have all the fun at the expense of his audience. On the other hand, I want to say my own things in my own way—perhaps taught by Jonathan Swift, who preferred to express his opinions "for the amelioration of his hearers, more than for their entertainment."

What the *world* wants is healthy babies. What the *baby* wants is full health and weight; that means a competent mother, sufficiently fed to have a quiet night, free from excessive labor through the day, exempt from a local, curable disease that may interfere with the development of the child within her or undermine her well being, her nursing qualities, and future pelvic and general health. What the *mother* wants is what she has a right to expect, as a reward for the service she renders to mankind in the shape of a healthy child; a place as healthy as the best hospital without disrupting the family. Modern society is built up on the family, the crude teachings of anarchical and a few early socialistic doctrines notwithstanding. No woman will consent to being taken to a hospital unless desperate need compels her to go. To tell a woman she may die unless she go is a cruel sentence. Society is beginning to appreciate that it owes human beings a human dwelling place, with air enough to breathe in. If you build houses unfit to breathe in, you steal air which is common property. What society wants is men and women citizens. But in order to be able to rely on their cooperative functions, it must see to it that in its book of ethics the term of charity is supplanted by responsibility. It is useless to call that socialism or communism. It is the substratum of every religion and every humanistic philosophy. I like to avoid the term socialism and its alleged dangers, but only by abolishing the social causes engendering them.

Poets have told mankind that once, in the best olden times, the world was a garden, and they want it to become so again; statesmen—not politicians—have exerted themselves to disseminate prosperity and affluence; great physicians have looked for means to ward off disease and prolong an enjoyable life; jurists have endeavored to make the globe habitable by locking up or killing criminals, or the hopeless and dangerous insane. They all deal with those who are alive and, justly or wrongly, in pos-

session of the surface of the earth. We are expected to deal with the present only, and to fight the evils which seem to be uncontrollable now and in the near future. Is there no way to prevent those who are born into this world from becoming sickly both physically and mentally? It seems almost impossible as long as the riches provided by this world are accessible to a part of the living only. The resources for prevention or cure are inaccessible to many—sometimes even to a majority. That is why it has become an indispensable suggestion that only a certain number of babies should be born into the world. As long as not infrequently even the well to do limit the number of their offspring, the advice to the poor—or those to whom the raising of a large family is worse than merely difficult—to limit the number of children, even the healthy ones, is perhaps more than merely excusable.

I often learn that an American family has had ten children, but only three or four survived. Before the dead ones succumbed they were a source of expense, poverty, and morbidity to the few survivors. For the interest of the latter and the health of the community at large, they had better not have been born.

Theoretically and practically the addition of unhealthy, sickly, sick, and contagious children is a misfortune to the newcomer, to his parents, and to society. Therefore a clean bill of health should precede matrimony. The clergymen who refuse to marry couples without it are good citizens, and the health departments are bound to see to it that contagious diseases, mainly sexual diseases, should be reported, watched, and cured. Nor is this all: Hereditary influences propagate epilepsy, idiocy, cretinism. Such persons must not be permitted to propagate their ailments.

Now we build asylums for the diseased, neuropathics, and drunkards; nurseries and schools for epileptics, cretins, and idiots; sanatoria for incipient tuberculosis, and refuges—still too few—for the dying consumptives, withal conscious of the fact that our only hope of finally exterminating tuberculosis lies in the perfect but comfortable isolation of hopelessly advanced cases. Surely we try to cure and to prevent. Do we not begin at the wrong end? Consumptives and epileptics and semiidiots are permitted to propagate their own curse, both what is called legitimately and illegitimately. Human society should have pity on itself and its future. The propagation of the degenerate and imbecile and criminal should be prevented. We have no positive laws yet for the syphilitic and gonorrheic who ruin a woman's life, deteriorate her offspring—if she has any—and impair the human race. We have come to this, that half of us are obliged to watch and nurse, and support the other half, many of whom should never have been born. In morals and in money, the degenerate are an expensive detriment. The only protection for the nation, for mankind, is to assure a healthy, uncontaminated progeny. Strict laws are required to accomplish that; such laws as will be hated by the epileptic, the consumptive, the syphilitic, and the vicious. No law ever suited the degenerates against whom it was passed, and it is unfortunate that while disease and incompetency and vice are to a high degree hereditary and contagious, moral health and virtue are not so to the same degree. Now those for whom the responsibility of the state does not exist are exactly those who are most entitled to it—the newly born.

Altogether, babies have a strenuous time of it, not only after birth. Heredity, degeneracy, or incompetency is often caused by social influences. Financial temptations or necessity make women select not the strong and healthy men, but the old and rich. Their children are having less and less vigorous offspring. Rich and profligate boys spend their sexual powers on prostitutes and save little for possible babies. The lack of children in American families is not always due to voluntary abstinence. Thus the future of the American population has to rely on the offspring of the immigrants, and the American type of the next century will not be much influenced by those whose ancestors came on the Mayflower. Modern industry reduces the vigor and vitality of men, and woman and child labor exhausts the mothers and fathers of the future and present generations. Thousands of men are prevented from contracting a marriage by pecuniary want and the impossibility of satisfying their sexual hunger except with prostitutes. That is true not only with regard to factory hands, clerks, and employees generally, but to the picked men of the people. Army and navy, the millions of soldiers and marines of all the nations of the globe, whom we are told by our self styled leaders to imitate, withdraw the vigorous men from natural modes of living and labor and propagation, and prevent them from marrying in time; and wars, the cynosures of our coarse politicians who take the place that should be filled by statesmen, kill and cripple and deteriorate the best muscle of the land and tempt them into perdition. Only the "weaklings" are left—and their offspring! It is sad to contemplate the short sightedness of our loud mouthed leaders and their heelers.

The history of the newborn is pictured on their bodies. Pinard weighed numerous newly born babies. Those born in poverty were ten per cent. less in weight than the others. Many were premature, their mothers injured and sick afterward, and without milk. Of that class, from three to four times as many die when at home as when in a well regulated and well fed hospital. Their subinvolved uteri and parametritides are very common occurrences and are the sources of lifelong invalidism and treatment. Those few are fortunate who need not complain like the woman healed by Jesus, who had suffered all her life from her illness and from the physicians. Those are not so fortunate who are treated according to the last magazines' academic discussions demanding an early day for getting up. A woman of the million, permitted or ordered out of bed to work, is the pivot of her poor household or her small farm or shop, or the live part of her lifeless factory machine. She is not like one of your first class paying hospital patients with appendicitis who may be ordered out of bed for half an hour or a few hours daily, and will not be harmed thereby. She will continue to convalesce when she returns home. But the woman of the middle class or the poor who is told or permitted to rise early from an appendicular wound, a uterine wound, or after confinement will add to her endometritis, her phlegmon, and her ad-

hesions. All that is why even apparently simple questions of medicine will never be answered without the consideration of social questions, and medicine must more and more become the guide in the solving of social problems.

A decided physical inferiority at birth is a common occurrence. Ballantyne experienced in the Fulham Infirmary as high a percentage as 21.9. They are called unfit, when born of overworked, underfed, and neglected women. Their number is much smaller and very trifling when their mothers, when poor, are looked after long before the uterine life is terminated or when circumstances, financial or sanitary, are more favorable.

Many premature, feeble, thin babies of unpromising weight may be saved when there is ample care, such as a midwife will more readily give than a doctor. If that is absent, the baby's life is endangered. Is salvation worth while? Who can tell, unless you try? Kant, Goethe, Helmholtz were puny waifs, whose lives were despaired of. But they have furnished elements of culture to the world of which we might have been deprived if they had been without the midwife's care and close attention. Licetus is said to have been 5½ inches long when born; he died when eighty years old. He wrote eighty books, not many of them poor. That is an achievement, though not always pardonable, or even laudable. There are more men eighty years old, but they are not all guilty of writing eighty books.

Hard labor up to confinement interferes with the life or the health of the fetus and newborn. The least that can be done for the mother is a reduction of working hours during pregnancy, and protracted rest after confinement. The women's worst occupation is that with metals, mainly lead. Among these the percentage of premature births and miscarriages was 53.6; while those with other work furnished another sufficiently formidable number, viz., 17.2. Lead, mercury, phosphorus, copper, iodine, aniline, and nicotine have been found in the amniotic liquor and in the fetal organism.[1] The indication is clear; less work, less hours, no directly unsanitary occupation, several months' absolute rest after confinement. The living result will be hardier and heavier and more resistant babies.[2]

When the baby is born, it wants many things; among others air and food, mostly food. Maternal milk is the only safe nutriment for the little stranger. Its quality is not much influenced by emotions, cares, worries; occasionally, only, by medicines taken by the mother, or rarely by her average food. Its quality is only temporarily altered by menstruation, and never causes a change that justifies the interposition of artificial feeding. The daily quantity is rarely less than a quart. Maternal affection, the wish to nurse, the act of suckling increases the quantity. There is no such thing as absolute absence of milk secretion. Essential alterations in the articles consumed by the nursing woman are not demanded. As her appetite is mostly increased, she is entitled to so much more than her average consumption as is required by the one or two pounds needed by her baby. She may eat and drink what she digests and was used to; she may perform her duties, attend to her labors—even some factory work—and fill her time as her station in life suggests. There is no reason why she should not spend time in shopping, concerts, theatres, lectures and parties, except the dog parties reminding you of 1790—even suffrage parades—provided she will not forget that she has a baby at home to welcome and feed. The checking of babies, with or without baby carriages, by department stores, is a convenient innovation, which improves the chances of babies, women, and merchants alike. Elections are no longer so exciting, dangerous, or murderous as they were in our large cities as late as twenty or thirty years ago—so there is no objection to woman suffrage, whether it be considered a plaything, a civic duty, or a disease. Even so, there is no danger, for infectious diseases in the mother are no contraindication to nursing, unless it be a smallpox case in an antivaccinationist; for not injurious bacteria but beneficent antibodies pass into the milk and improve the baby's power of resistance. All of these considerations prove the dangerous tendency of those of our colleagues who in their mistaken subserviency to the ignorant suggestions of fashionable and lazy ladyships fall in with their and the dairymen's teaching that cows are their proper God sent substitutes. Those accommodating friends of ours are, through short sighted complacency, enemies of the race.

The mother's milk has certain protective properties not possessed by any artificial food or the milk of another animal. Experiments have proved that the latter may propagate the artificial immunity toward certain vegetable poisons—the ricin and abrin; and a wetnurse may immunize her nursling by being herself immunized through diphtheria antitoxine. So the mother who ever was thoroughly infected with scarlatina or measles will, at least for the time she is nursing her baby, protect the latter against those infections.[3] The infected milk of an animal will not have that effect; immunity is secured only by the milk of the same—that is, the human animal—which proves that we are superior to our animal brethren and sisters; unfortunately, only so long as we are young. Many of us when we lose our infancy lose our superiority.

The attentive doctor and the diligent midwife know that our women, poor and rich, suffer from no organic mammary degeneration. Large and small breasts can be educated into competent milkers. They can be roused into action after days and weeks of comparative inactivity, and into renewed efficiency after a recess of one or more weeks. It is quite well known, what I alluded to, that the very sucking of the baby is the best educator of the breast. That is why for the hundreds of thousands of mothers, the doctor should be the oracle; the midwife of the people, with her future education and her diligence, the trainer. Both should remember, or rather, learn, that a better milk supply is guaranteed by not improperly and untimely straining the breasts' function. You do not milk a cow every two hours. A healthy newly born baby should never have the breast more than once every three hours; after the third month, he must

[1] Bluhm: In *Weyl's Manual of Hygiene*, viii.
[2] Fürth, Henrietta: *Die Mutterschutz-Versicherung*, 1911.
[3] Fifty years ago I could refer only to anatomical reasons which secured the very young against diphtheria.

get along with five meals in twenty-four hours, and will turn out a baby worth having.

Milk contains substances organic chemistry never discovered or measured. They are the ferments which circulate in the blood. Some aid in the digestion of albumin; others, of fat and starch. Besides, there are defenders in it of the circulating blood; the alexins (Hans Buchner) destroy bacteria; agglutinins immobilize bacteria by bunching them; antitoxines formed in the infected vigorous animal destroy the poisonous toxines of the bacteria. When they are not sufficient—for instance, in bad cases of diphtheria—we inject antitoxines formed in the blood serum of another animal—for instance, of horses. Any mother that ever had a mild or bad case of diphtheria—or, for that matter, certain other infectious blood diseases—accumulates some antitoxines in her blood and tissues and in her future milk, and thus protects both her milk and her nursling. It is possible that so long as the infant is at the breast it is for that very reason less liable to take diphtheria. The fact is that few babies of the first half year become diphtheritic. That is the period of nursing at its mother's breast—its mother's or another human female's, not, however, that of another animal. It is not chemistry alone, but also biology, which distinguishes the milk of their organic producers. Old Doctor Heim was told by a so called "noble" mother: "I keep an ass for my baby. Ass's milk is as good for my baby as my own would be, is it not?" "Yes, yes," said the old man, "just as good for young asses."

In Berlin half of the babies were breast fed in 1890; in 1900, only one third of them. At the same time, another German town, Barmen, nursed four fifths of its babies,—during one year, 99 per cent. Of 575 starving and neglected women in a Berlin institution, 83.3 per cent. could nurse their infants; why? they were better fed than before, and gave up only when the Moloch of industry reclaimed them as victims. After these poor babies had enjoyed the privileges of some of the rich—viz., health and life—they were sacrificed again on the altar of antisocial circumstances. For during the first year of life, of 1,000 breast fed babies seventy have died; of the artificially fed, 270 up to 430. They have been counted by the statisticians, by the parents, and by the undertakers.

The mortality of babies below one year has been found—not estimated—to be, for the exclusively breast fed, 6.98 per cent.; for those brought up on a mixture of breast milk and artificial food, 9.87; for those fed artificially, 19.75. That means that somebody or something is to be held responsible for the deaths of thirteen babies out of a hundred who should live in good health and with good prospects. Babies turned over to milk stations, because their mothers are told to "rest" may easily belong to that class. It is true, not every baby can be nursed, but the exceptions are scarce. One was born of a mother who died of sepsis carried in part by a dirty midwife or by an infected or ignorant doctor. That is true, statistically, even now that other doctors boast of their asepsis. My own past life does not class me among those others. So I may plead guilty, and no one has a right to blame me for exaggerations. I am, or have been, in the same boat with some of you. Of the five hundred tracheotomies I performed before the Listerian era, of a thousand I assisted in, of thousands of scarlatina, measles, erysipelas during epidemics, and even hospital gangrene during war times—too many occurred while soap and water existed without being used at the proper time and in the proper places. We did not know better, but you do. Every case of death of sepsis in the mother should burn hell into the conscience of whoever permits it nowadays; every case of death from lack of breast milk should cause a trial for homicide against a doctor or midwife or mother. For the latter, it is true, there are, if not excuses, many explanations. Some mothers must get up after three days to do washing and scrubbing, and do it without a sufficient quantity of food—starving women make no milk—must make a scanty living in the factory, or in a small business; others go to afternoon teas and bridge parties, or have been taught by their fashionable doctors who agree with them in their suggestions that modern science has proved that a woman's udder may be replaced by a cow's bosom, that a milk laboratory's clerk will furnish printed schedules for the modification or alteration or substitution of food adapted for every month of an orderly Fifth Avenue infant.

But after all, truth will crop out. There is rarely a woman who cannot nurse her infant.

Ignorance can be learned from and taught by doctors, by midwives, by nurses, but ripe wisdom also. As half of our babies, in all countries, are born under the supervision of midwives, it is these who, when their education will no longer be so hopelessly neglected as in our country, in their more intimate contact with the people, can exert the widest influence. They will best overcome the prejudice which derives from the well clad people the notion that breast feeding is no longer fashionable; they will prepare the nipples, teach cleanliness and antisepsis such as they have been taught in the schools of the—I hope—near future. Edith Peiper reports an increase within five years of from 55.7 to 72.5 per cent. of women who gave exclusively breast milk to their babies in a public institution.

In a large midwifery school of Germany (Stuttgart), the percentage of women who nursed their babies increased from year to year under proper treatment and teaching. Of one hundred women, only from twenty-two to twenty-five per cent. gave their babies breast milk to the exclusion of other foods before 1884. Exclusive breast milk feeding was furnished by 41.1 per cent. in 1884; 61.4 in 1887; 84.3 in 1888; 100, in 1902; 99.5 in 1903. All of these women were poor or in very moderate circumstances, but they were looked after and fed before confinement and after. It takes missionary work to accomplish results of that nature.

In our country, it is calves that are looked after by our government. The babies have no votes yet. They will wait.

I must give you a few more figures, though I may bore you. But I have more sympathy with the world's babies than even with you. I want every incredulous Thomas to leave this place convinced that every baby has not only the right to suck a mother, but also the facility.

Dietrichs reports the mortality statistics of 628 infants of the poorest married women of Cologne. Of 100 children born alive, three of those who were nursed for nine months or more, died before the end of their first year; of those nursed from three to nine months, twelve; less than three months, thirty-five; of those who were fed artificially, forty-seven. Forty-seven dead out of 100 born alive in one year.

Perhaps a report by Prinzing is equally convincing in connection with the mortality of other than intestinal diseases. During the years 1895 and 1896, the mortality of Berlin babies under one year, when breast fed, was 7.09; when fed artificially, 38.6. Of 1,000 babies, congenital debility killed fourteen of the breast fed, 43.6 of those raised artificially. Of 1,000 babies:

	Breast fed.	Artificially fed.
Gastroenteritis ..... killed	12.2	171.0
Atrophy and marasmus ..... killed	2.0	24.0
Convulsions ..... killed	11.16	42.0
Bronchitis and pneumonia ..... killed	5.6	39.6
Pertussis and diphtheria ..... killed	8.3	19.3
Other diseases ..... killed	17.2	46.4

The illegitimate infants fared much better than the legitimate ones. That sounds paradoxical, but the former, when controlled by the authorities, were obliged to nurse their babies; the latter were the babies of the mothers who returned to domestic and factory work, and were exposed to neglect and early and improper artificial feeding, mostly by strangers. Among living infants of the second year, the proportion is reversed, for obvious reasons. The lessons to be derived from these facts are intelligible. A social improvement of the mothers, but that only, will add to the chances of the infant population.

Boek found that of infants who died of intestinal diseases, 61.4 per cent. were fed on flours; 24.3 per cent. on cow's milk; 15.8 per cent. on a mixture of breast milk and cow's milk, and 1.4 per cent. on breast milk.

During the siege of Paris (1870-71) the women were compelled to nurse their own babes, on account of the absence of cow's milk. Infant mortality under a year fell from 33 to 7 per cent. During the cotton crisis of 1860 there was a famine. Men and women starved, and on account of no money for artificial food, the women nursed their babies. One half of their mortality disappeared. In the poor forest districts of the Westerwald the bottle fed babies had a mortality of twenty per cent.; the breast fed babies, one of eight per cent.

In the *Berliner klinische Wochenschrift* (No. 28, 1911), Professor Franz publishes the report of the gynecological divisions of the Charité. One hundred per cent. of his puerperal women nursed their babies. Dr. Kahn accomplished mostly the same results.

It is true that private practice does not reach the same number. Among the well to do, with better surroundings, better food, more rest, but greater indolence, less sense of responsibility, more money to throw away and more accommodating doctors to amuse them, and with more money with which to buy inferior food, the percentage of nursing women is smaller. Their daughters will know better, provided the doctors—we and our successors—will teach them.

G. Dufort reports on conditions prevalent in four districts of Belgium. Women objected to nursing, with a mortality of from 153 to 252 per mille, in the first year. Then the government and a private organization took measures to improve the percentage of breast feeding women. Not all governments mix up with such things. Some are not on the job, some are on the slump. This percentage increased in certain localities where it was lowest, within two years, from 4.3 per cent. to 17.02. That increase was due to the midwives who were taught by premiums, by the practitioners and by clergymen. You see doctors and priests are still good for something. In other districts the percentage of breast feeding was 56.6 per cent. in 1907; in the first half of 1908, 57.1 per cent.; in the second half of 1909, it was 74.12 per cent. That means an increase obtained by the country midwives in two years of 17.6 per cent. More, there were midwives who could report 94.9 per cent. in the first half of 1908, and at the end of 1909, 100 per cent.

The same midwives made it their business to extend the duration of breast feeding. In 1907, there were fifty-seven babies who did not receive the breast through their first half year exclusively; this number was reduced to forty-eight at the end of 1909. Of these infants who were kept at the breast exclusively through six months, 64.7 per cent. extended this time to nine months; 75.4 per cent. in 1909. The author again and again refers to the powerful influence the midwives—after having been instructed—exerted among the population—the women and the babies.[4]

What, after all, is a midwife, whose presence at or attendance on a confinement case must be shunned? An editorial of the *Boston Medical and Surgical Journal*,[5] that cautious and elegant magazine, gives the following definition:

> The midwife may be defined as a person attempting to practise obstetrics without complete or even adequate medical education. The tolerance of such persons is an anomaly in an enlightened civilization. The midwife is a relic of medievalism, unhappily extant in the Old World, but whose persistence in our own community should not be encouraged by any form of recognition.

Meanwhile, Holland, Belgium, France, Italy, require a two years' course of schooling for their midwives; Norway, Sweden, and Denmark, one year. Germany has had its midwifery schools for more than a century. Many countries subsidize their midwives, who live and practise in sparsely settled districts. Great Britain[6] established in 1902 its Central Midwives Board, to supervise and control midwives for the specified purpose of preventing the death of women in childbirth, infant mortality, blindness, and physical degeneration.

There are in England and Wales 17,790 trained and untrained midwives—too many yet of the latter class. The British Empire's 108 midwifery schools

[4] Dr. A. Balestre and Dr. M. d'Oelsnitz (Bericht über den III internationalen Congress für Säuglingsfürsorge, Berlin, September 11-15, 1911, p. 789) express their satisfaction with the results of the Infant Protective Society of Nice, which was founded twenty-five years previously, mainly for the encouragement of maternal breast feeding.

[5] February 23, 1911.

[6] *British Medical Journal*, December 17, 1910.

—including four in the East Indies and one in Hong Kong—have not yet afforded sufficient facilities. But the *British Medical Journal* emphasizes the fact that even in the old type of midwives there is a great improvement in cleanliness and obedience to rules, one of which is the calling in of medical aid in cases with a purulent discharge.

And we? Fifty per cent. of all the births in the United States are attended by nonmedical women—in New York, forty-two; Buffalo, fifty; St. Louis, seventy-five; Chicago, eighty-six. The patients so attended are negroes, aliens, and natives born of aliens; that means one half of our population; that means those who during the disappearance—voluntary, wanton, or not—of the original stock and by additional immigration and multiplication will form what within two generations will be the type of the two hundred millions of Americans then living. And where are our midwives? Where are the 108 schools which little Great Britain deems—on account of their scant number—insufficient for her urgent needs? Where are the American safeguards of our fetuses and newborn? When our experienced and far seeing president of Bellevue and Allied Hospitals established a small school of midwifery, he was applauded for his exceptional foresight and altruism. We think nowadays that the ocean is only a short bridge; but the experiences of Europe, established on a solid and constant foundation, do not travel on it. That is the way of indolence by which we negligently murder our forests, lay dry our river beds, cause our freshets, and kill or cripple our newborn. I wonder in which other country we could be expected to accept what I lately read, that people cannot receive obstetrical service under the midwife, "no matter how well trained for her vocation;"—I ask why not?—or agree with a well meaning author who sympathetically cries out: "Professors are teaching midwives, so medical students are deprived of their professors' time;" or throw up our hands when Stokel tells us that it is "a curious fact that even among people of refinement the older and dirtier the midwife, the greater seemed the confidence placed in her ability and judgment." That is as sound, perhaps, as when the great English opsonin scientist publicly arraigns habitual bathing for its dangerous effect in admitting microbes through the clean skin—a desirable bedfellow he!—or when Knott[7] tells us of "Lady Lawson, who died at the age of 116, never practised ablution of any kind, or hardly in any degree, because, as she alleged, those persons who washed themselves were always taking cold or laying the foundation of some dreadful disorder," or the occasional preference given to an old doctor not though but because he is habitually intoxicated. There is still another line of mistaken altruism: Fenwick fears lest a midwife, scantily trained, compete with a physician. I should say, if she succeeds, it serves him right unless he owns a superior training. A pretty good doctor will not do for you or your wives or patients, any more than a pretty good egg for your breakfast.

Is there anybody here who remembers that when fifty years ago the question of the licensing of midwives was brought up before the Medical Society of the County of New York, it was voted down with all against it, except one? Ask our New York doctors at present. We know better now, and feel better about it. For we feel like citizens at present. We have also been told that all countries have found "the practice of midwives unsatisfactory." The fact is, however, that the other countries pretend to know their own business, and constantly add to the facilities and education of midwives as we do those of doctors. Some assert also that the attendant on a midwifery case must either be a trained obstetrician or a subordinate "like our excellent trained obstetrical nurse." "The obstetricians are the final authority to set the standard. They alone can properly educate the medical profession, the legislators, and the public." Who educated *them*, if you please, if not the professional schools, and they themselves as best they could afterward? The midwives are not even mentioned as worthy to be educated. Do our obstetricians demand all the obstetrical practice? I am prepared to bid a hearty welcome to the evening dress obstetrician—who charges $200 or $300 or $500 a job—to the confinement where the man earns ten or fifteen dollars a week, or the woman thirty-seven cents a dozen, and the children nothing.

In spite of English complaints concerning the insufficiency of midwifery attendance, the reports are very promising. In 1910 there were 321 midwives in Liverpool, 198 in Birmingham, 159 in Manchester. In Liverpool, the average number of cases for each midwife was seventy—one had 500 cases. Of all the births attended to there were by midwives in Liverpool, 71.9 per cent.; in Birmingham, 53.2 per cent.; in Manchester, 57.2 per cent. Still births attended by midwives were 391 in Liverpool, 212 in Birmingham, 279 in Manchester. Their honest discipline is exhibited in the following figures: Medical assistance was called by 1,015 midwives in Liverpool, by 674 in Birmingham, and 2,279 in Manchester. The indications for such calls, under the universal rules, are high temperatures, abortion, laceration, illness of the patient, imperfect removal of the placenta, puffiness, convulsions, large varicose veins, sores on genitalia, malposition, trauma, hemorrhage, venereal diseases.

This very day the system under which they work with us is an absolute lack of system, slovenly and shiftless—no instruction is offered, no examination demanded, no supervision enforced, and the babies swell the universal mortality.

What is it that a midwife should be taught? Common sense and the experience of other countries should tell us, for we have none—I mean experience. We are only told that she is dirty, ignorant, untrained, superstitious, septic, the cause of invalidism, degeneracy, and blindness. That is a list of statements exhibiting more temper than knowledge. For, indeed, in thirty-three of the fifty States and Territories there is no law restraining the practice of midwifery or what is so called. In three there is no restriction whatsoever. In thirteen there is no provision for training, but there are, curiously enough, laws requiring examination and licensure, what is it, after all, that every one of our States—Indeed, after a while, the federal government—

[7] *Medical Record*, December 3, 1910.

should demand on the part of a midwife who is to be the obstetric guide of fifty millions of Americans? In my opinion, she must have as moral a character as you expect in a male or female student of medicine or man generally—and, for that matter, of any American outside a penitentiary; a good common school education without Latin and Greek; a fair health so as to endure the hard work she means to undergo in future; a reputation for love of work and conscientiousness; and such knowledge of popular physiology and anatomy as the programme of our future midwifery schools will designate. What they must surely teach, like the English schools, are four topics—*the care of expectant women, the conduct of normal labor, the care of babies immediately after birth, the simple principles in an urgent case of artificial feeding*—and the diagnosis of abnormalities, so as to advise the calling in of medical skill. As there are many, I shall spend a few minutes on the consideration of some of them.

The fact is that of one hundred deaths under a year, 2.2 occur by injuries during birth, ten on the first day of life, twenty-five during the first two weeks, thirty-four during the first four weeks. Most of them should be saved through perfected knowledge and art, more skilful attendance than half our population enjoys, and greater acquaintance with the dangers of the newborn. You notice that a large number die from other than the usual causes, viz., indigestion, and you are startled by the fact that one third of all the deaths occur within the first month.

There are a number of diseases and accidents of the newborn which are as amenable to the care of the midwife as to that of the doctor. Much of what the doctor can do the midwife *cannot* accomplish. But her domain is vast. I shall mention a few of those which belong to it.

A calamity never prevented by one of us, possibly, however, by an attentive and painstaking nurse or midwife, is death by suffocation. There were in England and Wales during ten years, 10,009 overlain infants; in 1900, 1,774; in Liverpool, out of 960 inquests there were 143 on babies that had died of suffocation from the same causes, by accident or malice; in London in 1900, 615; in 1901, 511; in 1902, 588. In London they had annually 8,000 official inquests, one out of fourteen of which was on overlain infants.

A serious complication of labor is *asphyxia*. It may be caused by the mother or by the fetus. Disorders of placental circulation, mostly toward the end of labor, early loss of amniotic fluid, respiratory and cardiac disorders, disruption of the placenta, compression of the cord, and cerebral pressure can mostly be prevented or moderated by appropriate aid. Asphyxiated babies may die, however, within an hour, or the first few days. Those who do not so die are apt to be worse off. They are very liable to become paralytic, idiotic, or epileptic. Little shares the opinion, the contrary assertions of others notwithstanding, that a large percentage of cases of spastic encephalitis ("Little's disease") is produced by congenital asphyxia. Hundreds of times, both in obstetrical and pediatric practice, have I, when looking for etiological factors, received the uniform answer that the baby did not cry for some time after birth, and that the attendant had to work over it minutes, or even hours. Asphyxia must not be tolerated. A few moments' delay adds to the danger which may be averted by knowledge and skill. Losing a baby is a loss and bereavement; crippling it for life is worse. Accidents of that kind can be avoided by much less than the profound knowledge of medical experts, few of whom will ever deign to attend a mere case of common confinement. The statements on a certificate that the newborn is a still birth, means a statistical fact, not an explanation, still less an excuse.

Atelectasis is more apt to be relieved, and death from it more readily prevented by a midwife than by one of us, no matter by what it is caused. Soft cartilages in the premature, feeble muscles, defective nerve centres and lungs, but mainly hepatization, early pleural effusion, struma, and compression of the brain are the usual causes. Frequent changes of position, warm and cold baths, shaking, forced inspiration, occasional closure of mouth and nose, so as to fill the medulla oblongata with an extra momentary dose of irritating carbon dioxide, an interrupted momentary Faraday stimulation, and all the procedures demanded in asphyxia are advisable in atelectasis. A midwife should and can master all or most of these measures, as well as a doctor. The former is more efficient because she mostly uses more diligence and can spend more time than most of us.

The *mouth* of the newborn is exposed to injury resulting from the antediluvian tendency of not leaving well enough alone. The habit of washing and rubbing the oral cavity of the newborn, even by clean fingers and rags, hurts the very thin mucous membrane covering the posterior part of the alveoli, and the punctuated epithelial accumulations on both sides of the raphe. Doctors and nurses and midwives who do not know how to omit interference are dangerous. For the forcible removal of the epithelium leads to invasion of cocci and bacilli, and the mycelium of muguet. The latter, though easily cured by a strong solution of borax in glycerin, need not occur in the baby's mouth, for its habitat in the vagina of the mother is quite accessible, both in a private home and in obstetrical wards and in foundling institutions. A consecutive invasion of the stomach and intestines, of bloodvessels and lymph ducts, even of the kidneys and nerve centres, may easily be avoided by a person who has been taught to prevent and to cure.

The observing obstetrician or pediatrist or midwife has an opportunity to notice all sorts of microbic infections, such as tetanus, hemorrhages, and the intense forms of syphilis. Its worst form is the pemphigus of the soles of the feet, which must be recognized within a few days. The midwife is the readiest to make the diagnosis, and to recognize the necessity of treatment. That does not mean her treatment, just as little as she will undertake the treatment of melena, scleroma, jaundice, sepsis, dermatoses, erysipelas, traumata, or umbilical defects or diseases.

Some of the septic diseases of the newborn for the cure of which the doctor is always too late or incompetent, are those which go by the name of

Buhl, of Winckel, etc. They develop before any symptom is perceptible. The poisons which cause them are probably multiple and connected with the rapid metabolism occurring during, and immediately after, labor. Many cases look like acute atrophy of the liver or pernicious vomiting; or the main symptom is fatty degeneration or hemorrhage or intense jaundice. Overdoses of chloroform in predisposed women have been accused. Intense asphyxia I have seen coupled with or causing it. There are many such cases which can be prevented by appropriate and instant aid, such as I plead for. Many, I believe, will be cured by vaccine therapy, provided it can be employed in time. That is possible only when the indication for it is suggested or only suspected by a person who is on the spot and better taught than a common neighbor or nurse.

Constipation of the newborn should be recognized by the midwife. What I described nearly half a century ago as congenital constipation is the result of an excessive length of the sigmoid flexure. When the continuance for one or two days suggests it enemata should empty the bowels. Unless that be done, moderate and later on serious costiveness is an accompaniment of the dilatation of the descending colon, and autointoxication. "Hirschsprung's disease" is rarely a fully developed congenital dilatation. If a midwife is too alert she may be guilty of preventing an operative interference. I was one of the "alert midwives." None of my cases ever terminated on an operating table.

Ophthalmia is the source, not only of blindness, but of death through general septicopyemia under the general symptoms of multiple abscesses and arthritis. A series of cases I, like others, have observed of vulvovaginitis, endometritis, and peritonitis. The endometritis is always of long duration, and may, for anatomical reasons, relapse indefinitely for many months and years, and often gives rise to contagious dissemination in families, in hospital and asylum wards, by careless nurses and by gregarious bathing.

The tissues of the newborn contain more water than those of the adult; the difference amounts to ten per cent. Loss of water is badly tolerated, while large quantities are eliminated at once through the lungs, kidneys, and skin, and some through the intestines. Without a proper supply the tissues deteriorate, and the physiological equilibrium is lost. That was always so—the newborn *is* conservative—and was considered normal. The baby had to be satisfied with reading in every textbook—even in the old ones from which some new ones are compiled—that he has to please the attending oracles by giving up ten or twenty per cent. of his weight within a week or two. However, as the mother has but little milk during the first days, the least the baby should have a right to expect is water—at least teleology ordains it so—the more so as the first mammary secretion means colostrum, which contains three or four times as much protein as the milk of later weeks—that means three or four per cent. That is mainly so—even still more so—when the baby is premature and endowed with less vitality than when born at full term. Neither you nor I shall undertake to change that, but the danger connected with it requires correction, and if artificial feeding is resorted to at all the food should be amply diluted. There is another reason for so doing. *Uric acid sediments* and renal stones are comparatively frequent in small infants. They are caused by the uric acid infarctions which, as a speedy result of the rapidly changing metabolism, are found in the diapers on and after the second day of life. Besides, forming gravel and calculi, they give rise to occasional attacks of colic, to small hemorrhages, and frequent cases of nephritis, with, or mostly without, pyelitis. Neither I nor my pupils and friends have seen so many stones and inflammations since, for the last forty years, we made it our rule to feed the newborn on plenty of water. It is also demanded for the purpose of rendering the chemical and physical condition of cow's milk casein more digestible. As long as a human baby is not permitted to live on its mother, that fact is important to consider. Artificial feeding during the first days and weeks should furnish more than seventy-five or eighty-five per cent. of water, which is normal even for the adult. Our infants and children are not supplied with water in sufficient quantity at any time. In our era of equality for all sexes and colors, we should recognize the rights of all ages. When you are hungry, you want to eat; when thirsty, you drink. The baby wants its equal rights. But no matter whether it is hungry or thirsty, it is condemned to receive the same food to quench both its hunger and its thirst. When it cries with hunger, it justly receives food from the bottle or breast; when it cries with thirst, it is given the same food from the same bottle—not mere water. I have often felt like presenting a bill to the Legislature or to the professional philanthropist, enforcing, when father, mother, and physician are thirsty, beefsteak and potatoes. A German pediatrist improves the method of giving water by giving the newborn tea and saccharin. What tea is, I do not know; what saccharin is, we do know. It is found to be a poison. That should not have been, however, the reason why our magnanimous Agriculture and Treasury Departments twice postponed the execution of the law which forbids its indiscriminate sale by the manufacturers of foods.

Midwives are more fortunate than we doctors. They need not know so much as a few taskmasters ask of them—for instance, two German professors, Salge and Siegert, who are so interested in the babies as to insist upon midwives being examined on the intricate problems of metabolism. I fear, after having known midwifery for over sixty years, I could not pass to-day. Then, midwives need not know all the mixtures and mathematical formulas concocted by twenty of my pediatrist friends, each one of whom is sure that the other nineteen are quite wrong. Nor need they be acquainted with the fifty artificial foods which were recommended in Germany—that haven of great learning, of profound research, of irregular practice, of advertising, and of patent medicines and foods—by the *Deutsche medizinische Wochenschrift* a short time ago, and again rejected—all of them—in the very same year.

The teaching of midwives is not so difficult as

our medical profession imagines it to be. We are defective ourselves, for there is a fact which seems to be agreed on by our college teachers, viz., that our young doctors are incompetent to conduct a normal or abnormal labor. As that is so, we, the practitioners, should try to learn some lessons by theory but more by practice. Their incompetence is the result of the insufficiency of our medical school instruction, which is acknowledged to have been scanty in spite of our four years' medical courses. The schools furnish neither systematic obstetricians nor competent general practitioners. I shall not be hard on them, however, for I was a teacher myself. That is why the number of septic infections and of still births is liable to be large in their practice. If that occur in the green tree—viz., among the men and women with medical diplomas—what can we expect from the untutored?

We speak against midwives and their detrimental doings and their unreliability. Teach them their duties, which are not many; furnish bedside instruction—which even for a hundred thousand physicians is scanty or none—so that they will learn the manual care of labor; let them be taught not to use medicines, not to operate, not to try, except in certain cases, even to remedy wrong fatal positions; teach them the use of soap and water, and antiseptics; enforce by law and custom the frequent change of their own clothing; forbid the simultaneous attendance on two or more cases; see that she does not attend a labor case as long as in her family or immediate neighborhood there is a case of contagious disease, and she will cause or disseminate, no puerperal sepsis. She must be examined and licensed and protected, like you and me.

Registration alone, however, will not do. Nor will our complaints do. Our responsibility does not cease when we decline it. Our duty does not end by sending and collecting a bill for an individual medical service. A death not prevented, a life not saved, is a blot on our escutcheon. The people want more. We are not yet—as the British government proposes—official state employees of the people. If there were not an excess of individualism among us, the attempt to force socialistic coercion on the profession of England would not have been made. Not yet.

Less than a year ago, the New York Academy of Medicine passed, among others, the following resolution:

> Whereas, some of the results of obstetrical malpractice are unnecessary blindness, mental and physical degeneracy, and death of infants, and unnecessary suffering, invalidism, and death of mothers; and whereas both doctors and nurses in this country are given instruction in the treatment and care of childbearing women and newborn infants, there is no existing provision for the adequate training of women who take into their keeping the lives and future wellbeing of this large number of both mothers and infants, be it resolved that the Section in Obstetrics and Gynecology of the New York Academy of Medicine recommends that measures be taken in this State to secure State legislation which shall provide for the training, registration, licensure, supervision, regulation, and control of women engaged in the practice of midwifery.

It is useless to attempt a comparison of a midwife with a medical man. They must be considered individually. The ignorant doctor in obstetrical work is the inferior of a well informed midwife, and *vice versa*. I remember only two cases of sudden death caused by atmospheric air entering a large uterine vein—in both instances resulting from the nozzle of a fountain syringe introduced into the uterus before the air had all been expelled. In both cases it was a colleague that did it. That does not prove that we doctors do not know how to clean a uterus without pumping air into a vein—but I know of no midwife that could have done worse. Still, ignorance, like sinfulness, makes all mankind kin. The greater number of annual labor cases in the United States—more than a million—are attended by midwives, or alleged midwives. As long as these cases are uncomplicated, the presence of a bright, trained woman should be, and is, welcome. She must have learned to distinguish the position of the fetus, and know when to call a doctor, how to do, in his absence, a version in cases of emergency; how to attend the eyes, hemorrhages depending on incomplete uterine contraction or from injuries—one of which is tearing off of the placenta, and how to recognize eclampsia, inversion of the uterus, the presence of a mechanical obstacle like fibroma or a contracted pelvis. She must know how to deal with asphyxia. More than anything, she must have been taught to appreciate two things: First, how to keep absolutely clean—that means to disinfect herself and her hands and tools; second—and therein lies a secret of success—not to leave the woman. That is more than you or I do, or usually did.

The results of midwife practice do not always compare unfavorably with those of our professional brethren. Of 116 cases of ophthalmia neonatorum which were treated in the Massachusetts Eye and Ear Infirmary in one year, 114 were in infants attended by physicians and two by midwives; of thirty-three cases treated in the New York Eye and Ear Infirmary in one winter, twenty-two occurred in the practice of physicians and eleven in that of midwives. Of the eleven midwives three had used silver nitrate; of the twenty-two doctors, only one. According to these reports, if it were wise and proper to generalize, the doctors should be replaced by midwives.

In a period of six years, 1905-1910, the city of Manchester has the following to say about puerperal fever and recoveries and deaths following them in the practice of midwives and of doctors: In cases of puerperal fever in the practice of midwives, there were 219, with eleven deaths; in the practice of doctors, 275 with eighty deaths; in the cases attended by midwives and doctors, 100 with twenty-six deaths. Now in midwives' cases, those reported in 1910, inferior in results, forty-five puerperal fevers were treated at home, with a mortality of ten, or 22.2 per cent.; in Monsell Hospital, sixty-six cases with sixteen deaths, or 24.2 per cent.; in other institutions, twenty cases with five deaths, or twenty-five per cent.

Now, my friends, you have been kind to me and patient, as hundreds of times before. That is why I shall now finish in a minute with a few conclusions for those who with me are convinced that healthy women and living vigorous infants are the best possessions of this nation. They need not be

conquered with treasures and cannon and corpses of countless men; they need conservation only. What I want is that a pregnant woman should be in a condition to carry her fetus to its legitimate end in health and vigor, and able to nurse her infant. Every textbook talks to us of the *inability* of women to do so, and indicates formulæ and tradeshops and factories from which to graduate toothless young Americans. One hundred per cent. of our women, however, can be made to nurse, even the so called "flower of fashion" of the land. From two to three times as many babies will live when breast fed compared with the number of those who are raised on any artificial food without exception. By breast feeding you will save 100,000 babies that now die or become invalids, from no other cause but unnatural feeding.

Dangers which now attend the process of parturition in more than one half of the women of this country must be modified, relieved, or removed by the presence of a person instructed and trained by practice to conduct a normal labor and, when needed, to call timely aid. We want, for the benefit of the women of the country who need midwives, 200 midwifery schools after English or German patterns. You are welcome to do even better. But make a beginning. We are all in debt to the country, so let us pay it. Let no legislation of any State pass without a bill or law construed in intelligible language to safeguard the newcomers and their mothers.

A town without an ample supply of good doctors and midwives and a village without one or two competent and responsible and licensed midwives, are like a tenement house without a fire escape or a *Titanic* without lifeboats.

19 East Forty-seventh Street.

Original Communications.

THE HYGIENE OF PREGNANCY.*

By Edwin B. Cragin, M. D.,
New York.

Until recent times pregnancy was considered a perfectly normal process which should have a normal termination, and there was thought to be no necessity for the pregnant woman to place herself under the care of her physician until a short time before her expected confinement.

Fortunately for the woman and her unborn child, these views are now obsolete and the public are being rapidly educated to the fact that while normal pregnancy is a normal process, the possibility of abnormal conditions insidiously creeping in is so great that the pregnant patient can safeguard her life and health only by placing herself under the care of her physician almost as soon as she finds herself pregnant. This is especially true in her first pregnancy, when she is probably ignorant of the proper mode of life in this condition, but even in each subsequent pregnancy there are danger signals of future trouble which the physician alone can detect, and the detection of which with the proper advice and treatment may result in saving the life and future health both of mother and child. Let no one in New York say that means expense which the family can ill afford. The city of New York is well supplied with hospitals and dispensaries where examination and advice are placed within easy reach of every woman whose purse is unequal to the tax of frequent visits to her family physician.

The questions most frequently asked a physician by one pregnant for the first time, concern chiefly her dress, her diet, and her exercise.

Dress during pregnancy. The clothing of the pregnant woman should in general be arranged with a view to comfort rather than to suit the taste of the Paris dressmaker. There is no objection to the use of corsets, if they fit properly and can be easily adjusted to the increasing demand for room.

I prefer to have my patients wear a well fitting corset rather than go without. Not only are they more comfortable and suffer less from pain and swelling of the lower limbs, but the child is kept in better relation to the birth canal, especially if the abdominal wall has been stretched by previous pregnancies. This should be borne in mind, however, in the selection of a corset, that what is needed is support from below, not pressure downward from above. The corset should be long enough to come well down beneath the enlarged abdomen in front, and here the pressure may be relatively firm, provided plenty of room is present at the waist line and above for enlargement of the growing uterus, and for the functions of the stomach and lungs. The bones of the corset should be few and pliable, especially in front, and in the back the corset should be high enough to give good support. It is scarcely necessary to state that the insertion of elastic webbing, either in front or at the sides, greatly facilitates adjustment to the enlarging abdomen and adds to the comfort of the woman. For women with large breasts the wearing of one of the numerous styles of bust support not only adds to the comfort of the woman during pregnancy, but tends to prevent future sagging and flattening of the bust. In some women with very large abdomens the use of a bust support, and a so called abdominal binder, or belt, may well be substituted for the corset. As far as possible the weight of the clothing should be supported from the shoulders rather than the waist, and the stockings should be held in place by side supporters rather than by circular garters, which, with the increased pressure above, favor the development of varicose veins. If the woman suffers from varicose veins, elastic stockings may be needed for support and comfort. Except in very warm weather it is a safeguard for the pregnant woman to protect the skin from sudden changes in temperature by wearing thin flannels.

Diet during pregnancy. In the early months of pregnancy, if the urine is normal, the patient can usually be allowed to select her diet according to her taste, which will often vary greatly from that in the nonpregnant condition. If she suffers with

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nausea, there are two rules of feeding which will often add greatly to her comfort:

1. Have her take before rising in the morning some easily digested food, as a cracker or two, a glass of milk, or some toast and a cup of coffee, and then rest before performing her toilet and dressing.

2. As the feelings of the pregnant patient resemble somewhat the feelings when slightly seasick on shipboard, it is my custom to advise pregnant patients suffering with nausea to follow the custom pursued at sea of eating little and often. The patient usually feels worse when her stomach is empty.'

Usually by the fourth month, if not earlier, the patient's appetite returns and she should be allowed a generous plain diet, including meats, cereals, eggs, vegetables, and fruits. During the last month, as will be mentioned later, in order to lessen the work of the liver and the kidneys, the ingestion of red meat may well be limited to three times a week.

The ordinary articles of fluid diet, milk, chocolate, tea, and coffee in moderation are allowable in pregnancy, but alcoholic beverages should be avoided, in order to save the irritation of the liver and kidneys which are already overtaxed.

Exercise during pregnancy. Save in the cases where the woman has suffered from previous early miscarriages, it is advisable to have her take regular moderate exercise. In the early months, if she suffers much with nausea, this may be almost impossible and should not be insisted upon. She needs and will be benefited by fresh air, but this she can obtain by spending much time by the open window or on the porch, or by a carriage or slow motor ride. Just as soon, however, as the nausea ceases, or markedly lessens, and the feeling of well being returns, she should be encouraged to take short walks, which are gradually increased until she walks regularly from one to two miles a day. During early pregnancy it is well to lessen the exercise each month on the days which would have marked her menstrual period. As to the variety of exercise, walking is the best.

It is well to advise against lawn tennis and horseback riding. It is well known that some women can indulge in almost any form of exercise without interrupting pregnancy, and recently one of my patients who was fond of exercise and of horses, not knowing she was pregnant, had been enjoying the sport of "breaking" some bucking horses up to the time when she came to find out why she did not menstruate. She was then three months pregnant and went to term with a perfectly normal pregnancy and puerperium. However, it seems to require in others but a slight jolt, or mental start, to interrupt the pregnancy, and for this reason it is well to advise against horseback riding in this condition.

At the present day one is constantly asked if it is safe for the pregnant woman to motor. According to my experience this depends largely upon three factors: 1. The mental state of the woman. 2. The condition of the roads. 3. By no means least, the carefulness of the chauffeur.

Every obstetrician of large experience has probably met with cases in which motoring was the apparent cause of a miscarriage. Some women are in such a nervous state whenever they ride in a motor car, that their ride is simply one succession of nervous shocks after another at each sudden turn of the steering wheel. Is it any wonder that these women miscarry, especially if their ride is taken at a time which would have marked their menstrual period? Again, driving along a smooth macadam or asphalt road is one thing and driving up and down the hills of New England with frequent bars, or "thank you, ma'ams," across the road, is quite another.

Still again, motoring with a careful chauffeur who will run slowly, who will avoid the bad places in the road as far as possible, and will take the rough places with the least possible jar, is quite a different thing from a ride with that genus and species of chauffeur which cares for nothing save getting over the road in the shortest possible time.

If the woman enjoys motoring, if the roads are smooth, and the car is run slowly, I believe it does the pregnant woman no harm, and it certainly furnishes diversion and fresh air, both of which are very desirable.

The exact amount of exercise must vary with the endurance of each patient rather than be fixed by any rule. The object sought is exercise without overfatigue. When the patient is unable to take a sufficient amount of exercise, general massage, avoiding the abdomen, is of value.

The obstetrician is often asked as to the advisability of a trip abroad or a long journey during pregnancy. As a rule neither of these is advisable. The frequency with which interruption of pregnancy is caused by the jolting of railroad trains on the one hand, and the straining of seasickness on the other, is too great to be neglected. Furthermore, the absence from skilled supervision of the patient's urine and avenues of elimination, coupled frequently with inadequate facilities for dealing with complications of all kinds when far from home, make home or its neighborhood the place for a woman during her pregnancy.

The secret of health during pregnancy lies in the proper elimination from the body of the waste products of digestion and tissue wear through the bowels, the kidneys, the skin, and the lungs.

Care of the bowels. Constipation is so common among women in general that in the pregnant state with the increased pressure upon the bowels, resulting from the steadily enlarging uterus, and with the limitation of exercise usually associated with the condition, it is not strange that more or less constipation is the rule, and yet for purposes of elimination it is extremely important that the pregnant woman should have a regular movement of the bowels each day. There are many ways of accomplishing this, but in general regulation by diet such as coarse food, fruits, and liberal draughts of fresh water between meals are preferable to medicines. When the latter are necessary, the milder laxatives such as some preparation of cascara, or a pill containing aloin, belladonna, and strychnine may be used.

Care of the kidneys. There are two certain indications in the care of the kidneys during pregnancy which may well be impressed upon the laity.

In the first place the kidneys during pregnancy have more to do than in the nonpregnant state, as they are called upon to excrete waste products both of the mother and the child. This excretion is favored by keeping the urinary tract well flushed out with large draughts of water, and it is hindered by anything irritating the urinary tract such as alcohol.

It is my custom to advise my patients to drink if possible six glasses of water each day between meals, one before breakfast; two in the middle of the forenoon; two in the middle of the afternoon; and one at bedtime. At the same time I forbid the use of all alcoholic drinks.

Of all the criteria of the condition of a woman during pregnancy, none is so available or so trustworthy as the frequent examination of the urine. It is not enough to have the urine examined once, and if it is found normal to rest assured that it will remain so. Within a week conditions may change entirely and examination of the urine may show that the woman is in a grave danger. The urine should be examined as often as every two weeks, even if the woman is feeling perfectly well, and the woman who does not send regularly to her physician a specimen of her urine is running a risk which, in the present days of enlightenment, is unjustifiable.

Care of the skin. The elimination through the skin of the woman during pregnancy is a process which certainly should not be neglected. For this reason frequent bathing is not only a comfort, but a safety. The temperature of the bath may be determined largely by one's habits, and where a woman has always been accustomed to a cold bath in the morning, I have not found that its continuance during pregnancy did harm. One or two warm baths each week just before retiring, in addition to the regular morning cool bath, will prove of value in increasing perspiration and thus favoring elimination. An extremely cold bath for one not accustomed to it should be avoided. On the other hand, a very hot bath should not be taken.

In the care of the breasts during pregnancy, aside from the support already mentioned, and the cleanliness maintained by frequent general bathing, the cleanliness and toughening of the nipples obtained by bathing them daily with a saturated solution of borax in fifty per cent. alcohol has seemed in my experience to add greatly to the comfort of the woman during the nursing period which follows.

The lungs and fresh air. The elimination of both maternal and fetal waste products, through respiration, and her need of fresh air are often overlooked by the pregnant patient until she finds herself in a crowded room where the air is bad. She then realizes that she needs fresh air and plenty of it, and that she soon feels faint if she does not seek it. Sleeping with open windows and spending a part of each day in the open air are almost essential to a high standard of health during pregnancy.

Mental condition. During pregnancy the mental condition of the woman is usually that of high tension and unstable equilibrium. There are numerous causes for this. She may have found herself pregnant unexpectedly, perhaps unwillingly. Her plans for the year or two to come may have to be entirely rearranged. She may feel like secluding herself from her friends and abstaining from occupations she enjoys. She may feel wretchedly from the nausea which, although made light of by her friends, is disagreeable enough for her. She may dread the ordeal of her labor and last, but by no means least, she may be suffering from a form of poisoning resulting from the lack of elimination of waste products from the body, the results of this poisoning showing themselves chiefly in the nervous system.

The mental condition of some of these women is well illustrated by the experience of one of my old teachers, who said that he had a patient "whose disposition when not pregnant seemed to him angelic, but who acted when pregnant as though possessed of the devil." Certain it is that there is often a tendency to nervous irritability, and the surroundings of these women should be made as cheerful and pleasing as possible, free from all unnecessary causes of fret and worry.

This condition and these needs should be explained to the interested husband, and he should be told that his share, far too small, in the discomforts of child bearing must consist in making allowances for any little irritability on the part of his wife, and in doing all he can to add to her comfort, her diversion, and her cheer.

10 West Fiftieth Street.

THE PATHOLOGY OF DEAF MUTISM.*

A Critical Review.

By G. Hudson Makuen, M. D.,
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Speech is the oral symbol of language, and mutism denotes the absence of this oral symbol. Children, in common with other little, and perhaps lower animals, usually develop some kind of language, but if they have no oral symbol for its expression, and if left to themselves, they rarely rise much above a purely natural animal existence, and some of them evince peculiar mental and emotional traits that are at least suggestive of idiocy, while their phonatory and articulatory organs suffer also from lack of exercise.

There are three kinds of mutism: 1. Deaf mutism, or the mutism which is the result of deafness; 2, psychic mutism, or the mutism of idiocy; and, 3, idiopathic mutism, or the mutism which is dependent upon some disability of the organs of speech. These three kinds of mutism may exist in the same individual, thus giving rise to a more profound and irremediable degree of the affection; but when they exist independently or separately, so closely are they related symptomatically, that an offhand differential diagnosis is often quite impossible.

The pathology of deaf mutism, therefore, is the pathology of congenital deafness and deafness acquired prior to the seventh or eighth year, and to be complete it must take into consideration also the pathology of psychic and idiopathic mutism. Moreover, to make it of any great scientific value, the clinical and post mortem findings in any given

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case should be studied in connection with a carefully tabulated record of the case, including its ancestral, prenatal, natal, and postnatal history.

Inasmuch as the deafness of deaf mutism is not always absolute, but often only partial, it is not enough to determine just what pathological conditions exist in deaf mutism, but it is desirable to determine also just what pathological conditions are productive of particular kinds or degrees of deafness, and what particular diseases are responsible for them.

In order to do this the material for post mortem examinations should be selected from those subjects which have undergone a thorough clinical examination during their lifetime, and the results of the ante mortem and post mortem examinations should be carefully compared and studied as one. If all this could be done by one and the same individual, it would add very much to the value of the procedures, but there are some reasons which seem to make this quite impracticable and even impossible.

Dr. A. A. Bliss, of Philadelphia, reports having examined over 500 cases of deaf mutism at the Pennsylvania Institution some years ago, and having carefully tabulated the results; but now he has severed his connection with the institution, and doubtless lost much of his former interest in the subject, while his patients are scattered widely throughout the country. If Doctor Bliss could follow up this careful and somewhat extensive clinical work with suitable post mortem examinations, and compare the results with the early histories, he would be able to give us something in the line of a pathology of deaf mutism that would be unique and quite worth while.

Moreover, I myself have several little patients whose clinical histories are so freshly tabulated in my memory and in my note books that under some circumstances, it would give me the greatest pleasure to have their temporal bones and adjacent structures in my possession for laboratory purposes; but unfortunately, or fortunately, depending somewhat upon the point of view, they are all able now to object strenuously and orally to any such procedures, and I can scarcely hope to continue my interest in the subject sufficiently long to meet their convenience in this matter. But even if these difficulties could be overcome, I should scarcely feel myself competent—and who of us practical otologists would be competent?—to make satisfactory microscopic post mortem examinations of the delicate labyrinthine structures and cerebral organs employed in the processes of hearing and speaking.

Just as sporadic, and therefore unsatisfactory if not almost useless, ante mortem examinations have been made in cases of deaf mutism, so sporadic and equally unsatisfactory and useless post mortem examinations are made. I characterize them as unsatisfactory, because, as I have suggested, mere post mortem findings without ante mortem histories must be of little value, and until we can compare the post mortem findings with a more or less accurate record of the patient's degree of deafness and the probable etiology of the affection, we can arrive at no just conclusions in the matter.

However, it is chiefly due to post mortem examinations that we have any pathology at all of this subject.

The essential parts of the organs of hearing are so carefully secluded within the confines of the petrous portion of the temporal bone, and the central portions of the mechanisms of speech within the cranial cavity, that any definite ante mortem knowledge of their pathology is quite without the realm of possibility. It is necessary, therefore, for the patient to die before we can tell exactly why he was deaf and dumb, and we have not always been able to tell then, because many cases have been reported in which the post mortem findings were absolutely negative.

This rather startling fact must be explained in one of two ways; either the examinations were carelessly and superficially performed, or the mutism was not deaf mutism at all, but belonged to one of the other classes to which I have referred. The former view is the more probable, perhaps, because many post mortem examinations were made during the premicroscopic period and before any accuracy of observation could have been possible.

Moreover, post mortem examinations upon deaf mutes have been quite as few as they have been careless and unsatisfactory. Perhaps in all the combined countries of the world not more than 150 post mortem examinations showing positive results have been reported. Dr. Albert A. Gray, of Glasgow, in writing on this subject two years ago, said he had carefully searched the literature of his country and failed to find the report of a single post mortem examination upon a deaf mute, and I may say that I have done the same thing in our own country with a like negative result.

Dr. Holger Mygind, writing in 1895, said that up to that time there had been performed only 135 post mortem operations upon deaf mutes in which positive results were obtained, and, while in some of these cases the operation had been carefully performed and the microscopic findings recorded, they are lacking in scientific value because they are unaccompanied by records of the degree and probable causation of the deafness. Since the publication of Mygind's book, the interest in the subject seems to have diminished, and there have been but few reports of post mortem examinations upon deaf mutes in the last two decades.

Notwithstanding the meagreness of the reports which we have, however, and the fact that they are not altogether satisfactory, we are, as I have said, indebted chiefly to the post mortem examination for our present knowledge of the subject. We know, as we could not know before, that the lesions causing both congenital and acquired deafness are to be found, for the most part, in the labyrinth; that the morbid changes which produce hardness of hearing in adult persons are not essentially different in character from those which produce deaf mutism, and the greater degree of deafness in deaf mutism is due to the greater intensity of the morbid processes, and consequently the greater destruction to the various parts of the general hearing apparatus.

We have learned also through post mortem examinations that pathological changes confined to the middle ear are rarely sufficient to produce deaf

mutism, although evidence is found that the inflammatory processes which produce these changes frequently extend to the labyrinth, chiefly through the fenestræ, and there set up secondary inflammatory changes of sufficient intensity to cause the affection. This secondary labyrinthitis may follow any form of middle ear disease, but it is chiefly the result of middle ear complications following the infectious diseases of childhood, such as scarlatina, measles, and typhoid fever. Secondary involvement may also take place from the brain side of the inner ear, and it is usually the result of meningeal inflammations, of which by far the most frequent is cerebrospinal meningitis, the mode of infection being through the internal auditory meatus, the circumvascular, and the perineural lymphatic channels.

In a few instances, marked congenital malformations of the external ear were observed, and the middle ear showed pathological changes in many but by no means all cases. Atrophy of the tensor typmpani, ossicular ankyloses, fixation of the stapes, calcareous deposits in and about the fenestræ, and complete ossification of the tympanum are among the conditions which have been reported. Tympanic changes, however, must be regarded merely as contributory causes of deaf mutism, the essential lesions being found in the inner ear. A complete absence of both labyrinths has been reported, but this is a rare condition, and whether it was due to arrested development or morbid changes could not be determined.

Of the three principal parts of the labyrinth, curiously enough, the semicircular canals, which play a comparatively unimportant rôle in sound perception, have been most frequently affected, and clinical evidence of their involvement, such as disturbances in equilibration and a staggering gait, have not been wanting. The position, shape, and small calibre of these tubular canals seem to render them especially liable to the secondary morbid changes which are common as a result of labyrinthine inflammation. These changes consist, for the most part, in degeneration of the membranous contents of the canals with a reformation of fibrous, calcareous, or osseous tissue, and frequently portions of the canals are so completely transformed by these inflammatory processes as to give the appearance of being entirely absent, or of being the result of either arrested development or congenital malformation.

Just as the semicircular canals have been the part of the labyrinth most frequently affected, the vestibule is the part least frequently affected, and in no case has the vestibule alone appeared to be the seat of pathological changes. Some diminution in the calibre of the cavity has been noted, due in all probability to inflammatory deposits in its walls, and in a few cases, the vestibule together with the entire labyrinthine cavity has been found to be distended as if with pressure from the brain, resulting apparently from hydrocephalus, or some similar endocranial disease.

It is in the cochlea, obviously, that we look especially for pathological changes in deaf mutism, and it is this organ, next to the semicircular canals, which is most frequently affected. The organ of Corti, the tectorial, and Reissner's membrane are often injured and sometimes entirely destroyed by inflammatory processes, and portions of the capsule have also been found wanting, as a result of previous degenerative changes.

The cochlear and vestibular branches of the auditory nerve, together with their several ganglionic structures, and especially the spiral ganglion, have shown marked evidences of atrophic degeneration, and the auditory nerve trunk itself is frequently, although by no means invariably, affected. Moreover, complete absence of the nerve even up to the fourth ventricle has been noted, and this condition was supposed to be congenital. The cerebral and deeper portions of the auditory nerve have received scant attention, and but few references have been made to histological studies of this region in deaf mutes.

The cortical distributions of the auditory nerve, together with the auditory and phonatory areas, have shown but little evidence of histological changes, except perhaps in those cases in which the deaf mutism was due to severe and extensive diseases of the brain. The most careful microscopical examinations of these regions have failed to reveal any positive cortical changes which may be traced solely to an absence of the auditory and phonatory functions, although, obviously, it is reasonable to suppose that a nonuse of these areas would result in a comparatively limited neural development, which might be demonstrable with finer instruments of precision. It is asserted also that the brains of deaf mutes are smaller than the brains of hearing people, but this statement must be accepted with reservations until a greater number of comparative studies have been made. A better knowledge of the anatomical and histological post mortem findings in the ears and brains of normally hearing persons and a more careful comparison of them with the post mortem findings in deaf mutes would serve to clear up many doubtful points with reference to the pathology of deaf mutism.

SUMMARY AND CONCLUSIONS.

Histological studies of the auditory and phonatory tracts have revealed the morbid anatomy of deaf mutism, and thus placed our knowledge of the subject upon a more or less scientific basis, but they have failed utterly to point the way toward any definite conclusions with reference to the etiology of the affection and to its treatment. They do not enable us to distinguish even between so called congenital and acquired deaf mutism, and there is very little to be found in the pathological processes themselves which is suggestive of the particular disease or diseases which caused them.

Inasmuch as the physiology of hearing is still a subject for discussion, it is not surprising that the pathology of deaf mutism should be obscure and unsatisfactory.

Deaf mutism is not a disease, but a result of a disease, or rather it is a result once removed. It is *a result of a result*, the disease itself having long since run its devastating course and left behind the morbid processes upon which the final result, deaf mutism, depends. Although these morbid processes are plainly visible in post mortem examinations,

they have in themselves no features sufficiently distinctive to enable us to draw any satisfactory conclusions. We cannot always be sure that they are not purely accidental anomalies or merely unimportant variations, and until they are compared and correlated with histological studies of normal auditory and phonatory tracts, and with previous clinical histories of the subjects examined, their value must ever remain exceedingly limited.

Finally, I think, with Dr. Kerr Love, that future progress in this line of work will come from a closer study of the diseases which are responsible for the morbid anatomy of deaf mutism, rather than from a further study of the morbid conditions themselves.

1627 Walnut Street.

ALOPECIA; TYPES AND TREATMENT.*

By Isadore Dyer, Ph. B., M. D.,
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Alopecia is the generic term for baldness; the term is rather applicable to a symptom than to an actual disease, for no baldness occurs as a specific disease *per se*. Because it is separated, however, and recognized as a distinct affection, in order to appreciate the different varieties, we may divide alopecia into two general types:

a. Alopecia *idiopathica* or *primary* baldness;

b. Alopecia *symptomatica* or *secondary* baldness.

Under the head of alopecia idiopathica we must include all those types not known to be due to a specific cause and those originating from purely natural changes in the hair. We may consider, then,

Congenital alopecia. This is seldom complete. Usually the hair is undeveloped and instead of normal hair, lanugo hair is present. At times the baby is born without hair and may continue bald afterward. Sparse hair without the normal amount of hair on the scalp may be considered a variety of congenital baldness. There is no remedy for this condition.

Senile alopecia. This type of baldness comes on with old age, sometimes at a presenile stage, associated with general degenerative changes in the skin, the atrophy of the fat glands bearing a considerable part in the etiology of the condition. This baldness usually starts at the back of the crown of the head and advances forward, until only a fringe of hair remains on the scalp. Here, also, remedial agents may effect nothing, as the only result would be a fruitless combat with the ravages of time.

Premature alopecia. Premature baldness has not yet been definitely determined as idiopathic. Up to recent years this variety was the scapegoat term under which all bald heads of unknown etiology were classified. Together with so called "hereditary" baldness, premature baldness embraced a multitude of cases, now understood, treated, and remedied. These cases are described as beginning at the frontal margins and spreading back—to meet a like invasion on the crown—leaving an island of hair in front with a barren scalp about, in front and back of it. As a matter of fact "hereditary" baldness cannot be proved—as in most instances some presenting factor may be found in all such cases, able to explain the cause of the loss of hair.

Symptomatic alopecia includes baldness due, 1, to local causes; 2, to general or systematic causes.

To expand these groups we may enumerate the conditions causing baldness under each head:

1.—*Alopecia symptomatica* due to local causes:

a. Seborrheic dermatitis (dandruff).
b. Seborrhea sicca.
c. Eczema.
d. Erysipelas.
e. Lupus erythematosus.
f. Lupus vulgaris.
g. Parasitic diseases—tinea tonsurans, favus, impetigo following pediculosis capitis; tinea barbæ (barber's itch); staphylococcic infections, and folliculitis in its various forms.
h. Local injuries, burns, etc.

2.—*Alopecia symptomatica* due to general or systemic causes:

a. Syphilis.
b. Psoriasis.
c. Fevers (typhoid, etc.)
d, Ichthyosis.
e. Leprosy.
f. Variola.
g. Alopecia areata or neurotica.

This is quite an array of the varieties of alopecia, but, I believe, each is sufficiently clear in its character to allow a separation from all of the others.

Now we may take up each type of symptomatic baldness and discuss its peculiarities and suggest the remedy for each.

Alopecia from *seborrheic dermatitis.* This disease may be found on all of the hairy parts of the body and, therefore, the baldness may be general. That is to say that seborrheic dermatitis may, by destroying the fat glands, occasion the loss of hair over the face, sternum, axillæ, pubis, and even the arms and legs, as well as on the hairy scalp.

On the scalp the baldness occurs with the actual presence of the greasy scales of the disease, and finds its especial areas at the borders of the hairy scalp, in the frontal and occipital regions (especially the occipital regions in women), on the vertex, in men particularly at the partings, where the brush is used with force and friction. The eyebrows and eyelashes do not escape and, oftentimes, the lashes are lost early in life, leaving bleary eyes, with conjunctivæ ready to suffer irritation and infection.

This type of baldness begins early in adult life and is more common in men than in women. The barber shop is the most frequent source of origin of the infection, which is so easily established in the household through the common use of the comb and brush. Elliott[1] demonstrated 316 out of 344 cases of baldness to be due to this cause.

The infection of the scalp with seborrheic dermatitis may go on for years without baldness; usually, however, the baldness is progressive. It begins with general thinning in the areas affected; afterward there is a perceptible predilection for the back

*Read before the Fifth District Medical Society, San Antonio, Tex., April 4, 1912.

[1]New York Medical Journal, October 25, 1895.

of the vertex and both sides of the frontal region—the areas usually affected in so called "hereditary" baldness—most likely transmitted direct from father to son in the community comb and brush.

The treatment of this type of baldness is easy, but requires patience and perseverance. The essential is the cure of the dandruff; after that the hair will stop falling and even the remnant of the crippled hair receptacles may be stimulated to a normal function.

First of all the brush must be discarded, as it is, at all times, a nest of infection. Then frequent washing of the scalp with mild antiseptic soaps, followed by daily use of antiparasitics and stimulants. Opinions vary with regard to the mode of employing these. Where the patient will stand it ointments or oils are the best; usually the cosmetic taste of the individual rebels, and liquids are preferred and must be substituted. The remedial agents of most service are sulphur, the mercurials, the naphthol group, chloral hydrate, resorcin and its salts, carbolic acid, lactic acid, and such stimulants as capsicum, veratrina, castor oil, cantharides, etc. Judgment must be employed in the individual case and discrimination must determine the sort of treatment, depending upon the factors of the dryness or oiliness of the hair, the sensibility of the scalp, the color of the hair, and the temperament of the patient, and the treatment must vary in this as with other diseases. A man may wash his head every day; with a woman this is impossible! The patient who has all the leisure necessary to care for the hair, may use applications which confine to the house: the patient compelled to go about all day and every day cannot follow the same treatment. Months may be required, and several weeks are necessary to effect even the first signs of relief.

Alopecia from *seborrhea sicca.* This disease is almost peculiar to children, but may obtain in strumous types of individuals and in the tuberculous. At times seborrhea sicca may occur after long illnesses and may persist in convalesence. The dryness of the scalp temporarily inhibits the fat glands with resultant baldness. The usual picture is a matted mass of scales and broken hair adherent to the scalp over the vertex, with chalky whiteness of the scales and a peculiar dryness. The disease occurs in early childhood, as a rule, and in infancy supervenes on the "scald head." The removal of the crusts (best done with warm flaxseed poultices), followed by cleanliness and the application of bland oils, like sodium salicylate (twenty per cent.) in olive oil, and free washing every day, will result in the cure of the disease and the hair will be restored in short order.

Alopecia from *eczema.* Excepting the acute varieties, vesicular and pustulating eczemas, this disease rarely obtains on the scalp; more often, but even then seldom, on the hairy face. The baldness is temporary and lasts with, or just following the inflammatory process. If much pustulation prevails, there is proportionate loss of hair; but this is less apt to occur than a simple vesicular eczema, usually of short duration, after which the hair grows readily. Such eczema and such alopecia are usually found at the borders of the hair, especially in the frontal region, behind the ears, and on the back of the neck. The baldness needs no treatment, as the hair grows rapidly as soon as the eczema is cured. The dryness of the hair, which is common, may be helped with any oily substance, like liquid petrolatum, glycerin or castor oil in alcohol, bay rum or Cologne water, in the proportion of a drachm to the pint.

Alopecia from *erysipelas.* The baldness from erysipelas is usually very prompt to occur either during a prolonged attack of erysipelas, involving the scalp or hairy face, or just after the eruption has subsided. Most cases of erysipelas affecting these areas are simple in type and the baldness is not complete, but it frequently happens that phlegmon, or follicular infection is associated, and in such case the baldness is certain and if necrosis results a permanent destruction of the hair follicles occurs and the baldness is everlasting. Even cicatricial baldness may follow such process, but this is rare. The treatment of this baldness is largely in prevention, during the attack of erysipelas, in obviating the follicular involvement by antiseptics strong enough to be efficient, such as iodine, saponaceous cresols, ichthyol, etc. The falling of the hair, after the erysipelas has passed, is only temporary and the treatment falls under the general rules applying to the treatment of baldness following fevers, which will be discussed farther on.

Alopecia from *erythematous lupus.* Erythematous lupus often spreads from the face (its usual site) to the scalp, destroying the epidermis, corium, and the apendages *pari passu.* The circinate, atrophic patch, with an acute area of the disease adjacent to, or within the patch, marks the type, usually running from the hair border on to the scalp, or involving, as is more often the case, the hairy face. The baldness here is a part of a destructive process, of which the scarring is the direct evidence.

Alopecia from *lupus vulgaris.* Lupus vulgaris rarely affects the scalp; not often the hairy face. The disease is more common in youth and in early adult life and, therefore, in persons not apt to be hairy. The close arrangement of the tubercles in the active disease, with destruction in active process, the deep scars, and the slow progress of the disease make the diagnosis. Here, also, the baldness is a part of the destructive process, evidenced by the scarring.

Alopecia from *parasitic diseases. a. Tinea tonsurans* and *Tinea barbæ.* Ringworm on the scalp is almost confined to childhood, occurring in circular patches, marked on the top of the head and at the back, occurring less often on other parts of the scalp; in unusual cases the entire scalp may be involved. The baldness is seldom complete, the stubble hair in islands of the patch, with grey scales over all, making the characteristic picture. At times a secondary infection of the hair follicles complicates the clinical picture, producing cellular infiltration with an inflammatory process, called *Tinea kerion.*[2] Here the baldness is complete. The patches of ringworm of the scalp vary in size—the older, the larger, as a rule. With the cure of the ringworm, the hair always returns and the most effective way of accomplishing the result is by prompt x ray exposures of the patches, followed by stimulant applications

[2]Greek, Kerion, honeycomb.

such as oil of cade, carbolized petrolatum, sulphur ointment, etc.

Tinea barbæ, or barber's itch, also called *parasitic sycosis,* affects the hairy beard and produces baldness in small or large areas, depending upon the stage of the disease. If prompt diagnosis and treatment are established, the relief is easy and the baldness temporary. If deep follicle involvement has taken place, the hair receptacles are hopelessly destroyed and the baldness is permanent with scarring.

The treatment here consists in the removal of all hairs by depilation, followed by the use of antiseptic applications, of which the oleate of mercury is the best, and frequent, short exposures to the x ray. The purpose of the x ray here as in *Tinea capitis,* is to destroy the feeding ground of the parasite and to check the coccic development.

b. Favus or *Tinea favosa.* The baldness from favus is due to the actual destruction of the hair follicles by the rapid growth of the parasitic fungus. The cicatricial character of the baldness, with here and there a few wiry hairs surviving, and the adjacent hair follicles covered with sulphur yellow crusts, all are characteristic. The disease is rare, occurring usually in immigrants of the lowest classes of Russians, Italians, and Germans. The baldness is permanent, and may be prevented only by active treatment of the parasitic condition. This is best accomplished by x ray exposures and the persistent use of twenty per cent. oleate of mercury.

c. Pediculosis capitis. The pus infection occurring over the scalp and at the back of the neck, accompanying head lice, and due to the bites of these vermin, often results in localized areas of baldness, more or less permanent and depending upon the degree of involvement of the hair follicles. The removal of the cause and the strict antiseptic care of the scalp is promptly effective.

Alopecia symptomatica due to general causes. *a. Syphilis.* Alopecia in syphilis is either cicatricial, a consequence of an ulcerative process associated with a gumma or tubercles broken down, or it is present early in the disease at the same time as the macular or papular eruptions. As these eruptions are general, so is the alopecia, if present at all. On the scalp the macular and papular eruptions occur on both sides and in the occipital region, rarely on the vertex. The baldness is found in the areas of occurrence of the macules and papules themselves, usually forming patches of lost hair just the size of, or a little larger than the size of the inflammatory macule or papule of syphilis. The appearance is characteristic, as if the hair had been moth eaten in a band across the sides and around the back of the head. The hair always grows again in the patches, but a general lessening of the total amount of hair on the scalp may result as a permanent effect.

Not infrequently in early syphilis the hair of the eyebrows and eyelashes and of the hairy beard may fall, partially or entirely, to grow back with the disappearance of the inflammatory lesions. At times the loss of hair may be general. It is quite a common symptom of early syphilis to see the hair of the legs fall, and this loss is slow to recover.

The treatment obviously is constitutional, but the local use of mercurial applications will hasten the return of the hair in this type of baldness. Lotions of bichloride in alcohol, or ointments of the yellow oxide, white precipitate and nitrate, in reduced strength, may be employed.

b. Psoriasis. Psoriasis is common on the scalp, and the hair usually falls in the areas affected. The follicles are not destroyed, however, and the hair grows when the lesions of the disease disappear. The hair remains sparse and very dry and harsh during the attack of psoriasis, growing normally between the attacks. If the disease is of long standing, the hair gradually grows permanently less. The usual sites of such baldness are over the vertex and at the hairy borders, particularly in front, where the lesions of the disease are common.

The treatment is aimed at removing the psoriatic lesions with saponaceous applications and by the use of stimulant ointments or lotions afterward; constitutional treatment is also indicated.

c. Fevers. With all severe attacks of fever of any sort, the dryness of the skin generally interferes with the proper nutrition of the skin, and the hirsute appendages and the scalp are prone to suffer with the skin of the rest of the body. The hair falls as a consequence, usually all over the scalp, producing a thinning of the hair. When the desquamation in convalescence is complete, the hair grows again, as the functions of the glands of the skin are restored.

The use of alcohol with castor oil, or with a modicum of balsam of Peru (one drachm to the pint of alcohol), may be used during convalescence, and this will help the hair in regaining its normal strength. The practice of cutting the hair of women convalescing from fevers has no advantages, as even thin hair or little hair is better than a wig.

d. Ichthyosis. The dry scaling of the skin in all types of xerosis causes atrophy of the hair bulb and consequent loss of hair. With extreme and incurable types of the disease, the baldness gradually becomes complete and permanent. Usually the hair falls and grows, falls again, each time growing less until only a coarse lanugo is evident on a thickened, roughened skin and scalp.

The treatment in mild cases is constitutional, antistrumous, and largely made up of fat forming medicaments and foods. Locally, oily applications serve.

e. Leprosy. Early baldness in leprosy is seen only in the nerve type of the disease, and then only where there is general atrophy of the skin. Otherwise the hair falls only in well developed cases of the disease and where general involvement of skin and body is established. In such cases the hair over all the body falls at the same time. The hair of head, eyebrows, eyelashes, and the hairy beard, etc., grow more and more thin as general trophic changes occur. As a rule, with the alopecia, the skin undergoes keratinous changes, and a thickened scalp or face will be in full evidence by the time the hair is finally lost. As this baldness is but one of many signs of a final, fatal issue, no treatment avails.

f. Variola (smallpox). The baldness of small-

pox follows the disease, either from the acute lesions, as in other exanthematous or febrile diseases, or as the result of the destruction of the bulb itself, in virulent cases. The hair remains thin for some time after an attack of smallpox, but usually will grow again and be as thick as ever. Treatment is that indicated under fevers or general indications.

g. Alopecia areata or *neurotica* is also called "billiard ball" baldness, because of the ivory whiteness of the lesions. Here the hair falls out in varying sized patches, usually quite suddenly, the hair at the periphery of the patch being normal; the circular areas, white and smooth, give the type its name. After some severe nerve disturbance, reflex or direct, there may appear in the occipital region, first, one or more patches of this baldness, often followed by the development of one area after another, until the whole scalp may be bereft of hair. The affection may determine areas in the eyebrows, hairy beard, or on other parts of the body. There may be entire loss of hair over the whole body.

Injury, grief, shock, business worry, insomnia, fright, prolonged illness, excitement, occupation, all are factors in the disease. I have never failed to find some such history in alopecia areata. Opinion is held as to the parasitic origin of alopecia areata, instances being related of its spread in asylums, families, and the like, and parasites have been isolated as being responsible. Crocker concedes the trophoneurotic origin of certain cases, but believes that most cases are parasitic. The hair almost always returns, often without treatment. It comes in white, usually, and resumes its natural color subsequently, sometimes months later.

The treatment consists in first removing the cause and then in stimulating the hair growth. Internally, strychnine, phosphorus salts, arsenic, etc. Locally, the galvanic or high frequency current may be employed; also cantharidal blisters, bichloride of mercury solutions, occasionally painting with chloral hydrate, carbolic acid, tincture of iodine, veratrina in solution (ethereal). The oleate of mercury in five per cent. strength, the salicylate of sodium, five per cent., in ointment or oil, and the tar preparations may be useful.

GENERAL INDICATIONS FOR TREATMENT.

Treatment generally must be based upon the etiology. When related to particular diseases, these must be treated. Idiopathic baldness is usually permanent and without relief. The followng may be adopted in most cases:

The frequent washing of the scalp with green soap or tar, resorcin, naphthol, and sulphur soap, and the application of stimulating substances. Of these are to mention, chloral hydrate, tincture of jaborandi, spirits of rosemary, cantharides (in tincture and guardedly), tar oils (cade, birch, pine, etc.), castor oil, croton oil (in minute quantity), alcohol, and chloroform. The use of any application should be intelligent; oily substances used when the scalp and hair are dry; desiccating or alcohol preparations when the hair is oily or the scalp greasy. Combinations may be made antiseptic with resorcin (two to five per cent.), salicylic acid (two to five per cent.), lactic acid (two to five per cent.), bichloride of mercury (one to 1,000), or with carbolic acid (not over two per cent.), each of which is also somewhat stimulating to hair growth. The use of the high frequency *effluve* in some cases of long standing has proved satisfactory.

124 Baronne Street.

EUGENICS AND THE PHYSICIAN.*

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I am glad to have the opportunity to speak to you as physicians on the subject of eugenics, because there is no class of persons which is, or should be so much interested in the subject and no other that can do so much to advance it as physicians. It is a matter which appeals especially to physicians, because of their peculiar, and peculiarly intimate relations, both with individuals, with families, and with communities. As an intimate with individuals the subject of eugenics should appeal to the physician, because he is apt to know his subject better than any one else, even the person himself. He makes himself acquainted with every part of the patient's body and comes to learn his mental traits at a time when they are apt to be revealed as nakedly as his body. Above all, he learns the reaction of the subject's body to parasites, to wear and tear, to environment as no one else can, because he can view these interesting phenomena from the comparative standpoint. He learns that people are all different in their physical conformation, in their mental makeup, in their reactions to environment, and to treatment. To the thoughtful physician his profession must be an eternal question mark. He has asked himself a score of times the question: Why are persons so different; how can we account for these marvellously diverse combinations of characteristics?

In the second place, eugenics is peculiarly a physician's subject, because of his intimate relations with, and knowledge of families; and eugenics is, first of all, a family matter. The family physician soon learns that the striking differences he sees between people are family differences. He sees certain peculiarities of structure repeated in the children of one fraternity or in parent and child. One family will be characterized by prevailingly high stature, another by low. In one family, father, mother, and all children are slender; in another, some at least are stout. One family is distinguished by frequent occurrences of twins. The hair of one family is characterized by curliness, in another family by red color, or premature graying, or, possibly, by being spotted; the hair tends to be profuse and coarse over the trunk in one strain; another has almost no body hair. Peculiarities of fingers tend, in striking fashion, to run in a family; whether the peculiarity is double jointedness or polydactylism, or brachydactylism or crooked fingers and toes. Aquiline or pug nose, lobed or lobeless ears, blue or brown eyes, supernumerary teeth, absence of second dentition, absence of particular teeth, cleft palate, harelip, partial hermaphroditism

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—all these peculiarities of form are family traits. The family physician sees also idiosyncrasies of movement, behavior, speech, response, frequently recurring. There is the family, many of whose members have prevailingly quick, jerky movements; others, whose movements are prevailingly slow and deliberate; the family of students; and the family none of whose members can make progress at school; the family whose children are quiet and unexcitable, and the one in which the young people are irritable and boisterous; families that are matter of fact in conversation, and those that are brilliant; families with a tendency to licentiousness, and those that are chaste; families of geniuses in particular lines, and families of dullards in all Every genealogist, if not every physician, knows how special capacities lie in particular strains. The physician knows also how not infrequently in a given family a particular disease runs a peculiar course; so that in taking up a case in a new family his first inquiry may well be: What is the usual course of this disease in your family? Thus in both normal and in pathological states, in the physical and the mental realms, families with very diverse inheritable traits are met with—they constitute potential strains or species, which are, however, not often realized because of the fact of free intercrossing which is constantly hybridizing the incipient species.

In view of these facts, it seems to me that a full and free recognition of family specific traits will be of assistance to the physician in his therapeutics. The physician is, indeed, hardly in a position to treat a patient intelligently until he knows the family well. I knew a man, a recent immigrant, who began to suffer from sore throat, and then of an inflammation of the vocal cords. The physician who treated him did not regard the case as serious, but the man did, and told me that four of his sisters had died of tuberculosis located in the vocal cords. Though he lived a hygienic outdoor life and from the beginning of his trouble slept in the open air, yet in six months he, too, was dead. A knowledge of the family history would have given the physician surer ground for prognosis, if not for treatment. I once had a workman on my place—a Norwegian. He had been away for a time and came back with a high fever, and went to bed. Temperature rose to 103.5° F. The attendant physician suspected typhoid fever, but none of the other symptoms were there until, after two or three days, abdominal spots appeared, confirming his diagnosis. But, meantime, the fever had almost entirely disappeared and the fellow insisted that he felt perfectly well, and only wanted to get up and go to work, which the doctor properly enough denied. In speaking with him about the disease, the man admitted that he very likely had typhoid, as other members of his family had had it in a very light form.

In diagnosticating insanity, family history is often of great assistance. A friend of mine knew of four sisters, three of whom had a mental trouble that was diagnosticated as manic depressive insanity. The fourth was examined by another alienist, who gave a different diagnosis, but later, when the four sisters were examined by the same person, it was recognized that the trouble was of the same nature in all. The old family physician, the country doctor, in a long settled and much inbred community, has certain advantages in diagnosis over the physician in a large city hospital, because the latter gets a great mixture of races and does not know the typical reactions or symptoms of each to each disease germ, or to other untoward condition, while the former knows his families.

In another respect a knowledge of eugenical principles is of importance to the physician, and that is in giving advice in regard to the desirability of proposed marriages from the point of view of the offspring. This is a matter where the physician exerts a great influence, both because he is so often consulted about marriages, and because he can often intervene with authority, even when not consulted. No doubt in this respect, as in many others, the physician is coming to exercise in the home that authority which the New England clergymen formerly held, and which the Roman Catholic priest holds to-day. The questions about marriage are, I presume of two sorts: One is whether a venereal disease, past or present, is to disqualify from marriage; on this topic I do not propose to speak here. The second sort concerns the inquiry whether the hereditary influences of the parents are such as to insure healthy, well endowed offspring. I know that people think seriously on such matters, for in the past two weeks I have received a score of letters on the subject; and an advertisement has appeared in one of the magazines, offering the services of the subscriber, at two dollars a service, to those who want enlightenment in their specific cases. My experience in the matter demonstrates to me that the doubt whether any people will be influenced in their matings by eugenical considerations is not justified. We may expect when people more generally realize that precise information can often be obtained on the subject that concerns them so intimately, and about which they think so much, that they will seek it and to a certain extent be guided by it. It is encouraging to see how many people approach the marriage relation with the clear appreciation of the fact that it means *children,* and that satisfactory children can come only from adequate germ plasm.

Let us now consider certain principles which must guide us in replying to these inquiries, and then the specific answers that may be given to some of them. And first of all, we must keep in mind that we do not inherit from our parents, nor our grandparents, nor from any person. Our parents and we are derived and inherit from the same germ plasm, and that is why we have traits in common. Though legally I am the father of my son, biologically he is my younger half brother, by another mother. Second, we do not, strictly, inherit traits or characteristics. It is not the strict truth, but a figure of speech, when I say my daughter has my nose. The only thing which parent and child inherit in common is the chemical constitution of the germ cells—the determiners for such and such elements of the nasal and premaxillary bones, of the triangular and pinnal cartilages and of the eight or more nasal muscles. It is because we have the same determiners for some or all of these elements

that we have the same kind of a nose. Third, nearly all characters or their determiners are *separately* inheritable. One person is not able to count, but can read; another reads fluently, but has no idea of cause and effect; another cannot distinguish colors, but can read fine print at a great distance. Because a person is a fool in some matters it does not follow that he may not be a genius in others. Fourth, traits are of two kinds, positive, which depend on the presence of a determiner in the germ plasm; and negative, which depend upon the absence of some determiner. Now every child has two parents; consequently it has two sets of determiners. If both parental germ plasms carry the determiner for any positive trait, then that trait has a double impulse to development and it develops fully. If neither parental germ plasm carries the determiner for a positive character (as is shown by the absence of this character from the soma), then the offspring will not have it. If one parent carries the determiner in all of its germ cells, and the other carries that determiner in none of its germ cells, then all of the children will have the trait, but it will be simplex and the character, accordingly, will be less fully developed. If such a person marry one without the trait, then half of their offspring will be without the trait and half will have it, simplex, again.

The special application of these principles will depend, first of all, upon what traits are positive and what are negative. Thus, Huntington's chorea is a typical positive trait. If it is in the germ plasm it shows in the soma, and if it is in the soma of the parent some of the children will have it, but a parent without the trait, though of choreic stock, will have unaffected children. The fact that the stock to which the person belongs contains *this* highly inheritable and undesirable trait, is no reason for denying marriage to such a normal person. To this same class belong also presenile cataract, displaced lens, glaucoma, retinitis pigmentosa (probably), night blindness, epidermolysis bullosa, tylosis of palms and soles, monilithrix, telangiectasis, chronic family jaundice, hypospadias, and cryptorchidism, polydactylism, syndactylism, brachydactylism, double jointedness, and crossed toes. In all these cases the normal person from such stock may not be denied marriage; but affected persons will have at least half of their children similarly affected; and, if the disease is an important one, they should not have children.

On the other hand, many conditions are due to a defect. A normal person may carry the defect in his germ cells, but he will transmit it only if one of these defective germ cells unites with a similarly defective germ cell from the other parent. It makes no difference whether the trait has appeared in the past few generations of ancestors or not. The great difficulty of advising in this class of cases is due to the fact that, since the germinal defect is hidden, its transmission is less easily guarded against. Where such a hidden potentiality is feared, the first caution is to avoid cousin marriage. The second caution is to avoid marrying into a strain with the same defect, even though the proposed consort does not show the defect. If a study of the family history of the partner shows the same defect, it is desirable that the engagement be broken. Examples of such traits are gigantism, or excessive growth in stature, imbecility or marked mental defect of any kind, epilepsy, manic depressive insanity, dementia præcox, alcoholism, cerebral palsy of infancy, hereditary ataxy, congenital deafness, otosclerosis, harelip, and cleft palate (probable; but further data are much desired), nonresistance to cancer (probably), Thomsen's disease, nonresistance to tuberculosis and to catarrh inciting causes. You see that many of the commonest diseases belong to this category. The possession of these diseases is often considered a bar to marriage, and yet the case is very different with them from what it is with dominant diseases. For the latter must reappear in at least half of the children of an affected parent, while the former may not, and in appropriate mating *cannot* reappear in the bodies of the offspring of such an affected parent. To be sure, the *germinal* defects are continued; but if care is taken in the matings of later generations, the defect may be kept from appearing somatically. No doubt it were better for epileptics, imbeciles, insane, and consumptives not to marry; but if there are strong reasons in any case why a person so affected should marry, then by mating with a strong strain the progeny will not show the parental defect.

Finally, there is a third set of cases, the sex limited. These appear typically in one sex only, the male—and are transmitted in a peculiar fashion known as the knight's move form of heredity. That is to say, affected fathers have ordinarily no affected children, but the defect lies in the germ cells of the daughters and, when they, in turn, become mothers, it reappears in half of their sons. The reason is, in the case of these sex limited traits, the sons inherit only from the germ plasm of the mothers, but the daughters inherit from both parents, and, consequently, if one parent is normal the daughters, also, will be normal, though capable of transmitting the defect to their sons. The following conditions are inherited in this fashion: Color blindness, atrophy of the optic nerve, multiple sclerosis, ichthyosis, muscular atrophy, and hemophilia. Advice in such cases is this: Affected men should not marry if the defect is decidedly undesirable, since their daughters, though somatically normal, will carry the defect in half of their germ cells. Women from an affected father or who have an affected brother, should not marry; but normal sons may marry into outside strains with entire impunity. They carry no taint of the defect, even in their germ cells.

Beside the question whether to marry or not, one of the commonest inquiries is as to cousin marriages. Such marriages are not to be denied offhand, so far as present knowledge goes. Excellent men and women have arisen in the past from such matings—Charles Darwin is a striking example. But the shores of life are strewn with the wrecks of such marriages, and the reason is that such marriages frequently bring together germ cells with *the same unit defects*. For instance, congenital deafness may be due to any one of a score of defects in the auditory apparatus; consequently two deaf mutes are not necessarily deaf because of the same defect and, so, each may bring into the combination

what the other lacks, and as a result all of the children may hear. But if the two deaf mutes be cousins, or if cousins marry who belong to a deaf mute strain, the chance of producing deaf mute offspring is vastly increased—such marriages are highly dangerous for the offspring. Similarly, if the strain contains feeblemindedness, epilepsy, insanity, a tendency toward tuberculosis, nonimmunity to cancer, marriage of cousins should be strongly advised against. If there are children, they will curse the folly of their parents, or the State, already groaning under a heavy burden of taxation for the support of incompetents, will receive an addition of one or two or more wards.

In still another respect a knowledge of eugenical principles is of importance to the physician—as an intimate and esteemed adviser of the family. More and more is the family physician destined to take the place of the clergyman, and even, perhaps, the teacher as an adviser concerning both the physical and the mental development of the child. Too often are our systems of hygiene and our systems of education built upon the false assumption of the essential similarity of people. The thoughtful family physician and the thoughtful mother of a family are well aware of the falseness of this assumption. Adequate advice cannot be had from the glittering generalities of books of hygiene or of psychology. The question of the proper physical and mental education of a child is an individual and a personal question; and an adequate answer to the question can be had only by considering the probable innate capacities of the child as revealed by a careful study of his family history. If such a study shows, for instance, an inherited lack of resistance to the tuberculosis germ, then, *from the beginning,* the child's environment must be such as to strengthen such means of resistance as he may have and to avoid such conditions as tend to reduce his resistence. Is there danger of dementia præcox developing? then from the earliest possible time he must be trained in practical work and in objective exercises. Is the family weakness a digestive one? then attention must early be paid to diet and to physical exercises that shall best combat the weakness before it has shown itself. Similarly, in regard to mental education. We have some reason for believing that great special abilities, like special mental defects, are in heredity due to the absence of a determiner, an absence of that inhibitor which prevents us all from being great musicians, great painters, great orators, and so on. If this is true there is no use trying to train a person, both of whose parents are great musicians, to become, let us say, a civil engineer. Similarly, it would be a waste to plan to make a preacher out of a child with inventive ability in both parental strains. We are not yet in a position to predict for each child of a family which of the family characteristics he may show, for we know well that full brothers and sisters usually differ greatly. But just as the keen horticulturalist who knows his plants, can tell even from the seedling which of several adult possibilities are present, so the eugenist should be able to predict the potentialities of the child from the *germs* of its behavior. No doubt the day will come when every child who comes for the first time to school will bring with him a record of family traits which he will present to his teacher to assist the teacher in the task of educating him; but in the meantime the family physician is the one best suited to advise with parents about the education of children on the basis of eugenical laws.

Finally, the physician is interested in eugenics because of his peculiarly intimate relation to the State; i. e., to organized society. Good and bad are merely social terms. Physical goodness is strength, and physical equipment adequate to effective work for the community; physical badness is physical inability to do one's work in the community. The cripples, the tuberculous, the narcotic subjects are physically bad. Mental goodness is ability to react in normal fashion to stimuli, to live the normal mental life. Mental badness is possession of mental defects such as interfere with one's normal place in the community. The physically and the mentally incompetent, being unable to care for themselves, have to be cared for at great expense to the community. Not only that, but their defects often cause great loss of property and life; in fact, when these socially inadequate become numerous enough in a community, civilization disappears, as in many parts of Hayti. Thus, the absence of color sense in the locomotive engineer formerly caused many deaths, because the engineer could not recognize the signals. Many a murder, if not most murders, have been caused by persons incapable of distinguishing the moral quality of an act. Many a conflagration has been started by a person who could not see why the gratification of his desire for excitement was not a sufficient justification for the act. Many a rape, if not all, has been done by those whose makeup lacked the inhibitors necessary for self control. Religious teachers and secular teachers alike are without effect in reducing these disasters and these crimes. It is to the physician that the State has to look for its protection. And the physician knows that the bad physical and mental conditions are *bred;* that we have reached our present elevated position in civilization by the process of eliminating bad family strains, and that if we persist in our crazy policy of protecting the weakest strains from the action of a natural selection, while permitting them to breed, our nation, too, will soon be numbered among those that were great. Would that physicians might rise to the responsibilities of their profession; or that the State would rise to a full appreciation of its dependence on the profession. For theirs is a work higher than that of the sanitary official who enforces the laws of public hygiene, for their care is that of *race hygiene.* The *preservation* to later generations of our traits of mechanical insight and skill, pertinacity, honesty, sense of duty, foresight, and good judgment—the *elimination* of feeble mindedness, epilepsy, insanity, sex hyperesthesia, strong craving for narcotics, lack of moral sense, and of the appreciation of cause and effect, upon these the future of our country depends far more than upon a large navy. And the physician who leads in the warfare against those venereal diseases that sterilize, alas! not only the unfit; the physician who lends his powerful influence to prevent unfit matings and secure the segre-

gation or sterilization of the socially unfit; and the physician who is successful in encouraigng fit matings and a high fecundity of the best families; such will do more to render our position among the nations impregnable, and permit the continuance of the arts of peace and the progress of science, than an admiral or a general.

AN APPEAL TO PHYSICIANS.

Just one word more, of a very practical nature. If it has been possible to make important advances during the past few years, it is because so many persons have voluntarily placed at the service of students of heredity such a fine lot of carefully compiled data. But there are many matters concerning the inheritance of various traits that are still obscure. The Eugenics Record Office has been established at Cold Spring Harbor, N. Y., for the purpose of collecting and analyzing such data; it seeks to meet the need of a clearing house for data concerning inheritable traits and the innate capacities of the different "families" or blood lines in America. On account of their intimate relations with families physicians are in a position to observe the occurrence of interesting family traits; and it will usually be easy to secure the cooperation of the families to the extent of gaining their permission to have the case reported to this office, in order that it may be filed with like cases and be made, with them, the basis of statistical studies. The Eugenics Record Office, on its part, will be glad to furnish printed schedules for such data, and to furnish collaborators with the printed results that flow from such studies. I may add that, at the present moment, we are making a study of heredity of harelip and cleft palate. The published family histories leave much to be desired. We are convinced that we must interview the families concerned and are in a position to do so. What we desire is that physicians, especially those in rural communities, who know of families in which more than one case of harelip or cleft palate has occurred, will kindly inform the writer. They may rest assured that any such information, or information on other topics, will be held as confidential, that no names will be published, and that the information will be used solely to advance our knowledge of the origin of the trait and the way its recurrence in the offspring may be avoided.

THE ENFORCEMENT OF HEALTH LAWS.*

By Thomas Darlington, M. D.,
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Coincident with the world's general progress much has been done in recent years for relief from those conditions of environment that affect us unfavorably, for prevention of disease and physical suffering, for the promotion of longevity and happier conditions. Such work has made possible the building of the Panama Canal, and many other great achievements which could not otherwise have been accomplished.

*Read before the annual meeting of the American Iron and Steel Institute, held at the Waldorf-Astoria, New York, Friday, May 17, 1912.

SOME FUNDAMENTAL CONSIDERATIONS.

It is beginning to be understood and soon will be generally realized that much effort has been wasted in the past and much efficiency has been lost by lack of attention to industrial hygiene. Matters of this kind have been regarded as philanthropic, and therefore not to be considered in connection with business enterprise. As the business transactions of the world have for their object profit, any proposal is measured by finance. While the inspiration for the betterment of working conditions may have arisen from physicians and philanthropists, true economy has played a large part as the ultimate cause of sanitary reform, and will continue to do so.

That it pays to safeguard a workman from loss of limb or other accident by covering gears or placing guard rails about pulleys and belts is a conclusion that is obvious. Nevertheless, until recent years but little had been done. Not so obvious but just as far reaching in its results is the safeguarding of employees against disease.

It is axiomatic that efficiency depends on health. It is therefore, of great commercial importance that workmen be surrounded with proper safeguards not only for the prevention of accidents but also for the prevention of sickness, and that everything practicable be done not only to prevent disease but also to raise the standard of health to the highest point.

The health of any community depends on the health of its individual components. It depends, therefore, on the persons themselves, on those responsible in various degrees for the daily life and work in a community, and upon those who are responsible for the making and enforcement of laws.

So the responsibility may be divided under three heads:

1. Personal hygiene or care by employees of themselves;

2. Care by a company within its inclosure;

3. Care by authorities (town, city, State, and National Government) in making and enforcing laws.

While public hygiene can be enforced, personal hygiene is a matter that must largely be taught.

PERSONAL HYGIENE.

The care of the individual, those things which are largely under his control and which he should do for himself are: The regulation of his meals—the amount, character, and mastication of them; the amount and character of drink—hours of rest and sleep; ventilation of rooms; personal cleanliness, for clean bodies and clean clothes lessen the chances of blood poisoning in accident cases; washing of hands before meals; daily washing of feet; proper fitting of shoes; amount and kind of clothing; care of the eye, ear, and nose; brushing of teeth; regularity of habits; the cultivation of cheerfulness—for the mind has much to do with the body and especially with tissue changes and secretions; regularity of work.

The first condition of health is fruitful toil. Work is not a necessary evil; it is our greatest safeguard against disease and advancing old age.

The individual should be taught that definite results are to be obtained from definite conduct.

It has frequently been asserted that a large percentage of accidents occurring about plants is due to fatigue. From observation and inquiry it would seem that the greatest number of accidents are due to carelessness, some to ignorance, some to alcoholism, and in other cases a lack of proper guarding of machinery. Still fatigue must be considered.

The determinations of physiologists show that constant and rapid motion of a muscle produces fatigue by the accumulation of lactic acid and carbon dioxide within it.

It is, however, reasonable to suppose that fatigue is due not alone to accumulation of acid within muscles but also to a lack of carbohydrates caused by improper feeding, or to excess of alcohol, or to deranged metabolism due to lack of oxygen, or to loss of sleep, or the condition of the skin, or the amount of fluid taken, or as the result of putrefaction in the intestines and the formation of certain aromatic bodies and absorption of them into the system.

If this be true, what a field of effort is opened to us for the study and correction of such conditions; how easily we see that loss of efficiency can be connected with matters of personal hygiene—how great the importance to both employer and employee of education in such matters.

SANITATION BY EMPLOYING COMPANIES.

Under the second head come those matters relating to health that should be worked out within the plants. Among these may be mentioned periodical physical examination of employees; furnishing a wholesome supply of drinking water, with regulation of its temperature and method of distribution; adequate washing facilities; a sufficient number of properly constructed, clean, light and well ventilated toilets; proper sewage disposal; good ventilation with prevention of fumes, dust, and smoke, or proper disposition of them; clean floors and yards; proper methods of heating in winter and cooling appliances for heated work places in summer; good lighting; provision for first aid; and possible consideration of lunch and rest rooms. Among questions cognate to these are problems relating to hours of labor and periods of rest.

In many plants such matters as these have already been taken up by those in charge. In the building of plants it is well to keep these things in mind, for if included in construction their cost would be less than if added later.

I cannot too strongly urge that when money is available for welfare or sanitary work, it be spent first for the purposes just enumerated, rather than for the building of club houses or reading rooms, or for lectures, playgrounds, recreation centres, planting of trees, flower gardens, or visiting nurses. For, while these are all desirable in themselves and appeal to the general public, they are not by any means of first importance. Nor should the money be expended for the correction of town or city conditions, because these things should be the care of the body politic, the community as a whole.

Furthermore, one must keep in mind that work of such character must be limited, that too much paternalism is unwise and against public policy. What these limits are only the future can decide. At present the first consideration of each company should be the safety and health of the workmen within its plant.

SANITATION UNDER PUBLIC AUTHORITY.

This brings us to the third heading, What should be done in making and enforcing laws—the subject of this evening's paper.

A healthy organism can largely adapt itself to its surroundings, whether in the Arctic Circle or at the Equator; but it cannot adapt itself to bad milk from diseased cattle, impure food, polluted water, dirty streets, putrid garbage, fly breeding manure heaps, mosquitoes, bad drainage, crowded sleeping rooms, foul air, and contagion.

The regulation of such conditions is chargeable not to employer or employees, but to the city, town, or State as a whole. Such matters are as much the care of the public as are schools, fire, or police, and they should not be left to the haphazard of charity. Nor should they be left entirely to those whose duty it is to enforce the laws. These officials are ofttimes absolutely dependent for their daily bread upon the persons over whom they are called to exercise authority, with the result that the laws are but indifferently administered.

The losses entailed are largely calculable. When we consider the loss in wages, loss of time in school, and cost to the State from lack of promotions, sickness in hospitals, drugs, doctors, nurses, undertakers, the effect on the family from the loss of the father, the wage earner, and a host of things too numerous to mention here, the economy of hygienic measures becomes apparent.

But who shall measure the loss in efficiency of a workman if a member of his family is ill and his mind is not upon his work? How much also has this mental abstraction, due to anxiety, to do with accidents?

After long and careful study, I find that the proper standard of health—and, therefore, efficiency—cannot be maintained in the iron and steel and allied industries because of the lack of proper laws and the inadequate enforcement of existing laws by National, State, and local authorities. Enormous sums of money are paid in taxes for which there is no adequate and proper return.

Health departments are never fully equipped Very few deserve the name, and some are simply a name. In the past, and even to-day in the majority of places, matters which pertain to public health and to hospitals have been and are largely matters of private charity.

SOME SIGNIFICANT FIGURES.

Death rates are falling wherever the mandates of hygiene and sanitary science are obeyed. While in many places much has been accomplished, other places are still in the condition of sanitation prevalent thirty years ago.

A study of causes of death shows that, in general, but four per cent. die from old age, four per cent. more from violence, while ninety-two per cent. die from disease. Of the last great group, nearly one

half are due to diseases of environment; that is, to diseases which are the concern of health authorities, which, by proper supervision, could be wholly eliminated. There is no necessity for deaths from typhoid fever, tuberculosis, or diseases of like character. They are wholly preventable.

The determination of the health necessities of communities is based principally on the death rates and general inspection. Taking fifteen of the principal towns visited for this institute, excluding the large cities, the death rates average nineteen per 1,000—easily double what it should be and at least one third more than the rate of some cities of larger size.

For instance, Minneapolis with over 300,000 population has a death rate of 8.63, and even New York and Chicago with their dense and heterogeneous population have death rates of 15.1 and 14.5, respectively.

The basis of sanitary work is registration of vital statistics. In not one State in the Union is there a complete registration of births, and fully one half of the country has no registration of deaths.

IMPORTANCE OF MILK SUPPLY.

Of the matters that need remedying by the authorities, certain things stand out more prominent than others. That which is preeminent—so far as it affects the growth, health, and life of children in the home—is the condition of the milk supply.

This is a matter of vital importance. Not alone does it affect children, but it stands second as a cause of typhoid in adults. And, although the agitation for supplies of clean and wholesome milk has been going on throughout the country for several years, in many places nothing has yet been done.

In a number of towns where the industries connected with the institute are located, I have taken occasion to visit some of the principal sources of milk supply and have found that they could not be worse. In cities advanced in matters pertaining to health, it is usual to mark the standing of dairies upon a score card on the basis of 100. Using such a card, some of the dairies visited scored 8 or 10, others 2 or 3, and to some I was unable to give a single point.

NEGLECT OF CONTAGIOUS DISEASES.

Again, among children it is noticed that the death rates from contagious and communicable diseases are high. It has been shown by records that such diseases are largely spread through the medium of public schools. The approved method of control of such a condition is by a system of medical school inspection and proper quarantine and disinfection, and the reporting of cases by physicians. But such a thing as medical school inspection is almost unknown, except in a few large cities, and even there it is not practised to its fullest extent, while quarantine and disinfection are largely left to the family physician.

In many instances, cases of contagious disease have no physician and are not reported at all, thus giving opportunity for the spread of disease to others.

Little or no provision has been made for proper care of contagious disease among adults. Contagious disease hospitals are lacking everywhere. In two places it was noticed that school houses, costing more than $125,000 each, had been erected, but at each place the contagious disease hospital (or, as they properly term it, "the pest house") cost only $125.

Further study of death rates shows that the mortality from tuberculosis and other diseases of the lungs is high. It takes but little investigation and study to find the principal causes. Among these is foul air.

CROWDING OF SLEEPING ROOMS SHOULD BE ABOLISHED.

Crowded sleeping rooms are found everywhere. It is conceded by sanitarians that the least possible space for each person in sleeping apartments should be 400 cubic feet, and the air should be changed hourly; yet almost everywhere workmen were found occupying much less space, frequently less than half that amount—with no windows open and no system of ventilation, with beds often continuously occupied by the interchanges of day and night shifts, those working at night taking the place in bed occupied by those that work in the day and conversely.

Metabolism—that is, the body processes and chemical changes that take place in the tissues—cannot be properly carried on under such conditions, especially the oxidative processes. So a lack of fresh air and the breathing of expired air in sleeping rooms, unfit a man for work. They cause a loss of vigor, lowered vitality, loss of appetite, anemia, and loss of resistance to disease.

Recent physiological research shows that under such conditions the body may not get rid of its heat, a feverish condition thus supervenes, and there is a consequent waste of fuel.

These crowded and ill ventilated rooms were frequently found in the back of saloons or above them. Many workmen, in their desire to save, choose to board at such places, because board is furnished at the low rate of $3.50 a week. With the present high cost of living, this appeals strongly to the single laborer, and the saloon makes its profit from the sale of intoxicants. The combination of alcohol and foul air readily accounts for disease.

In diseases of such character, early diagnosis is of prime importance. In lung diseases, the sputum must be examined microscopically. In the larger cities this is done by a bacteriologist at the expense of the city. The bacteriologist in connection with the health department diagnosticates not only tuberculosis, but also diphtheria, typhoid and malaria. Such assistance is needed everywhere, but it is almost universally lacking.

BETTER MUNICIPAL WATER SUPPLIES ARE NEEDED.

In a large percentage of the plants, and in towns controlled by the industry, the drinking water supplies belong to the companies themselves, and care has been taken to purify and protect such supplies. But in many of the towns visited, the town water was found polluted, and in others the water was so unattractive by the amount of turbidity due to the mud and silt it contained, especially during the spring freshets, that it was useless even for washing, not to mention drinking purposes.

Inasmuch as typhoid, diarrhea, and dysentery are

largely spread by polluted water, the necessity for better municipal water supplies is obvious.

Garbage is generally not collected and fly breeding stable manure is permitted to be heaped up beside stables and in back alleys throughout the year. Many towns are without sewers. Very few have any system of sewage disposal.

In a number of places where there are no sewers, cesspools take their place. These are connected with limestone caverns, and no one knows where the sewage goes. It frequently happens that a neighbor pumps it up as well water.

So I repeat, not only conditions surrounding the man when he is at work must be guarded, but also those conditions surrounding him when away from work. Of what avail is the furnishing of wholesome water to the man when at the plant if he must take a polluted supply when he returns to his home?

SUMMARY.

Thus I might go on enumerating the various sanitary undertakings resting as a duty upon cities, towns, and villages; but the instances I have given are enough to show the necessity for action. As large taxpayers, those who manage and control plants should exercise their prerogative in demanding that public authorities perform their proper functions in promoting the health and happiness of the people.

Summarized, these duties well performed mean pure air, wholesome water, an uncontaminated food supply, and relief from those factors that detract from physical comfort. They mean better work accomplished and thus economy to employing companies by increased industrial efficiency. They mean decreased loss of time due to preventable illness. They mean decreased death rate from preventable diseases. They mean prevention of the spread of communicable diseases. They mean betterment of living conditions. And finally, they mean contented workmen—and contentment is greatly to be desired.

30 Church Street.

VACCINE TREATMENT IN OPHTHALMOLOGY.

By J. Herbert Claiborne, M. D.,
New York.

Case I. On February 23, 1911, an apparently healthy little girl, six years of age, was brought to me by her mother because she had had repeated crops of styes, for which she had been under treatment for several months by her family physician, without benefit. I corrected her refractive error—a slight hypermetropia, prescribed astringent drops for a mild follicular conjunctivitis, and boric acid salve for the edges of the lids. This treatment was continued for a month or six weeks; nevertheless, the styes continued to reappear. This local treatment was supplemented by internal medication in the form of tonics. Despairing of curing the case by this means, I determined to examine the pus, discover what microbe was producing the styes, and give hypodermic injections of the corresponding vaccine.

When the next stye appeared, the top of the postule was knocked off and a stain and culture was made from it. It was shown to be *Staphylococcus pyogenes aureus*. I obtained four bulbs of the staphylococcus vaccine, each containing four hundred million dead bacteria and began the injections in the child's arm, beginning in the middle of April; giving one hundred million each time, on April 13th, 18th, 22d, and 26th, making in all four hundred million. After the second injection the styes completely disappeared, and early in May the child went to the country. In the middle of August the mother informed me that another stye had appeared. Four injections were given again at regular intervals, in the space of about two weeks; one hundred million each time. Two weeks after the last injection, a very small stye appeared. About the first of December one appeared but passed away in two days. On the 18th of December another one appeared, and her mother determined to have more injections given. I gave four injections of one hundred million each, at intervals of several days. No more have appeared up to this time. Those that have appeared since the beginning of the treatment in April have been insignificant, and contained little pus, except one in December which was large and painful. The rapid apparently beneficial effect was so convincing to the mother of the child that she was more hopeful of the result from the very beginning than I was.

I should like to report another case of furunculosis, which, while it is not consistent with the title of this paper, was treated and apparently cured by injections of the *Staphylococcus pyogenes aureus* vaccines.

Case II. A gentleman consulted me about a number of boils that occurred in his nose, which I treated by epilation of hairs and cauterization of the seat of the boils with a solid stick of silver nitrate. They were apparently cured, but in about six weeks he appeared again with another one in the same region. In the meantime repeated crops of boils had come out on the back of his neck, for which he had had some desultory treatment, but without any benefit. I explained to this patient what I had done in the preceding case, and suggested that I would try the same thing with him. I cauterized the boil in his nose, incised, and scraped out those on the back of his neck, and cauterized the interiors with solid stick of silver nitrate. At the same time, I had him wash his neck constantly with green soap, and bathe it with hydrogen peroxide, full strength. I gave him three injections of one hundred million each of the *Staphylococcus pyogenes aureus*, at regular intervals over a period of ten days. I did not make a culture or slide to test the character of the microbe, but assumed it to be aureus, which is usually present in furuncles. No more boils appeared in his nose, his neck recovered with great rapidity and in about a week he could wear his collar without any discomfort. I saw him first the 23d of last June, and since that time he has had no more.

It is a question whether the injections were the cause of the recovery, in these two cases, but ordinary treatment energetically employed throughout a reasonable length of time had been of no avail. For my part, I feel that the injections were the cause of the recovery in the case of the little girl, but I must confess that the active treatment I employed in the second case with green soap, hydrogen peroxide, incision, and cauterization might have cured the case of furuncles of the neck with equal rapidity; nevertheless, I state the facts; they are, to say the least, interesting and suggestive. I shall employ the same method of treatment in recurrent furuncles whenever I meet them in the future.

Vaccine treatment in the diseases of the eye seems to have been almost entirely neglected in this country, and as far as I am aware this is the first case of furuncles of the lid treated by this method, which has been reported here. This method of treatment seems to have been employed frequently in England and on the Continent, but particularly in the matter of tuberculosis by means of tuberculin T. R., and the bacillary emulsion; incidentally bovine tuberculin also has been employed. Of

course vaccine treatment, like serum treatment, has as its object the production of immunity against bacillary diseases, and the means by which this immunity can be produced, is by autoinoculation from some focus situated in the body, usually stirred up by mechanical irritation, or by heteroinoculation, whereby the vaccine is introduced under the skin hypodermically. Autoinoculation in diseases of the eye is difficult or impossible to achieve, because we cannot use massage, movement, or heat sufficiently to stir up the diseased area and induce systemic inoculation without too much injury to the parts; in addition to which, the area of the eye is so small that it would be difficult to set loose into the system sufficient vaccines to produce any effect upon the opsonic index. In using vaccines by heteroinoculation the diseased parts are usually kept quiet for fear that autoinoculation would take place at the same time, and the effect of the treatment be exaggerated or modified by other accidental substances set loose in the blood along with the autovaccines. It is advised, therefore, to limit the movements of the part affected and command rest while the treatment is going on.

It is hardly necessary here to refer to the monumental work of Sir Almroth Wright and others, who have pointed out that the amount of opsonin in the blood is clearly indicated by the opsonic index. It would seem at the first blush that in order successfully to employ vaccines or serums, the amount of opsonin in the blood should be determined at frequent intervals, and indeed at first it was constantly employed until the fact was established that the clinical symptoms tallied with the amount of opsonin present. When the index is high, all symptoms improve; when the index is low, or there is negative phase, the clinical symptoms are worse. It seems to be well established that several effects upon the opsonic index curves may be produced by the administration of vaccines. By giving a very small dose no obvious effect upon the index may be produced, yet benefit may be derived. Again, what is known as a positive phase may be produced, that is to say, rapid and slight rise of the index, and a gradual fall to its original position before the inoculation. Singularly enough, however, it is declared the usual object aimed at is the production of a negative phase, that is, a fall of the opsonic index, and after twenty-four to thirty-six hours, a positive phase of considerable duration. At times if an overdose is given, a prolonged negative phase is produced, the index remains down. harm is done the patient, clinical symptoms become worse, and this condition may last at times for several weeks. In view of these statements it would appear that vaccine therapy is not upon a certain fixed basis, and it behooves us to approach the subject with deliberation at least. One thing, however, seems to be well established and that is, that the clinical symptoms keep pace with the index.

Authority has obviously to settle that which is the minimum dose, and that having been established, the clinician has a basis upon which to work.

It seems quite certain, also, that the dose varies with age of the patient, the gravity of the infection, and perhaps other less important factors. The dose likewise of the various microbes differs; for example—of the gonococcus vaccine, ten million is the safe beginning dose; of the streptococcus, ten million; of the staphylococcus, one hundred million; of the colon vaccine, fifty million. Ordinarily it is proper to increase these doses as the treatment continues.

It is profitable to look for a few moments at the meaning of this word *opsonin*, and the term *opsonic index*. They are practically equivalent each to the other, and are based upon the power of the leucocytes to absorb and destroy microbes, and the entire theory is based primarily upon the brilliant inductive dream of Metchnikoff, when he assumed that infections were combated by the white blood cells. This brilliant act of inductive dreaming has become a fact demonstrable under the microscope. It is safe to say that no man has ever seen an opsonin, nor has its qualities been described except in a general way. It is evidently some subtle quality of the blood serum which weakens and debilitates the prevailing microbe so that it may be more easily digested and destroyed by its natural enemy the white blood cell, and the opsonic index is the recorded resisting power of this blood serum. The opsonins are, therefore, the allies of the white blood cell, the enemies of the microbe. It is not surprising that Metchnikoff who lived in a country where military control predominates should have constructed his ideas of infection upon the basis of military invasion and repulsion.

The opsonic index of healthy blood is taken as the standard, and it has been shown that 100 leucocytes of healthy blood can defeat and ingest 500 bacteria, in short five bacteria to one leucocyte; when these one hundred leucocytes ingest only 300 bacteria, the opsonic index of the blood in such a case would be below the normal. and the exact index in such a case can be found by applying the rule of three—for example, five hundred is to three hundred, as one, the normal index, is to x (500 : 300 :: 1 : x). It is interesting to note that the ingestion of the microbes by the white blood cells can be seen under the microscope, and the number of microbes taken in by the leucocytes actually counted.

The vaccine therapy is subsequent to the serum therapy, as we well know, and they differ to some extent in their action on the blood. A dose of the vaccine stimulates the patient's blood to make opsonin, whereas by the sera the antibodies are supplied directly. Vaccines, therefore, produce an active immunity, whereas the sera produce a passive one. In preparing vaccines, stock vaccines are usually employed—that is to say those that are derived from cultures, external to, and independent of the patient's body. At times, however, in cases of abundant infection they are prepared from the patients themselves. It is clear that the virulence differs in different cultures, and so we have to fall back upon our support, which is the biological chemist. Perhaps tuberculosis is the disease which has been most studied and treated from the standpoint of serum therapy. Tuberculous iritis, tuberculous keratitis, and tuberculous conjunctivitis have been those most treated, and of late

years phlyctenular ophthalmia has received a great deal of attention by reason of its probable tuberculous origin.

It has always been recognized that this disease is associated with adenitis and that indefinite thing no longer existing scientifically, the so called scrofulous diathesis.

Several years ago, at my suggestion, my late deceased colleague and assistant Doctor Coburn, demonstrated, before this section, a case of phlyctenular keratitis which had been much benefited by the injections of tuberculin serum. Antecedent to his death he had been treating a number of other cases of this disease, in association with the pathological department at Cornell, and it is my hope to present the result of the treatment of these cases, to this section later. The subject has, therefore, already been thoroughly opened so far as the serum treatment is concerned, but the treatment by vaccines of diseases due to pyogenic organisms has not yet been properly studied. Wherever microbes are to be found in inflammations of the eye, I think the character of the microbe should be determined and vaccines should be given, *provided the gravity or obstinacy of the case justifies the procedure.* Purulent inflammation of the lacrymal sac, chronic blepharitis, recurrent chalazion, and recurrent styes have been treated successfully and excellent results obtained. Gonorrheal conjunctivitis is said to have been benefited by their use; ulcers of the cornea, when produced by the staphylococcus or the pneumococcus, have likewise been treated by this method.

It has not been my purpose in making this report to maintain that the injections of vaccine in the case of the little girl certainly cured the case—my purpose has been to state the clinical facts, to call the attention of the members of the section to the vaccine and serum therapy, and to stimulate interest and study the subject.

I am perfectly well aware that a long series of cases, conducted in a painstaking and cautious manner, only could produce data of certain value, but the literature of vaccine and serum therapy is so voluminous and widespread throughout the world, that its application to diseases of the eye should be recognized at once, as reasonable, scientific, and safe. Those who are interested may satisfy themselves on this point. Some have even vaguely suggested that there is danger to the life of the patient, but, when it is remembered that the bacteria are all dead, that they are suspended in a sterile medium, that the instruments are boiled, and the skin disinfected at the point of puncture, such suggestions pass out of consideration. Moreover, after a careful search of the literature, I have not found any case of infection reported. From time to time, erythema occurs round the point of puncture, and a slight swelling, as after other hypodermic injections, but nothing more serious.

In those cases in which there is febrile reaction or other symptoms which make it important that the patient should remain in bed, it appears to be reasonable that the temperature should be taken at regular intervals and the patient kept under immediate trained observation. In the two cases which I report, the infection was purely local, and no general symptoms were present. I did not take the temperature in these two cases, but in the case of the little girl, I cautioned the mother to keep a close watch upon her, and to inform me of any symptoms at once. No systemic effect was apparent, and throughout the injections the child remained the same as before, in so far as her general condition was concerned. In the case of the grown man, he stated he had no unpleasant sensations of any description, but kept careful watch over himself.

The success which has followed the vaccine and serum therapy leads me still further into the confident hope that the future will see a great majority of medicinal agents eliminated from our pharmacopeia. Only a few will be retained; the rest of our therapeutics will be based, I believe, upon prophylaxis, mechanics, sera, and vaccines.

11 East Forty-eighth Street.

SOME IMPOSITIONS PRACTISED ON THE DOCTOR.*

By T. Joseph Dunn, M. D.,
New York,
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The impositions practised on the doctor are many in number and various in kind. They do not belong to the class of serious ills appertaining to our profession, but they are, to say the least, very annoying.

According to the dictionary "to *impose*" is "to place a burden or deception upon one, as by taking advantage of *amiable concession.*" It is in the sense of taking advantage of good nature that I use the term. This conception of the word obviously eliminates all consideration of those get rich quick gentry who take advantage of the *easy*, as contradistinguished from the *good* nature of such professions as medicine and divinity. I believe these two offer a certain preferred class of investors to whom promoters sell mines of various kinds, or make presents of real estate far out in Long Island, or somewhere in New Jersey.

This will not be the burden of my story. I speak rather of those conditions where people, taking advantage of the proverbial good nature of the doctor, put on him burdens which are unfair and unjust. For instance, every man who does general work, knows that a very considerable percentage of his night calls are due to the carelessness or easy indifference of the patients. It is unfair to call a man out late in the evening to see a leg ulcer six months old, or to prescribe for an inflamed ingrown toe nail a week old.

I think it something of an imposition too on the doctor, who is doing a great deal of practical charity work, to be flooded with tickets by organizations of all kinds, chiefly those of the fair sex, whose highest ambition in life seems to be to sell tickets for sweet charity's sake.

The one particular form of imposition of which I wish to speak at length is that practised by the life insurance companies in reference to death claims. Just what legal right the company has to insist on a long written statement from the

*Read as part of a symposium on The Business Side of Medicine, before the Bronx Medical Association, May 23, 1912.

medical attendant I do not know. They cleverly throw the burden upon the beneficiary, as witness the rule: "Claimants are bound to produce, at their own expense, such medical testimony as to cause of death, duration of disease, etc., as may be required by the company."

In other words, when the last premium has been paid, and there is no further revenue in sight for the company from that particular source, and it is their duty to pay according to contract, before carrying out their part they demand such medical testimony as they see fit. This must obviously come from the medical attendant and the company does not pay for it, although it is of use to no one but the company. Contrast the attitude of any insurance company upon the *entrance* of an insured person to their concern and at his *exit* by death. In the first case they show the most solicitous care as to the medical examination. They do not trust the family physician to do this work; they think perhaps it would not be good business. Some of them pay their own medical examiners fairly well; not so well, however, as they do the agent who makes life miserable until you take out a policy. Sometimes the company's medical examiner, with a due regard for the interests of his employer, telephones or writes to the family physician to get a little inside information about the individual seeking insurance. Just why he expects his brother practitioner to help him out in such a matter *gratis* I have never quite made out. I take it to be just another little imposition practised by these brethren, and showing evidently the deteriorating effect of evil association.

The worthy citizen, however, let us say, decides to contribute yearly some of his income to one or more of these rich companies, pays his premium very faithfully for a greater or less length of time, and finally is gathered to his fathers.

He has, in effect, been betting that he would die before the time allotted by the company for such a "risk" as his, and apparently loses either way. Now, as I view it, the companies who entered into agreement with him and *took his money on the strength of it*, are entitled to know that he is actually dead, but that is *all*, and this *information is contained in full in the death certificate filed with the board of health.*

But they are not satisfied with that, they want a lot of privileged information from the medical attendant who is not in their employ, and who is not justified in telling the things he has learned in a confidential way about the deceased; and they want this information to give them a possible excuse to avoid payment of the claim in whole or in part. About one half of the statement they require consists of questions on this order, and at times the answer may put the medical man in the unfortunate position of having acted the spy upon his patient for the benefit of the company.

My answer once to this question: For what diseases have you at any time attended the deceased and what was their duration? formed the basis of refusal by a certain company to pay a death claim where the insured had been insured for thirteen years. The law was invoked and finally the company paid one half the claim. This question is No. 6 on the blank of one of the largest companies.

Again take question No. 10: Did you ever attend or prescribe for deceased, except as stated in answer to No. 9? This might be taken to mean that having lied in No. 9 you would tell the truth in No. 10.

Still other questions are: Was deceased afflicted with any infirmity, deformity, or chronic disease? Did deceased suffer from phthisis? Did any member of his family die of consumption? All these are manifestly unfair questions to put to the family physician; all calculated to serve the interest of the company. Whether they are of value to them as a matter of statistics I do not know, but they are well calculated to develop some contradiction in the statement made by the insured on entering. Under certain conditions, could a medical man honestly and conscientiously answer some of these questions? For instance, knowing that your patient died of cerebral hemorrhage, and that such hemorrhage was secondary to cerebral syphilis, how would you answer the question, Did he have any chronic disease? Would you conceal the fact and deceive the company, or disclose your knowledge and then possibly have the company refuse to pay the insurance, and meanwhile be sued yourself for having disclosed privileged information?

I think the last question of all is simply superb in the assurance it displays. I will read it.

"Are there any other particulars relating to the sickness or habits (*sic*) of deceased with which you think the company should be acquainted? If so please specify."

Are we working for our patients or for the company? Shall we arm these companies to injure those who look to us for comfort and help when they are in trouble? Shall we betray the confidences that have been given to us as a sacred trust, for the benefit of corporations which have not even the sense of justice to pay for the labor and time involved in making out these reports? What is your answer?

2735 Webster Avenue.

PARAPLEGIA, PROBABLY HYSTERICAL IN ORIGIN.

By Gilbert Parker, M. B. (Toronto),
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The following case may be of interest to readers of the New York Medical Journal, and I shall relate the facts as plainly as possible:

Case. J. S., twelve years old, lived at a fishing village called Flat Islands, in Placentia Bay, Newfoundland. He complained of a loss of power of walking and weakness of the left arm, a feeling of numbness in both legs and in the left arm, toothache, and pain in the forehead. These symptoms lasted for nine days, from January 27th to Sunday, February 4th. The family history was negative. The boy was an only child. His father and mother were perfectly normal individuals.

Personal history: His past illness consisted of measles and a few heavy "colds." At the age of nine years an event occurred in the day school, which probably had a considerable effect upon him. For some minor offense he was subjected to an unmerciful flogging at the hands of an irate school mistress. It was said then that the

timely intervention of the older pupils probably saved his life. His neck and shoulders were horribly bruised, so that he was compelled to lie upon his face for a week. He was unable to sleep, and completely lost his appetite. Since that time he had been a different boy, and was easily frightened and excited. The very mention of the word flog, or the slightest chastisement, almost unbalanced him. For example, two weeks ago his mother slapped him twice with her hand on the back. He at once threw his arms about in the air, while he gave vent to the most horrible howls and cries. Then he threw himself, face downward, upon the floor, and sobbed for about fifteen minutes. In one of these paroxysms he threatened to jump off the wharf and drown himself.

The history of his present illness is as follows: Saturday evening, January 27th, he was seized with a violent toothache. The affected tooth was the first lower left molar. This continued up to Thursday night at 10:30, when it shifted suddenly to his forehead. Here the pain assumed a sharp, lancinating character, which he likened to the thrusts of a hot iron, and was intermittent. He had this pain when he first arrived in Burin on Sunday; but when I saw him at 5 p. m. it had ceased.

Thursday evening he had complained of a severe cramp-like pain in the left knee, which disappeared after rubbing, although some stiffness remained.

Saturday, about 11 a. m., he was lying on the sofa, and got up to walk out of the room, when he discovered that he was obliged to use the table and chairs as supports, by which to help himself along. By evening he was unable to walk a step, and could scarcely move his legs at all. At 8 p. m., he felt numbness, extending up to the knees, and this feeling reached to the groins at 11 o'clock.

Sunday he was brought to Burin in a sailing boat, and on the way informed his mother that his body felt numb as far as the umbilicus. On this morning he complained of weakness and stiffness in his left arm.

I first saw him at 5 o'clock Sunday afternoon. Four men carried him into the surgery on a fish barrow. Upon examination he was a fat, hearty boy, sufficiently well developed physically for his age, and answered questions intelligently without hesitation. I stripped him and found as follows: The right arm and hand were perfectly normal in every respect. The left arm and hand were weak. He was able to move this arm in every manner, but much more slowly, and through a smaller range, than the right arm. His grip was much weakened in the left hand. Sensory changes were solely those of degree, no one sense being abolished.

Coming to the feet and legs, upon being asked to move the legs, he was able to stir these ever so little, but could not bend them at the knees. The feet he could move slightly. I was unable to bend the knees forcibly. Upon endeavoring to do so, the quadriceps muscle just above the knee became as firm as a rock, and the cords at the back very stiff. The knee reflex on both sides was slightly increased. Sensation of all kinds was present in a lessened degree. There was control of sphincters of bladder and anus, and there was no paralysis of the face.

An examination of heart, lungs, and digestive system was unproductive. His temperature was 98.2° F., his pulse 80, and respiration 17.

A description of the home medication used might be interesting. He had a strip of belladonna plaster across his forehead, and a mustard plaster on the sole of each foot.

I decided against any organic, nervous disorder and so removed the tooth which had been causing trouble. The remainder of the history is easily told.

The boy said that immediately before the tooth extraction, he was scarcely able to feel my fingers on his feet, and he certainly was unable readily to appreciate a pin prick. However, immediately afterward he spoke of my fingers tickling his feet. He arose from the stretcher, walked across the room, asked for his "pants" and put them on unaided. The power of gripping returned to the left hand at once, and he told his mother that he felt as though he could walk upon her little finger. They left the surgery one hour and a half after entering it, the boy walking away as well as ever. The next day they returned home, and a week later as I was informed by letter there had been no return of the symptoms.

The tooth which was extracted had been the seat of a periostitis, and the roots were bare. Probably this was the source from which the peculiar train of signs and symptoms originated, in some mysterious reflex.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXXII.—What medicines, dressings, etc., if any, would you recommend to equip a family medicine cabinet? Give details as to quantities, labeling, and arrangement. (Closed May 15th.)

CXXIII.—Under what circumstances do you find it advisable to prescribe the continuous use of alcohol? (Answers due not later than June 15th.)

CXXIV.—How do you treat streptococcic sore throat, in view of the possible sequelæ? (Answers due not later than July 15th.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short, if practicable no one answer to contain more than six hundred words; and our friends are urged to write on one side of the paper only.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to Question CXXI was awarded to Dr. J. W. Miller, of Cincinnati, Ohio, whose article appeared on page 1096.

PRIZE QUESTION CXXI.

HEMATURIA.

(*Continued from page 1150.*)

Dr. Albert M. Bell, of Brooklyn, states:

Hematuria signifies some abnormal or pathological condition in the urinary tract. The blood may vary in amount from a profuse hemorrhage to a microscopical quantity. Therefore, first let me urge a careful uranalysis in all suspicious cases.

Blood being present we must determine the origin and causative factor. The lesion may be in the urethra, bladder, ureters, or kidney. Rarely a systemic blood condition, congenital or acquired, may be the cause.

In the urethra the lesion may be due to external injury, gonorrhea, passage of a calculus, prostatic conditions, especially in elderly men. Here the blood is passed at the beginning of micturition, being washed out by the urine. Bladder conditions causing hematuria are cystitis, calculus, tuberculous or villous growths, chyluria. In the urethra we see calculus and tuberculous ulcerations causing hematuria. Finally, the kidney and its pelvis may be the site of the bleeding, due to calculus or new growth in the pelvis, or, in the kidney proper, acute or chronic nephritis, lacerations of the kidney, granular kidney, tuberculosis, malignant growths, infarction, poisons, as turpentine or cantharides.

We must also bear in mind that there are some diseases associated with hematuria, or it may be one of the earliest symptoms. Among these we

have hemophilia, scurvy, purpura hæmorrhagica, and leuchæmia. It is often one of the earliest symptoms in infantile scurvy.

In rare instances the presence of blood can be attributed to nothing more than the passage of uric acid or calcium oxalate crystals, yet we must not rush to this diagnosis until positive there is no more serious lesion.

Aside from the history and careful microscopical uranalysis, we have various forms of technique and apparatus that may assist us in locating the lesion. Among these I might mention: 1. The cystoscope, for inspection of the bladder and catheterizing the ureters. This is of special import in determining definitely whether there is one normal kidney. 2. The x ray, to locate definitely a calculus. 3. The tuberculin test and the demonstration of tubercle bacilli in centrifuged urine.

The treatment in general is in remedying the cause, as the hemorrhage in itself is rarely fatal. Considered specifically, according to causes, we may summarize it as follows:

In the urethra, if an external injury, producing profuse hemorrhage, apply splints and tight bandage to the penis; for gonorrhea, injections of some silver salt, and administration of urinary antiseptics; for prostatic conditions, if associated with obstruction, do a prostatectomy or perineal section with drainage. In all these conditions, pass sounds for a long period if there is any danger of a stricture.

In the bladder there are practically only three procedures: 1. Administration of urinary antiseptics in mild cystitis. 2. Irrigation with antiseptic or astringent solutions, as zinc sulphate, potassium permanganate, adrenalin chloride, or silver nitrate. 3. Suprapubic cystostomy, or drainage through the perineum, in severe cystitis or to remove calculus. In rare cases of villous growths, electricity may be of some value. If there is a calculus in the ureters, obstructing the flow of urine, cut down upon it and remove.

For the kidney conditions, in nephritis, prescribe milk diet, diuretics, rests. In tuberculosis, new growths, and lacerations, do a nephrectomy if only one kidney is involved. In slight lacerations a nephrostomy may be sufficient. In drug poisoning, stop the drug, force fluids; in systemic diseases, treat the general disease, no local treatment being necessary.

In all tuberculous conditions of the urinary tract, treat generally as you would other forms of tuberculosis. Give an abundance of fresh air, milk, and eggs. Some benefit may be derived from injections of tuberculin, especially after a nephrectomy, in those cases arising in the kidney itself.

(*To be concluded.*)

Therapeutical Notes.

Treatment of Carbuncle.—Sereins, in *Bulletin médical* for January 27, 1912, reports a case of spreading suppurative inflammation on the back of the neck, due to the staphylococcus, in which injections of formalin proved by far the most effective measure in arresting the progress of the infection. The patient was not diabetic, but showed albuminuria. Crucial incisions, cauterizations, and partial excisions had been followed by no success, and injections of iodine and hydrogen peroxide had likewise failed. Six weeks after the start of the process, three injections of formaldehyde solution, diluted one to 30, were made on either side at the outer edge of the zone of infiltration, while below the involved area a deep gutter shaped incision was made in the healthy tissues. Next day, the injections were repeated, and on succeeding days subcutaneous dissections with removal of infiltrated tissues were carried out. A few days later the progress of the disease seemed to be arrested, and thereafter gradual healing took place.

Treatment of Bronchial Affections.—*Nouveaux remèdes* for January 24, 1912, recommends the following inhalants:

℞ Menthol, } ..... of each 1 gramme.
Eucalyptol, }
Oil of thyme, } ..... of each 5 grammes.
Oil of lavender, }
Tincture of tolu, ... 10 grammes;
Alcohol, ... 100 grammes.
M. fiat mistura.

Sig.: One teaspoonful of this is to be added to a panful of boiling water, and the vapors inhaled.

℞ Eucalyptol, ... 0.5 gramme;
Alcohol, ... 10 grammes;
Water, ... 500 grammes.
M. fiat mistura. Sig.: To be heated to boiling before use.

Palliative Treatment of Anal Fissure.—T. Chittenden Hill, in the *Boston Medical and Surgical Journal* for April 11, 1912, states that in simple cases of anal fissure, characterized by a shallow, red, linear tear, palliative treatment is generally successful. At the first visit it is advisable to proceed with a moderate digital dilatation, carried out slowly and gently, and with employment of *massage cadencé* described by the old French writers. Unhealthy granulations, if present, may be curetted lightly. Regulation of the bowels should be secured, if possible, merely by correction of dietary errors and nightly injections of olive oil, but many cases will require laxatives, of which cascara or compound licorice powder have proved satisfactory in the author's hands. Active cathartics should be avoided, as liquid stools greatly irritate a fissure. The anus should be bathed night and morning with warm water, and a sterile gauze dressing smeared with a simple ointment of calomel or boric acid, or, if the pain is unusually severe, an ointment, containing cocaine or morphine, 5 or 10 grains to the ounce, should be applied.

The patient should call at intervals of four or five days, when, after cocainizing the ulcer, the sphincters should be moderately stretched and an application of ichthyol and glycerin (15 per cent.), or of balsam of Peru (20 per cent. in castor oil), made with a small pledget of cotton, and allowed to remain for several hours. Silver nitrate, either as the pure stick or in solutions of various strengths, will occasionally produce rapid healing of a fissure, but its routine use often proves disappointing. Tuttle recommends applications of pure ichthyol, two or three times a week, but the author's preference is for the milder protective applications of ichthyol and Peru balsam, gradual dilatation of the sphincters being depended upon to effect a cure.

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THE AMERICAN MEDICAL ASSOCIATION AND FEE SPLITTING.

In our issue of April 20th we deplored the fact that Dr. C. A. L. Reed had been forced to conclude, after a careful examination of the question, that the practice of fee splitting could not be denied, though resorted to only by a minority of the profession. We claimed at the time that the drastic measures proposed to correct this evil, viz., that the conviction of a physician by the medical society to which he happened to belong, be given the widest publicity, that State licensing boards be empowered to revoke his license, and that if he happened to be a member of any faculty his name be dropped from the rolls,—would prove unnecessary. We held that a lack of understanding of the great wrong done and its many debasing, not to say criminal, sides would account for the initial step in the evil path in practically every instance, and that if due publicity by the medical press were given to the immorality and dishonesty of fee splitting, many of our colleagues who had fallen by the wayside would promptly return to the path of professional honor.

The report of the Judicial Council to the House of Delegates, accepted by the latter on May 4th, embodies modifications in the rules governing compensation which cover so clearly the whole line of conduct that any further evasion of their purport will be inexcusable now that due publicity has been given to the crime in point. We reproduce the article *in toto* covering this feature as modified: "It is detrimental to the public good and degrading to the profession, and therefore unprofessional, to give or to receive a commission. *It is also unprofessional to divide a fee for medical advice or surgical treatment* unless the patient or his next friend is fully informed as to the terms of the transaction. The patient should be made to realize that a proper fee should be paid the family physician for the service he renders in determining the surgical or medical treatment suited to the condition, and in advising concerning those best qualified to render any special service that may be required by the patient."

These unmistakable terms leave no loophole for evasions; the line of conduct they dictate is absolutely fair to physician and patient. It is now the business of *all* medical societies to carry the good work into effect. We again urge that the application of the rule be not retroactive, in order to afford to those who may have sinned ample opportunity to mend their ways. As forcefully do we plead, however, that no leniency or consideration be shown to those—consultant as well as family physician—who, persisting in their immoral, dishonest, and degrading attitude, become unworthy of the honorable profession to which they have unfortunately been admitted.

UNCOOKED VEGETABLES AND TYPHOID FEVER.

The possible rôle played by vegetables in the spread of typhoid fever has not in the past received the attention which it seems to deserve. In the consideration of the epidemiology of this disease investigations were for some time directed mainly to water as the usual agent. This has served a useful purpose in showing that outbreaks of typhoid fever are frequently caused by contaminated water and that a sanitary water supply is a necessity for the welfare of a community. Then attention was focused on milk, which was shown to be a frequent carrier of typhoid fever infection and a not uncommon cause of both large and small outbreaks. Later the fact that a certain percentage of those who had had typhoid fever continued to harbor the *Bacillus typhosus* in their intestinal tracts and gallbladders, and at times also in their urine, was brought out and it was found that these chronic carriers might be and frequently were the direct or indirect cause of outbreaks of the disease, and that they are undoubtedly an important factor in the continuance of typhoid fever and the occurrence of prosodemic cases. Recently special atten-

tion has been given to direct contact with patients, and with soiled bedding, or clothing, utensils, and dishes, and to the part which flies may play in the spread of the disease by becoming mechanically soiled with infectious material and subsequently coming into contact with foodstuffs and beverages.

There are undoubtedly other agencies which spread the disease, that is, serve as conveyers of infectious material directly or indirectly. One of these is very probably uncooked vegetables grown in soil intentionally, and at times unintentionally, fertilized with human excreta.

During the last fifteen years various observers have endeavored to ascertain the length of time the *Bacillus typhosus* would live in soil under many different conditions to which it might be exposed in nature. Firth and Harrocks inoculated ordinary soil with an emulsion of the *Bacillus typhosus*. The soil was not otherwise treated in any way except to add rain water from time to time to simulate the natural rainfall. They were able to recover the organism from this soil for a period of sixty-seven days. In soil kept dry and exposed to direct sunlight the bacillus was recovered for twenty days. Levy and Kayser recovered the *Bacillus typhosus* from infected feces which had remained in a vault for over four months and a half, and had then lain as manure in a garden for fourteen days. Robertson inoculated with bouillon cultures of the *Bacillus typhosus* soil at various depths out of doors and under natural conditions, and recovered the bacillus after 143 days.

Other investigators have recovered the organism from soil after different lengths of time under various conditions. It has been shown that the *Bacillus typhosus* may survive during a winter in soil, the upper layers of which have remained frozen for at least a part of the time, that it will remain viable for at least twenty-five days in soil dried to the extent that dust is formed, and that the organism will penetrate soil to a depth of eighteen inches when flooded with water and will grow to the surface when burned to a depth of eighteen inches. It may be inferred that these findings represent the average longevity of the organism in soil or possibly more nearly the minimum, certainly not the maximum.

This suggests forcibly the possibility that salad vegetables grown in infected soil might carry on them the bacillus, in fact that they would in all probability do so. Wurtz and Bourges planted seeds of cress, lettuce, and radishes in soil in pots, then sprinkled the earth with water containing the *Bacillus typhosus*. When the plants sprouted the leaves were examined, and the bacillus recovered from them for three weeks after the earth in which the seeds were planted had been sprinkled. More recently Creel[1] has demonstrated conclusively that the leaves of plants grown in infected soil may carry with them the bacillus. In April, lettuce and radish seeds were planted out of doors, exposed to natural conditions as to soil, sunshine, and rainfall. On the second day after planting the seed the surface of the ground was sprinkled with a fecal emulsion mixed with a twenty-four hour old agar culture of the *Bacillus typhosus*. After the plants sprouted the tips and leaves were at intervals of two or three days carefully removed well above the ground so that no particles of earth would be taken up. The tips and leaves were then rubbed over the surface of culture medium, or washed with broth and the washings plated. Creel was in this way able to recover the *Bacillus typhosus* from the plants for varying periods, the longest of which was thirty-one days after the infection of the soil, a period, as he states, long enough to enable certain varieties of lettuce and radishes to mature. From the soil itself he recovered the organism for thirty-five days. It is especially significant that the bacillus was recovered from leaves which to the eye appeared entirely free from particles of soil, and that no amount of washing which it was possible to give to the lettuce leaves sufficed to free them entirely of the organism. As vegetables are usually marketed with particles of soil adhering to them, they must be considered as possible carriers of infectious material wherever it is present in the soil in which they have grown.

This work merits attention because of its bearing upon the practice common in many sections of the country of fertilizing truck gardens with night soil.

[1] Creel, R. H., Passed Assistant Surgeon, Public Health and Marine Hospital Service, Vegetables as a Possible Factor in the Dissemination of Typhoid Fever, *Public Health Reports*, February 9, 1912, page 187.

PHARMACY AS A PROFESSION.

At the fifth annual joint meeting of physicians and pharmacists, held last month under the auspices of the New York County Medical Society and the New York Branch of the American Pharmaceutical Association, Mr. Jacob Diner put forth the suggestion that a committee be appointed to prepare a list of preferred pharmacists in New York city who might with propriety be specifically recomended by physicians as dispensers. Mr. Diner said that if physicians really wished to have pharmacists who would give exclusive attention to the professional side of their work, they must give them some encouragement; the efforts of several pharmacists in New York city to conduct their establishments along strictly ethical and professional lines had resulted in financial failure. Physicians condemned the commercialization of pharmacy, but seemed unwilling

to give support to the pharmacist sufficient to enable him to make a financial success without converting his pharmacy into a miniature department store. The success of the milk committee of the New York County Medical Society in its efforts to differentiate between sanitary and unsanitary dairies, gave ground for hope that somewhat similar results might be obtained in the selection of pharmacies which could safely be trusted with the dispensing of prescriptions, and it was believed that it would be as feasible for a joint committee to certify the professional responsibility of a particular pharmacy as it is to issue certificates that a dairy is conducted on sanitary lines.

This suggestion having been laid before the New York County Medical Society, the president, Dr. Charles Gilmore Kerley, was authorized to appoint a committee of ten members to meet with a similar committee from the New York Branch of the American Pharmaceutical Association with a view to carrying out the idea.

The project appeals to us as most commendable and as offering the only practicable means for encouraging the exclusively professional pharmacy in its competition with the commercial institution which makes the dispensing of medicine a comparatively insignificant concomitant to the business of a general bazaar. The committee will find themselves confronted with a difficult and delicate task in endeavoring to draw up a definition which will avoid injustice in some cases, but the object is laudable and well worth taking risks to carry out.

AN AVOIDABLE CATASTROPHE.

A death which is not only a national calamity, but a national disgrace is that of Wilbur Wright, who was cut off in the flower of manhood and, it is fair to say, in the still developing stage of his genius by a disease which is due to nothing but dirt, and to dirt under one of its most offensive aspects, i. e., in drinking water. Wilbur Wright was a victim to the negligence of some governmental authority, National, State, or municipal, in maintaining common decency in the protection of the people's supply of water. He died of typhoid fever, the prevalence of which is one of the blots on our happy go lucky methods of looking after the health of our citizens, and the more or less reverent shifting of the responsibility to the Almighty in His wisdom, which will doubtless adorn countless testimonials of esteem and regret, does not absolve us from our guilt. Typhoid can be absolutely stamped out by simply furnishing local boards of health with sufficient funds to enable them to exercise a competent supervision of the sources of water supply. For elementary instruction in this matter, of a kind that should have been learned by heart by every grammar school child thirty years ago, see the *Boston Medical and Surgical Journal* for May 23d, the article on the eradication of this heritage of filth by Dr. A. J. McLaughlin, abstracted on page 1233 of this issue of the JOURNAL.

We do not often lose a genius through our stupidity and indifference for obvious reasons; but we lose thousands of useful citizens and have to nurse thousands more; besides, what will appeal more strongly to the authorities, the expense of this loss in actual money is well nigh incalculable.

DISCREDITING SALVARSAN.

As may be seen by reference to our department of Pith of Progressive Literature, page 1161, Professor Gaucher in *Presse médicale* for May 15, 1912, has brought a tremendous indictment against salvarsan. He contends that he has been preaching his gospel of disbelief for eighteen months and now finds himself corroborated in many particulars by Finger, of Vienna. Professor Gaucher's attack is so sudden and so categorical that his remarks are likely to cause wide discussion. The distinguished clinician will have naught of Ehrlich's remedy save *en dernier ressort* where mercury and potassium iodide have proved unavailing. He denies any sterilizing action to salvarsan and credits it with a merely cicatrizing effect on dermal lesions, which is rather dangerous than otherwise in misleading both physician and patient, and avers that it renders syphilis latent, to break forth with renewed fierceness after months of quiet. So uncompromising an attack will be heavily discounted by many experienced therapeutists and is certain to arouse antagonism in the minds of many who might have been convinced, at least in part, by a gentler and more judicial arraignment.

HANDBOOK OF COMMUNICABLE DISEASES.

The Division of Communicable Diseases of the Department of Health of the City of New York, of which Dr. J. S. Billings, jr., is the chief, has published a very convenient handbook of information regarding the routine procedure of the Division of Communicable Diseases. The scope of the work of this division consists of the sanitary supervision of tuberculosis, together with the conduction of tuberculosis clinics, hospitals, etc.; the sanitary supervision of typhoid fever, cerebrospinal meningitis, acute poliomyelitis, pneumonia, malarial fever, puerperal septichemia, abortion, and erysipelas; the administration of antitoxine and the performance of intubation in diphtheria; and, finally, the conduction of a diagnosis laboratory. A large staff of officers and laborers belong to the division, and over twenty offices. The book itself contains valuable information and will be welcomed by the practitioner as a handy work of reference.

Obituary.

JOHN ARTHUR IRWIN, M. D.,
of New York.

Doctor Irwin died on June 1st at his residence in New York city of cirrhosis of the liver. Born in Roscommon, Ireland, June 17, 1853, he received his education at Cambridge University, England, and in the medical department of Dublin University. In 1875 he became licentiate of the College of Physicians of Dublin and joined the Royal Free Hospital of London as house surgeon. In 1882 he came to the United States and settled in New York, where he had practised since. For several years he was physician to the St. George's Society of New York and later to the White Star Line. He was a contributor to English as well as American medical journals. Well known in social life he became president of the British Schools and Universities Club. Doctor Irwin was present at the death of Washington Irving Bishop, the famous "mind reader," who died in a cataleptic state at a meeting of the Lambs club on May 13, 1889. Doctor Irwin, together with Dr. Frank Ferguson, the pathologist of the New York Hospital, and Dr. I. H. Hance, performed an autopsy without permission from the family. The three physicians were brought before a coroner's jury which decided that the autopsy was undertaken in good faith and that there was nothing to show that Bishop was still alive when the physicians began the dissection. But so much agitation had been raised that the grand jury took up the case and returned indictments against the three physicians, which were, however, quashed later.

Medical Law.

V. RIGHTS AND LIABILITIES OF THIRD PARTIES.

The opposite phase of the question presented in the case of Habhegger v. King, appearing in the JOURNAL for May 4th, is illustrated in the case of Rich v. Edison Electric Co., 123 Pacific Rep. 230.

In this case an employee at a pumping station was seriously injured by coming in contact with an electric wire of the Edison Electric Company, which furnished electricity to the pumping station. An employee of the Edison Electric Company, the defendant, called the plaintiff who had the injured employee removed to a hospital, and proceeded to amputate a leg, and perform other operations necessary for the preservation of the injured man's life. About the time these operations were concluded, nothing remaining to be done except to apply some dressings, the chief surgeon of the defendant company arrived and recommended that certain things be done, and directed the hospital authorities to give the patient every possible care, which was shortly afterward confirmed by the assistant to the president and general manager.

An action was afterward commenced to recover $1,400 for the surgical services and the hospital charges. The jury returned a verdict for the plaintiff allowing him $827. From this an appeal was taken.

The appellate court, in determining the appeal, considered, first, whether the instructions of the chief surgeon and assistant to the president obligated the corporation for services thereafter rendered, and, second, whether the corporation was liable for the operation performed before instructions were received from the chief surgeon and the assistant to the president.

Upon the first question, Mr. Justice Allen said:

It matters not whether any legal or moral obligation rested upon defendant to care for this injured man; it is sufficient that his injury was occasioned through instrumentalities employed by the defendant, and that officers and agents of defendant with ostensible authority directed the hospital authorities to continue the service. The evidence is undisputed that a medical department of defendant, under the charge of Stinchfield, was maintained, by authority of the corporation, for the purpose of looking after persons who were injured on the system, and that the chief surgeon had been authorized to make arrangements for their care in outside towns, when injuries occurred. In addition to this, Selig was assistant to the president of the company, who was also its general manager, with authority to look after the interests of the company where special attention could not be given by the general manager at the time; and it must follow that, where he acted in the line of his employment, he was the representative of the general manager, and in an emergency of the kind here presented possessed the authority, in behalf of the company, to look after this injured man, even though technically no liability attached to the company on account of the injury. The rule, to our mind, is well established that even subordinate employees of a corporation, who, under ordinary circumstances, are not empowered to bind the corporation by contract, nevertheless possess power, where an urgent necessity exists for immediate employment by reason of injuries incident to the operations of the corporation, to employ medical help to alleviate the condition of persons so injured; and we are of opinion that the plaintiff in this case had the right to assume that these representatives of the heads of their respective departments possessed the authority which they assumed.

Upon the second question, Mr. Justice Allen said:

A different question, however, is presented as to the surgical services performed before any instructions were given by the officers of the corporation. It may be true that, had the record disclosed the fact that the injury to Lapier was occasioned through the negligence of the defendant company, from which would arise a legal obligation imposed by law (section 1714, Civ. Code), and surgical services rendered to save the life of an injured one, thereby lessening the damages which would thereafter result to the corporation in the event of the death, the corporation would not be heard to say that such services, rendered for its benefit, were unauthorized, and thus avoid payment. But an examination of the record in this case fails to disclose that any legal liability existed on the part of defendant corporation by reason of this injury. It is true that a stipulation is found in the record to the effect that the injured man brought suit against the company, and that subsequently the same was settled and dismissed through the payment of $4,500. The mere settlement of an action for damages brought against a defendant does not of itself establish the matters involved in the question of legal liability. It may be, and often is, the case that actions of this character are settled and dismissed, where no liability exists; other considerations entering into the transaction. We think that, if the negligence of defendant occasioned the injury in this case, it should have been established, in order that it might be made to appear that plaintiff performed a duty devolving by law upon defendant, and for which, in equity and good conscience, he should be compensated. For aught that appears in this record, the surgical services were voluntarily performed, and no legal duty rested upon defendant corporation to compensate him therefor. The verdict in this case, under the evidence, then, being much in excess of what we regard as a proper verdict, and which of necessity must have included a portion of the services rendered without instructions, should be reversed.

The American Medical Association,

Sixty-third Annual Meeting,

Atlantic City, June 3 to June 7, 1912.

Introduction.

Exactly 1,845 members of the American Medical Association had registered when the opening meeting took place in the Apollo Theatre on the Atlantic City boardwalk before an audience of members, their wives and daughters, that packed the building to the doors three quarters of an hour before the Reverend Doctor McShane pronounced the opening invocation. Although many branch societies and the House of Delegates had begun their labors yesterday, the great majority of members seemed to have arrived overnight. On foot and in the comfortable rolling chairs the big audience made its way to the theatre, being stimulated by the delightful, typical seaside weather. It was sunny and the temperature was high, but a sharp breeze from the sea mitigated what would otherwise have been a trying morning. Two flashlight pictures of the audience were taken about 10.15.

Tremendous applause greeted the entry of the retiring president, Dr. John B. Murphy; the active president, Dr. Abraham Jacobi; Governor Wilson, of New Jersey, and his suite; Mayor Harry Bacharach, of Atlantic City; Dr. John A. Wyeth, of New York; Doctor Strock, of New Jersey, and others.

Doctor Murphy, opening the meeting, introduced the mayor, who welcomed the members of the association, apologizing humorously for being slightly late, a fault he said never before noted in Atlantic City. The city was particularly proud to welcome a convention of the greatest people in the country. He had appointed a member of the association a member of the city council only the day before, as a sort of token of his admiration. The reports of crookedness now broadcast in the newspapers were absurdly exaggerated. Nowhere were ladies and children safer than on the great boardwalk, at any hour of the day or night.

The mayor concluded by presenting the key of the city to Doctor Murphy, who then introduced Doctor Strock, chairman of the New Jersey Medical Association. The latter also welcomed his fellow physicians to the city and State. The American Medical Association was a force in New Jersey, which was becoming known for its splendid fight against the worst features of lodge practice, unfair discrimination, etc. The State had not endorsed osteopathy, followers of which must understand medicine if they wished to practise. The State society was the oldest child of the American Medical Association; it was to meet next week at Spring Lake and all those present were invited.

Governor Wilson, greeted with cheers and music by a standing audience, said that he felt it a privilege to welcome this great association, one of the few which visited Atlantic City in a serious vein. The city was getting used to investigation, but association members investigated only the citizens and were pleased with what they found. He wished physicians could be in some way State officials, like lawyers, and represent the morality as well as the knowledge of the community. Knowledge was not vital unless allied with sympathy and morality. He regretted the disappearance of the family physician; he had once called in thirteen specialists to see himself when sick. His father would have seen but one man, but he would have been also a warm personal friend. It was a pity that specialization was so complete from the viewpoint of sympathy. Much was "cut out" of modern life by surgeons. Prognosis was useful in politics, diagnosis appeared in party platforms, then came the crucial matter of therapy, wherein we must try to avoid the methods of the quack. Physicians might help statesmen by treating the hysteria so manifest in politics at this crisis. He wished he knew how to treat it, for personally he had never been hysterical. He looked forward to good feeling restored among all people of good will.

Retiring President's Address.—Dr. John B. Murphy contented himself with thanking the association for its cordial support during his administration and stated that he felt honored in turning over his office to the Nestor of American medicine, who really needed no introduction to this audience nor to any other medical gatherings. He would introduce Dr. Abraham Jacobi, of New York, and of the world.

President's Address.—This address appears in full, through the courtesy of the president, in this issue of the JOURNAL.

Prolonged applause greeted the conclusion of the presidential address and the vast audience dispersed, thus terminating the formal opening of the sixty-third annual meeting of the American Medical Association.

Provision for Amusements.—No previous meeting of the association has been better provided with healthful distractions for the members after the arduous work in the various sections and in the House of Delegates. Concerts were given on Wednesday and Thursday evenings by a symphony orchestra and a quartette of vocalists, both of a high order of merit. These were given on the huge Steel Pier, an ideal spot for the purpose, recalling the magnificent concerts by Anton Seidl at Brighton Beach two decades ago.

On Tuesday evening a number of college alumni reunions were held, smokers and vaudeville entertainments for the most part. The Country Club of Atlantic City threw open its excellent links to members of the association who have the golf neurosis. On Young's Pier an interested crowd saw a net haul on Wednesday morning of thousands of fish,

edible and other. At the invitation of the Mayor and Beach Surgeon Doctor Beckwith, a guard drill was witnessed and an exhibition of rescue and resuscitation at the Beach Station, which proved unusually interesting to the professional guests. The United States Life Saving Station and Lighthouse was thrown open for inspection. The airship *Akron*, which suffered a slight wreck on June 2d, was visible at its hangar owing to the courtesy of the owner, Mr. Melvin Vanniman.

Many visitors found ample amusement in the roller chairs, some of which are large enough to accommodate three passengers abreast, and spent their spare time going up and down the five miles of boardwalk.

The function *par excellence*, however, was the reception tendered to the president, Dr. Abraham Jacobi, for which handsomely engraved invitations were issued. An immense audience attended this reception and enjoyed the dance which followed it. Following is the programme:

Coronation march, Meyerbeer; overture, "Raymond," Thomas; valse, "Estudiantina," Waldteufel; fantasie, "Rigoletto," Verdi; melody in F, Rubinstein; sextet from "Lucia," Donizetti; selection from "Alma, Where do You Live," Briquet; intermezzo and barcarolle from "The Tales of Hoffmann," Offenbach; march, "Hail to the Spirit of Liberty," Sousa.

Dances: 1, Valse, "The Quaker Girl," Monckton; 2, two step, "Oceana Roll," Boynton; 3, valse, "The Pink Lady," Caryll; 4, two step, "Oh, You Beautiful Doll," Ayer; 5, valse, "Dollar Princess," Strauss; 6, two step, "Skeleton Rag," Madden; 7, valse, "The Spring Maid," Reinhardt; 8, two step, "Honey Moon Love," Ayer; 9, valse, "Gipsy Love," Lehar; 10, two step, "Ragtime Violin," Berlin.

Ladies' Entertainments.—The ladies accompanying visiting members were by no means neglected. On June 4th at the Hotel Chalfonte there was an introductory tea and musicale with refreshments. On June 5th the ladies had tea and boat rides at the Ventnor Boat Club. On June 6th there was a formal reception with music and refreshments at the Marlborough-Blenheim.

The Headquarters and Meeting Places were as follows:

Section Headquarters: Practice of Medicine—Hotel Dennis. Surgery—Hotel Chalfonte. Obstetrics and Gynecology—Haddon Hall. Ophthalmology—The Strand. Laryngology, Otology, and Rhinology—The Seaside. Diseases of Children—Hotel Traymore. Pharmacology and Therapeutics—Hotel Dennis. Pathology and Physiology—St. Charles. Stomatalogy—Young's Hotel. Nervous and Mental Diseases—Hotel Brighton. Dermatology—St. Charles. Preventive Medicine and Public Health—Hotel Shelburne. Genitourinary Diseases—Hotel Rudolf. Hospitals—Hotel Rudolf.

Section Meeting Places: Practice of Medicine—First Presbyterian Church. Surgery—Music Hall, Steel Pier. Obstetrics and Gynecology—Ball Room, Steel Pier. Ophthalmology—West Solarium, Marlborough-Blenheim. Laryngology, Otology, and Rhinology—Playroom, Hotel Dennis. Diseases of Children—Masonic Hall. Pharmacology and Therapeutics—Chapel First Presbyterian Church. Pathology and Physiology—Playroom, Chalfonte. Stomatology—Young's Hotel. Nervous and Mental Diseases—Olivet Presbyterian Church. Dermatology—Central M. E. Church. Preventive Medicine and Public Health—Chapel Olivet Presbyterian Church. Genitourinary Diseases—Casino Hall, Steel Pier. Hospitals—Hotel Rudolf.

On the whole, no more enjoyable as well as generally satisfactory annual meeting of the A. M. A. has ever been held. As will be seen, the Sections were most interesting and instructive, much valuable legislation was accomplished in the House of Delegates, and the entire planning and carrying out of the meeting reflected the highest credit on all concerned. The utmost courtesy was extended to inquirers and writers and every facility provided to enable them to see and appreciate every detail. The scientific exhibit, of which we speak elsewhere, was of a high order of merit and will doubtless be a feature of growing importance in succeeding meetings.

The House of Delegates.

MONDAY FORENOON SESSION, JUNE 3D.

The usual delay of unbusinesslike professional men caused the opening of this body to be postponed till 10.25 a. m., although called for 10 o'clock sharp. Fascinated by the commercial exhibit, where numbers registered, or cooled by the delicious breeze which tempered an otherwise hot and humid morning on the board walk, the physicians took their time in assembling in the Solarium on the top floor of the Traymore. This is a delightful spot for a meeting of the kind, cool and bright, and commanding a superb view of the sea and the city.

President John B. Murphy called the meeting to order, the report on credentials was made, and the roll called. The delegates were as follows:

Alabama.—Seale Harris, Mobile. Lewis C. Morris, Birmingham.
Arizona.—
Arkansas.—G. A. Warren, Black Rock. Morgan Smith, Little Rock.
California.—O. D. Hamlin, Oakland. George A. Hare, Fresno, George H. Kress, Los Angeles.
Colorado.—Hubert Work, Pueblo. Edward Jackson, Denver.
Connecticut.—D. Chester Brown, Danbury. E. J. McKnight, Hartford.
Delaware.—
District of Columbia.—G. Wythe Cook, Washington.
Florida.—
Georgia.—T. J. Charlton, Savannah.
Hawaii.—
Idaho.—
Illinois.—Hugh T. Patrick, Chicago. Albert T. Brittin, Athens, John A. Robinson, Chicago. W. L. Noble, Chicago. A. C. Cotton, Chicago. George S. Rainey, Salem.
Indiana.—Miles F. Porter, Ft. Wayne. F. A. Tucker, Noblesville. J. Rilus Eastman, Indianapolis. Edwin Walker, Evansville.
Iowa.—Max Witte, Clarinda. L. W. Littig, Davenport.
Isthmian Canal Zone.—William C. Gorgas, Ancon.
Kansas.—
Kentucky.—A. T. McCormack, Bowling Green.
Louisiana.—Oscar Dowling, Shreveport.
Maine.—E. H. Bennett, Lubec.
Maryland.—G. Lane Taneyhill, Baltimore. R. B. Warfield, Baltimore.
Massachusetts.—F. H. Thompson, Fitchburg. F. G. Wheatley, N. Abington. Hugh Cabot, Boston. Horace D. Arnold, Boston. H. G. Stetson, Greenfield. H. W. Van Allen, Springfield.
Michigan.—F. W. Robbins, Detroit. R. R. Smith, Grand Rapids. Arthur D. Holmes, Detroit.

Minnesota.—George D. Head, Minneapolis. R. C. Dugan, Eyota.
Mississippi.—J. W. Young, Grenada.
Missouri.—E. J. Goodwin, St. Louis. R. M. Funkhouser, St. Louis. A. W. McAlester, Kansas City. C. R. Woodson, St. Joseph. H. L. Reid, Charleston.
Montana.—Donald Campbell, Butte.
Nebraska.—A. R. Mitchell, Lincoln. E. A. Steenburg, Aurora.
Nevada.—M. A. Robison, Reno.
New Hampshire.—John Z. Shedd, North Conway.
New Jersey.—Edward Guion, Atlantic City. C. R. P. Fisher, Bound Brook. Alex. McAlister, Camden.
New Mexico.—W. R. Tipton, East Las Vegas.
New York.—A. T. Bristow, Brooklyn. Edward E. Cornwall, Brooklyn. James M. Fleming, Brooklyn. Wesley T. Mulligan, Rochester. Edgar A. Vander Veer, Albany. Wendell C. Phillips, New York. Dwight Murray, Syracuse. James P. Warbasse, Brooklyn. William D. Johnson, Batavia. Grant C. Madiel, Ogdensburg.
North Carolina.—J. F. Highsmith, Fayetteville.
North Dakota.—Victor H. Stickney, Dickinson.
Ohio.—J. E. Tuckerman, Cleveland. E. J. March, Canton. J. H. J. Upham, Columbus. C. I. Bonifield, Cincinnati. W. J. Means, Columbus. Auguste Rhu, Marion. H. C. Haning, Dayton.
Oklahoma.—E. S. Lain, Oklahoma City.
Oregon.—Kenneth A. J. MacKenzie, Portland.
Pennsylvania.—Thomas D. Davis, Pittsburgh Thomas S. Asbuthnot, Pittsburgh. Fremont W. Frankhauser, Reading, William T. Hamilton, Philadelphia. George W. Guthrie, Wilkes-Barre, Theodore B. Appel, Lancaster. M. Howard Fussell, Philadelphia. Luther B. Kline, Catawissa.
Philippine Islands.—
Rhode Island.—John Champlin, Westerly.
South Carolina.—E. A. Hines, Seneca.
South Dakota.—
Tennessee.—Jere L. Crook, Jackson. A. B. Cooke, Nashville. S. M. Miller, Knoxville.
Texas.—W. B. Russ, San Antonio.
Utah.—Sol G. Kahn, Salt Lake City.
Vermont.—
Virginia.—C. M. Miller, Richmond. William E. Anderson, Farmville. John S. Davis, University.
Washington.—J. E. Else, Pullman.
West Virginia.—F. L. Hupp, Wheeling.
Wisconsin.—Chas. S. Sheldon, Madison. A. H. Levings, Milwaukee. John F. Pember, Janesville.
Wyoming.—

DELEGATES FROM THE SECTIONS.

Practice of Medicine. J. A. Capps, Chicago.
Surgery. H. A. Royster, Raleigh, N. C.
Obstetrics and Gynecology. H. G. Wetherill, Denver.
Ophthalmology.
Laryngology, Otology, and Rhinology. W. S. Bryant, New York City.
Diseases of Children.
Pharmacology and Therapeutics. Reid Hunt, Washington, D. C.
Pathology and Physiology.
Stomatology. G. V. I. Brown, Milwaukee.
Nervous and Mental Diseases.
Dermatology.
Preventive Medicine and Public Health. W. A. Evans, Chicago.
Genitourinary Diseases.
Hospitals.

DELEGATES FROM GOVERNMENT SERVICES.

Charles Richard, United States Army; Edward R. Stitt, United States Navy; John W. Kerr, United States Public Health and Marine Hospital Service.

Copies of the minutes of the sixty-second annual session were placed in the hands of the delegates. It was moved and carried that the reading be omitted.

President's Address. — President Murphy thanked the delegates deeply for the honor done him. He had made an honest effort to oversee the profession's interest in public welfare, notwithstanding numerous attempts to discredit professional work by false accusations by interested persons, so iterated and insisted upon as to carry conviction to many worthy people. Opposition came from patent medicine manufacturers, fortune tellers, quacks, etc., and a very small number of regular practitioners. We must take a firm stand and every attack on the profession advertised to take place should be met by a competent champion of the A. M. A. and the profession generally. The opposition had money and was well organized. Our legislative work should be intrusted to experts and a special legislative committee should be appointed. Its great aim should be the establishment of sound Federal laws to protect public and doctors. Too many men left the association for various causes, many unknown. The association was still too weak numerically. North Dakota and Tennessee were very poorly represented; why? Did not members get enough for their five dollars. How must we keep interest alive? Clever men should reason on these matters and find solutions. Were there undesirable members? The president did not think so. A council on organization was needed of five members who should study the profession's needs closely through the State and county societies. Doctor McCormick had left the association to every member's great regret. He had achieved great results in his single minded enthusiasm and great talent. Efforts to retain his services had proved in vain. The president then thanked the secretary warmly for his constant attendance. The *Journal of the American Medical Association* was now a splendid



ABRAHAM JACOBI, M.D., LL.D.,
President of American Medical Association, 1912-1913.

organ in literary value and in standardizing medical ethics. Its revenue was now in excess, and the surplus should be expended for the general good of the profession. It was perhaps already too big for the average reader to get through in a week. But 50 to 100 per cent. should, however, be added to reading matter; no more advertisements were needed. More matter from the county organizations should be published, and a bureau of inquiry and information was needed. The various reference committees had justified their appointment and done noble work. Ethics demanded some revision, and the president had made several suggestions, owing to recent developments as to fees, etc. Rotation in certain offices and positions was to be recommended, a sort of automatic rotation to prevent autocracy and carelessness. The trustees must remain in absolute control of the association. President, secretary, and editor should be *ex officio* trustees.



JOHN B. MURPHY, M.D.,
President of the American Medical Association, 1911-1912.

Report of Secretary.—Dr. Alexander R. Craig said the membership of the association was now 33,960. Several ad interim committees had been appointed. There had been some conflict over the scope of the work of various special committees; it was advisable, therefore, that secretaries of such committees should attend the House of Delegates. Too much work was attempted in the four days' session. The reference committees should therefore meet oftener. "Invited guests" should be permitted to have the privilege of the floor to read papers on subjects allied to medicine. The new suggestions as to medical ethics had been generally approved by the Council.

Report of Board of Trustees.—This body reported that the library hall of the new building had been dedicated to the late Dr. N. S. Davis. The chairman, Dr. W. W. Grant made this statement and proceeded to comment on the new button, of which the board disapproved. A change was recommended to the older form. The matter of membership was referred back to the delegates. The post office had approved of four dollars of the five paid for membership being credited to subscription to the *Journal*. Organization should be transferred from the Council on Health and Public Instruction to the Judicial Council. Section papers should be limited to four *Journal* pages and discussions thereon to 500 words. The *Archives of Internal Medicine* and the *Journal of Children's Diseases* had circulations of 2,000 each, and could not have been published by private enterprise; they would be sent to members instead of the *Journal* on request. The publication of a surgical journal on the lines of the *Revue de Chirurgie* was still under discussion. The Council on Pharmacy and Chemistry had done splendid work. They had not had very hearty cooperation from the leading pharmaceutical houses, but their influence was great, nevertheless. A committee on therapeutical research was appointed and $500 asked for. They were investigating digitalis, chloroform, animal experimentation, sodium salicylate, phosphates, hypophosphites, organic iodides, intestinal antiseptics, lecithin, etc. *Nostrums and Quackery*, the book, had created an enormous and gratifying correspondence with inquiring laymen. The third edition of the *American Medical Directory* was giving great satisfaction. On the whole, no association so powerful for good had ever before existed to appeal to the conscience of its votaries in the interests of humanity.

Report of Treasurer.—This was referred without reading. It showed a balance on hand of $101,536.57 in bonds, certificates of deposit, and checking account.

Report of Judicial Council.—Dr. Frank Billings, in the present absence of rules to govern members in their relations with the association, submitted a set, bearing mainly on membership as affected by a member moving from one State to another, and on controversies between members. The Judicial Council, apropos of the new ethical recommendations, thought that special attention should be paid to the enforcement of laws against fee splitting.

Report on Ethics.—This was referred by vote to the Committee on By-Laws for discussion later.

Council on Health and Public Instruction.—This report was voted to be taken up later in the proceedings.

Council on Medical Education.—Dr. Arthur Dean Bevan said his report was too lengthy to read and would be found in the House of Delegates handbook, pages 101 to 118. The last conference of this council had been held on February 27, 1912, at the Congress Hotel, Chicago. The report dealt in detail with medical schools, many very poor ones still existing. License laws were lax, especially in the Southern States. Physiomedical, homeopathic, and eclectic schools were hardly holding their own,

although some of their courses were good. They were not conjuring with the name of Hahnemann, but revered him as Americans, say, revered Jefferson. Several weaker schools should be merged to make a smaller number of stronger institutions. Matriculates must be better educated, but younger than at present. More trained teachers were needed. Clinical teachers should be on salary. Students should know some biology, physics, and chemistry, on beginning study, and should act at least one year as internes on completing it. All hospitals (over 2,000) in the United States should be rigidly inspected; there should be one interne to every twenty-five patients. Nonmedical men should never control medical schools or clinical teaching. There should be numerous salaried assistants in the clinics. Case histories should be better kept in many places. In some schools, however, entrance requirements were too high, and men were twenty-eight to thirty years old when graduated, as compared with the "more receptive" young men of twenty-five graduated in Great Britain and Germany. If our anomalous college course could not be modified, a high school diploma would suffice with a very rigid medical course of four years. We must wipe out the poor, weak, proprietary medical school. State boards need thorough revision. Many have no preliminary requirements, many are not permitted to refuse recognition to any medical school, no matter how worthless. Some new way of supplying these boards with fees is needed, as the number of applicants is decreasing. In legislating about medical sects, it should be enforced on all an accurate knowledge of diagnosis. Much good had accrued from hearing of British requirements for license and we should appropriate $500 to import some German expert, like Professor Friedrich von Müller, to tell us how things were managed in that superb medical centre of instruction. A disgraceful showing was that of some of the medical schools in having so large a percentage of failures among their graduates before the State boards, rising to 46 per cent. in some instances. This was particularly true of Southern and Western schools, their "mortality" being habitually over twenty per cent. before State boards. Several schools were discussed in detail, both good and bad, and suggestions were made how the latter might be improved if not so bad as to deserve extinction. There were several that should be absolutely wiped out. There are now 118 schools; eighty would be enough. Let us remember that this great work could be accomplished by organization and publicity only, such as the association had been able to set on foot.

MONDAY AFTERNOON SESSION, JUNE 3D.

Preliminaries.—After the roll call, reading of minutes, and reading of the supplementary report of the committee on credentials, the

Committee on Scientific Research reported through its president, Dr. Ludwig Hektoen, mainly on expenditures incurred in their investigations into tuberculins, sera, etc.

The Committee on Nomenclature and Classification of Diseases.—President Cressy L. Wilbur reported first on the severe loss incurred through the death of Dr. Frank P. Foster, who had been the first chairman of the committee. Doctor Wilbur said that from the time of his appointment until his death Doctor Foster labored assiduously on the task assigned to him, for which, indeed, he was eminently fitted by training and temperament. To a scholarly nature and sound judgment he added a broad culture, a profound knowledge, based on great lexicographical experience, of the meaning and derivation of words, and a long and intimate acquaintance with the periodical literature of medicine. These qualifications made him a most excellent arbiter on all questions of nomenclature. To the subject of classification, with its involved problems and its various conflicting systems, he gave close and conscientious study, calling in whenever necessary the aid of specialists, whose contributions, carefully digested and combined with his own researches, he summarized in the reports presented to the association in 1908 and the following years. It must be added, as showing the nature of the man, that during all this time, while pursuing the work with characteristic industry, accuracy, and faithfulness, he was already in the grip of the disease to which he finally succumbed. Yet he kept faithfully on, laboring to the very last and bearing his affliction with uncomplaining cheerfulness and unvarying fortitude. Your committee feels that it cannot let this occasion pass without testifying to its admiration for Doctor Foster's high character, varied attainments and great ability, its appreciation of his uniform fairmindedness, courtesy, and tact, and its gratitude for his selfsacrificing labor and unselfish devotion.

The committee reported that their booklet would soon be ready.

Dr. Abraham Jacobi, president of the association, entered at this moment, was enthusiastically received, and conducted to the platform by Dr. John B. Murphy.

In the absence of the respective chairmen, Dr. William C. Gorgas, and Dr. A. T. McCormack, the reports of the committees on Memorial to Medical Men Who Died in the Civil War and on Advising with the National Red Cross were omitted. The report of the Committee on a National Department of Health was postponed.

Committee to Consider the Mode of Commemorating the Completion of the Panama Canal.—This report was read in the absence of the chairman, Dr. Isadore Dyer. Various proposals had been submitted as to the best way of commemorating this event, by cooperation between the A. M. A. and State societies, by cooperation with prominent laymen, by inviting distinguished foreigners, by leaving the whole matter to the city of San Francisco, by solemn services in memory of Carroll, Reed, and Lazear, and special recognition of Gorgas, by leaving the celebration to the Federal Government.

Committee on Constitution and By Laws.—This report was referred to a special committee.

Advisability of Publishing a Health Journal.—Dr. W. A. Evans said the opinion of the profession was greatly in favor of establishing such a journal. Clergymen and other teachers would foster the reading of such a journal by their con-

gregations and classes. Popular articles, free from technicalities were wanted on diet, hygiene, infant feeding, medicolegal questions, sex hygiene, etc. There were many doctors qualified to write such articles, but had had too few opportunities hitherto for a suitable medium of publication. They were afraid of newspapers on account of the possibility of being misunderstood. The advertising in such a journal would soon be enormous. There was an immense demand for such a journal, and it should be undertaken at the earliest possible moment. The public wanted it.

A petition was offered concerning the establishment of a Section in Physical Therapeutics, signed by 135 members under the name of Dr. G. Betton Massey, of Philadelphia.

Committee to Formulate Amendments to Constitution and By-Laws to Extend Membership.—The chairman, Dr. D. S. Fairchild, read this report, which recommended no raise in annual dues, but the abolition of dues payable to the central association was not feasible. On payment of $5 a member might become a "contributing member" and be known as a "Fellow" of the association. Any member of a constituent State association without further payment would, however, have the right to vote. This would make two branches, a business branch and a scientific branch. Members of the army, navy, and Public Health and Marine Hospital Service were members without paying dues, but did not receive the *Journal* unless they paid $5 subscription. Dentists and pharmacists in good standing, teachers of branches allied to medicine, foreign physicians were recommended to be eligible to associate fellowship.

Committee on Scientific Exhibit.—Dr. Frank B. Wynn, chairman, in his report said that great improvement was manifest in all branches of x ray work, illumination, and the like. A Committee on Awards should be appointed. The present exhibit at Atlantic City was by far the finest and most interesting the association had ever had. It certainly justified its existence abundantly. Members took great interest in the photographic and other optical work. The exhibit should be at administration headquarters, have plenty of well ordered space, and could be made very impressive. It was not a mere commercial exhibit, and we should not be alarmed at that possible aspect of it. The chairman thanked the scientific coworkers for their loyal support. The present exhibit was not very well arranged, too much prominence being given to books and patent medicines, and the really scientific part in a gallery up an obscure flight of stairs. Hereafter the scientific part must have the most prominent part of the exhibition hall.

Public Lectures.—Dr. W. A. Evans, chairman, spoke of proposed lectures on hygienic subjects at school commencements and women's clubs, in churches and hotels.

A Small Medical Journal.—A committee on the subject of publishing such a periodical reported through Dr. J. N. McCormack, that its need was felt by many earnest general practitioners who did not feel a very great want for the highly scientific articles of the bigger journal. Diagnosis and treatment, personal news, etc., would be discussed in a more breezy, popular manner, medicolegal questions would be settled. Every practitioner would like such a journal. There were 278 medical journals now, and it might be asked if another was required. The committee thought it was. Furthermore, the committee recommended the expulsion from the association of any one connected with a journal which published advertisements or reading notices of fraudulent proprietary articles, and the word *fraudulent* would be rigidly defined.

A Physician's Sanatorium.—Dr. Edward Jackson, chairman of the committee on this proposed sanatorium, reported considerable correspondence on this matter, though many State societies had failed to respond. He hoped delegates would attend a meeting to be held to-morrow at Young's Hotel to discuss the matter. The board of trustees, meanwhile, had the affair in hand.

The House of Delegates adjourned at 4.15.

TUESDAY AFTERNOON SESSION, JUNE 4TH.

After the customary roll call, the reports of the reference committees were submitted, following that of the board of trustees. Dr. Abraham Jacobi replaced Doctor Murphy, who had officially ceased to be chief officer at the opening meeting in the morning. The subject of the scientific exhibit came up again for discussion, the consensus being that, although well placed and lighted, access to it should not have been through the commercial exhibit. The chairman, however, thought that the latter unduly overshadowed the scientific part and directed that next year this should be properly conspicuous.

Dr. Henry B. Favill, of Chicago, reported on health and public instruction. He thought the council should proceed on its present lines, i. e., those of instruction, mainly of nonmedical persons. They had had to take up a campaign of public speaking under the able leadership of Dr. Joseph N. McCormack. They had done much to help the passage of a rational Federal bill to regulate the public health against hard and persistent opposition. Public education on prophylaxis was very important work of this council; their work should be progressive, each year's work supplementing that of the preceding. There should be a handbook for their speakers. Much material had been mailed to over 4,000 newspapers on health and on quack doctors and preparations. They had sent out 86,000 pamphlets on fraudulent medicines. Literature had been freely distributed on sewage, vital statistics, drinking water, dust, and preventive diseases; also on animal experimentation. A committee of high character had been formed to investigate resuscitation after electric shock. Lighting of schools and workshops had been taken up, also the prevention of blindness, conditions on railroads, and medical expert testimony. Public opinion underlay all important movements in this country and should be considered rather than political manipulation.

Regarding membership in the association, it was reported that the privilege should be for one year only and should depend on regular payment of dues. Transfer cards should be used by members changing their places of residence. Uniform regulation concerning membership was of prime impor-



DR. T. W. HUNTINGTON, of San Francisco; chairman of the Section in Surgery.



DR. CHARLES J. WHITE, of Boston; chairman of the Section in Dermatology.

tance. State associations had been meeting at all times of the year and each had had membership rules of its own. The fiscal year of each was different, and only a few coincided with the American Medical Association. The county medical society was the basis of all proper work. Fiscal and calendar years might as well coincide. Different rules about lapsed memberships following nonpayment of dues were specially confusing. We should have uniformity.

Dr. J. W. Barrett, an Australian visitor, explained the advantages of having a meeting in Auckland, N. Z., twelve weeks' absence from the United States allowing five weeks' stay in New Zealand. A warm welcome was guaranteed.

As to a sanatorium for physicians, the committee reported that the admirable project was not at this time feasible. A fund for relief should be drawn from the general funds. The committee asked to be discharged.

As to a public health service, Dr. John B. Murphy reported that a bill was in the hands of the Senate based on the Owen bill, and satisfactory for the most part to the association. Its chief officer would be independent of all other officials and responsible directly to the president. Its existence would depend on its value. It would not lower rank, emoluments, or dignity of any existing official or service. Another bill was pending in the lower house to raise the status of the Public Health and Marine Hospital Service, as already discussed editorially in the JOURNAL. We now had hopes of an independent Federal Public Health Service.

The Committee on Clinic Days reported through Dr. Charles L. Mix. It was voted to continue this committee.

The committee on by-laws had its report by Dr. D. S. Fairchild approved. Rebates and commissions were unqualifiedly combined in addition to the matter already reported. Remuneration from patents on apparatus, instruments, etc., could not be allowed to an ethical physician. A proposition to cancel this proviso was voted down promptly. A patent *without remuneration* therefrom was allowable in order to insure a certain standard of manufacture. A physician was entitled to rebates on prescriptions for his own use. The new code of ethics was not new in the sense of adding extra matter; it was intended simply to make the old code plainer and more intelligible. It seemed unnecessary to defer ratification of the new version of the code; everybody understood it. The House adopted the code as newly worded in its three chapters and conclusion.

An amendment was adopted making it necessary for a delegate to have been a member for two years immediately preceding a given meeting. It was decided also to make a special investigation of fee splitting.

The committee on credentials made a report complaining of delay in registration by members, who were urged to be prompt.

A petition was read from the American Proctological Society, composed of members of the association, asking that it be constituted a Section of the American Medical Association.

The Association of State Secretaries asked that funds be furnished them to pay expenses of a meeting to be held in Chicago next February.

The meeting adjourned to meet Wednesday at 2 p. m.

Report of Sections.

THE SECTION IN PATHOLOGY AND PHYSIOLOGY.

TUESDAY, JUNE 4TH.

Doctor Cole brought out the point that the reaction in pneumonia was probably the result of a splitting up of the proteid material of the pneumococcus along the lines suggested by Victor Vaughan. In the discussion that followed, Doctor Vaughan laid stress upon the fact that the poisonous molecule of the proteid should be considered as a poison and not as a toxine. This was so because no antibody could be produced by its injection into the body.

In his paper on scarlet fever Doctor Koessler stated that it was evident that the streptococcus was the invading organism. This would seem to be indicated by the fact that although no specific form was at fault, yet the blood from scarlet fever patients possessed antibodies for streptococci.

Concerning the administration of serum in cases of epidemic meningitis, Doctor Sophian made use of the blood pressure as a guide. When the cerebrospinal fluid was withdrawn and the serum injected there was usually a distinct drop in the blood pressure. This fall in pressure might be quite largely controlled by slow removal of the spinal fluid and slow injection of the serum under low pressure. He also mentioned the value of a meningococcus bacterin as a prophylactic treatment.

Doctor Anderson gave an interesting report on the infectiousness of measles, using monkeys as the experimental animals. The results indicated that the virus remained within the blood for some thirty hours after the eruption. Inoculation of three monkeys with blood eighteen hours after reproduced the disease. Inoculation eight hours before caused a rise in temperature, but no eruption. Inoculation sixty hours after gave a doubtful reaction, while inoculation a little over a hundred hours later was negative. Scales injected from four to seven days after the eruption also gave negative results. The question of the infectivity of the nasal and buccal secretions was not entirely settled. They might be infectious, but only during twenty-four to twenty-eight hours after the eruption.

Doctor Goldberger stated that the method of infection in typhus fever was probably by body lice. Inoculation into monkeys of an emulsion of lice that had bitten an infected individual five to six days previously caused the disease. He also believed that Brill's disease and typhus fever were the same. This point was supported by the fact that there was a cross immunity, either disease immunizing against the other.

WEDNESDAY, JUNE 5TH.

It occurred to Doctor Bates that it was important to determine whether or not the complement fixation test in the tropics would be interfered with by any of the diseases common to such latitudes. For various reasons the Noguchi modification of Wassermann's method was employed. He found that the hemolysis was not interfered with in malaria, filariasis, amebic dysentery, or yellow fever. In the latter the presence of biliary substances had no effect. In yaws a positive Wassermann reaction was obtained, also in leprosy, but in this disease, on account of a certain similarity in lesions, a diagnosis of syphilis could not be made positively. It was also interesting to note that a positive reaction was obtained in about forty per cent. of cases of arthritis, free from other syphilitic lesions.

In reporting his work on transmissible sarcoma in fowls Doctor Rous believed that he was dealing with true tumor formation. This was indicated by the way in which the growth would infiltrate and destroy the invaded tissue. It was also evident that metastasis, which was not uncommon, occurred by means of the bloodvessels. As this neoplasm could be caused by the inoculation of a cellfree filtrate, the question arose as to whether or not the exciting agent was a microorganism. The behaviour of the virus would apparently indicate that such was the case, it having about the same resisting powers as the tissue cells. It was, however, possible that the exciting agent was chemical in character.

Dr. J. W. Vaughan found that when cancer residue or an emulsion of cancer cells was injected into a patient suffering from cancer there occurred a specific reaction in the blood picture. Experiments made on rabbits showed that about twenty hours after the injection of the cancer material there began an increase in the number of large mononuclear leucocytes. This was, however, temporary, subsiding in the course of from four to ten hours. In cancer patients there was also a rise in these lymphocytes, but it naturally was not as great as the rise in a normal individual.

Doctor Levin started out by stating that as yet there was no specific therapy in cancer and that when it should be found it would not be along the lines of chemotherapy, in other words, that it did not seem logical to believe that any substance could be found that would kill the cancer cells, but would not be toxic to the cells of the host. What must be found was some substance that would inhibit the tumor cell but have no action on the cells of the invaded organism. This body must be found in the form of some ferment. Levin had found that in some instances he had been able to produce an immunity by injecting autolyzed tumor tissue into the same type of animal as that from which the original growth was removed.

THE SECTION IN SURGERY.

TUESDAY, JUNE 4TH.

The section in surgery was opened promptly at 2 p. m., with Dr. W. Huntingdon, of San Francisco, presiding, whose opening discourse was entitled Hospital Questions. The salient points involved herein were embodied in questions relative to the abuse of and poor service given in public institutions, claiming the poor shun them and they were now merely retreats for the poor and needy.

The lyingin or maternity wards in well regulated hospitals were a godsend to the poor, a school for the nurse and interne, and in academic institutions a guide to the student. Private hospitals occupied a large place in the medical sphere, but they, as a general rule, proved to be disreputable institutions and in the main they were merely a sort of sanatorium or hotel for invalids. No team work, no organized head, and no positive results; of course there were exceptions to the rule.

The physicians' home hospital was next discussed. The disadvantages were that most physicians in these cases took patients in when not necessary and performed unnecessary operations and did many unlawful things which were concealed.

The next was endowed hospitals, many of which would not stand a thorough investigation. Municipal hospitals were then discussed. Here, everywhere you looked, a finger pointed to political manipulation by ignorant people, poor handling of the patients, inferior food stuffs, etc. The hospital founded by and controlled by charitable institutions and organizations were of a superior class, having a competent staff, funds, etc., as they were usually supported by the wage earner.



DR. STEWART LEROY McCURDY,
of Pittsburgh; chairman of the Section in Stomatology.



DR. W. TILESTON,
of New Haven, Conn.; chairman of the Section in Practice of Medicine

Academic type was far the best, as American universities had assumed the responsibility of conducting and manipulating the same, and they were of a high standard, owing to the fact that they had reliable and competent laboratories and laboratory men, which were most essential at this time for diagnostic purposes.

Their interne staff belonged to the better classes, but the internes should be better taken care of, have time off for exercise, gymnasiums, etc., to relieve them from their constant grind, as they were assistants to the chief and should be treated as such. He also recommended that a commission should be appointed to examine these institutions and the committee report to the county or State as to the conduct of the same. After he finished his address a recommendation was made that this be submitted to the House of Representatives, and was carried.

Doctor Crile, in discussing anoci association, said that the psychic condition of the patient had much to do with painless surgery and shock resulting therefrom. He stated that scopolamine, morphine, ether, and inhalation anesthetics only paralyzed the motory nerves, and the sensory nerves were still awake, and shock could be overcome better by the frame of mind of the patient and local anesthetics. He showed figures whereby anoci association the following comparisons were made out of 250 cases: The pulse was with ether, 102; with nitrous oxide, 100; with anoci, 99.5. Also, the mortality at the Lake Side Hospital, Cleveland, was as follows: Ether, 44; nitrous oxide, 27; anoci, 17 per 1,000 consecutive cases.

Doctor Bloodgood, of Baltimore, upheld Doctor Crile, stating that by the anoci association 50 per cent. mortality was saved. But Doctor Ford, of Indianapolis, said he did not fully agree with them, and thought the anchor sheet anesthetic was opium.

Doctor Robinson said that in tuberculosis of the lung lung compression, with the introduction of nitrogen gas into the cavity, was the best treatment, but in the operation on the lung it should be shrunken first by puncture, and then if amputation was necessary, to do so. He said that in bronchiectasis there had been no case on record completely cured by injection of nitrogen gas.

Dr. E. M. von Eberts, of Montreal, spoke on negative tension in cases of pneumonia with fluid present, and cited two cases where recovery was absolute with negative tension. Doctor Beck preferred Bier's suction method for this disease.

Doctor Rodman, of Philadelphia, spoke as to the cause of diagnosis and removal of a breast when abnormal involution had taken place, and he said when not able to diagnosticate it, then to do the cancer operation. Remove the entire breast, as it was far better to remove a breast with a benign tumor than to merely enucleate one that was malignant and made a second operation fatal.

Doctor Wathan, Doctor Porter, and Doctor Mitchell all upheld Doctor Rodman's method. Doctor Bloodgood said the average surgeon could make 75 per cent. of these diagnoses without the laboratory man, but not to take a chance on them, and if in doubt then follow Doctor Rodman's example. Doctor Sims, of New York, said the laboratory man might easily make a mistake and unless he made from twenty to twenty-five frozen sections he might miss the one that was malignant and pronounce the lump benign.

WEDNESDAY, JUNE 5TH.

The members were introduced without any formal remarks from the chair.

Doctor Rovsing, of Copenhagen, read a paper on gastroptosis and its surgical treatment, making no new claims, merely stating the cause was degeneration of muscular activity of the abdomen and that hematemesis in these cases was due to stasis. His treatment being gastropexy, which relieved 90 out of 126 cases he watched of chronic constipation and neurestheria and that the majority of cases of neurestheria was due to gastroptosis and not properly diagnosticated.

He was followed by Doctor Cannon, of Boston, reading a paper on functions of the large intestine. He stated that in the cat the proximal end of colon worked in the opposite direction of the distal end; this was similar to man and that was why the ileum was inserted into the transverse colon in these ptosis cases and cases of chronic constipation.

Doctor Bevan, of Chicago, read a paper on the dilatation of the large bowel. He severely condemned Lane's operations and Film's movable cecum operation, also he mentioned the medical and surgical treatment for this condition and said never to operate if we could help it; first to try exercise, massage, and baths. If we opened up and found no bands or adhesions we should close the abdomen again and treat as above, but if we found bands or Jackson membranes then operate.

These cases of colitis should be treated then as follows: 1. Remove the adhesions but not the colon; 2, when there were adhesions at the hepatic flexure take the end of ileum and insert it into the transverse colon; 3, when at splenic flexure insert ileum into descending colon; 4, if at sigmoid flexure resect sigmoid and make a bilateral anastomosis.

Doctor Harris, of Chicago, read a paper on adhesions of colon. He said the causes were inflammatory membranes of Jackson and attacks of appendicitis, also due to a sort of an osmosis of the epithelial cells on colon; the latter coat separated itself from the colon and adhered to the parietal and visceral peritoneum and then another layer of cells formed on the colon where this layer had been and the two coats adhered. He also stated that the majority of cases of peritonitis were caused by anaerobic microorganisms and the rest by adhesions.

Dr. Fairbanks Bennie, of Kansas City, said that violent exercise, as golf, tennis, etc., did not serve to prevent colonic intoxication, but that after a patient played a strenuous game of golf or tennis he felt fatigued, had a headache, and was generally dull, etc. He asserted that the intoxication was due to a blood condition. There would be no change in the red or white corpuscles, but there would be decrease in the multimorphonuclears and the lymph increased, and the cells would all stain differently. There was a certain substance liberated in the colon; he knew not what, but it caused the intoxication; the constipation he thought was caused by a congenital kink in the ileum and by errors of diet.

Dr. Charles H. Mayo read a paper on diverticula of the gastrointestinal tract and their surgical importance, in which he said there were thirteen cases of diverticula of the esophagus at St. Mary's Hospital in 1910 and he operated on them, and ten patients fully and permanently recovered. He said diverticula of the stomach were rare in man, but common in animals. He also said that twice as many men than women had various diverticula. He had performed necropsies where there were from ten to fourteen diverticula in the body and no symptoms present. Diverticula near the rectum often caused perirectal abcesses; he thought they were inflammatory, but not malignant, but about one seventh of the diverticula went on to cancer and should be looked upon as potential cancer.

Doctor Mackenzie, of Portland, read a paper on the rôle of the movable kidney and intestinal stasis. The causes of ptosis here were due to the colon not remaining in position and trauma from an overloaded colon, second displacement of the ureters due to traction upon them from a misplaced bladder caused by a malposition of the uterus, also from traction on the mesentery and the interference with its blood supply, causing stasis and congestion of the kidney, etc. He said the acquired case of ptosis was the worst caused by, 1, hydronephrosis, especially in women; 2, dragging of kidney upon its own pedicle, shutting off its blood supply and its normal hammering against the peritoneum; 3, prolapsed intestine, causing venous stasis, which in turn acted on the kidney.

These papers were followed by a discussion, first, by Doctor Goldthwaite, of Boston, who said ptosis was a very common thing, particularly of the viscera, but in itself of no consequence, but the most serious case was where there was acquired ptosis upon congenital; here only would you get the real symptoms, and the treatment was to replace all misplaced organs and not stop only with surgery, but build up your patient and get fat to help hold the viscera in position. He stated that very many necropsies showed only the fat of small intestine.

Then Doctor Jackson, of Kansas City, made a few remarks in lieu of Dr. W. J. Mayo, saying that in thirty-five cases of peritonitis sixty per cent. of these the cecum was movable and he did not consider it dangerous and criticised Dr. Lane's method, saying it set surgery back. The session closed at 6.10 p. m.

SECTION IN GYNECOLOGY AND OBSTETRICS.

TUESDAY, JUNE 4TH.

The chairman, Doctor Miller, in his address, stated that we had no reliable means of determining accurately the diagnosis of thrombophlebitis. The predominant symptoms were moderate temperature with chills, occurring irregularly, localized pain or tenderness on palpation, and blood culture for bacteria was usually negative. There was absence of any abnormality in the birth canal. An analysis of the results of the operation showed that the mortality rate was lowest when the infected pelvic veins were ligated or excised early—after the second or third chill—and when performed by the intraperitoneal route, early diagnosis, early operation, and perfected technique were the important factors to be borne in mind in reducing the mortality. No harm came from opening the abdominal cavity skillfully and the operation should not be delayed longer than from three days to a week, if there was no improvement. One third of the patients with pelvic phlebitis developed primarily in the uterine vessels. If any doubt existed with regard to the diagnosis an exploratory incision was urged.

Doctor Higgins did not believe that the ligation of the ovarian or deep pelvic veins in the treatment of puerperal thrombophlebitis had been sufficiently tested to justify definite conclusions with regard to the merits of this operation.

In the acute form the outcome was usually fatal if attended by grave symptoms from the onset, while all of the chronic cases did not recover. Septichemia was the one condition most liable to give rise to error in diagnosis. One third of the patients with thrombophlebitis did not have chills, localized pain and tenderness on pressure were invariably present. One fourth of the blood cultures had been negative. In quoting Doctor Lenhardt "one half of his fatal septic cases were thrombophlebitis primarily." Suppuration was not a contraindication, but rather an indication for operation with drainage, and by the intraperitoneal route. During the discussion of these subjects the following facts were emphasized by those who participated: That early diagnosis and prompt excision were of paramount importance if the best results were to be obtained. That the diagnosis must be based on the chill, fever, soft, flabby uterus, enlarged veins, and tenderness.

The presence or absence of microorganisms in the blood was not a criterion with regards to the prognosis.

When the uterine vessels were involved, not only excision of the pelvic veins was indicated, but hysterectomy also.

Dr. John B. Deaver regarded hysterotomy as the ideal operation for diagnostic purposes, for hemorrhage of doubtful origin, to differentiate between pregnancy and neoplasms resembling pregnancy, placenta prævia, and toxemia of pregnancy, particularly the eclamptic type, were indications for hysterotomy.

The chief contraindication was infection, demonstrated or suspected.

In the discussions of this paper the principal criticism was directed against the frequency of Cæsarean section for placenta prævia, as recommended, as against vaginal hysterotomy for the selected cases referred to.

The general consensus was that too general application of Doctor Deaver's method would be a dangerous procedure.

Doctor Cullen's belief was that time, careful study of uterine scrapings would make possible the recognition of many of the obscure conditions referred to without subjecting the patient to the risk of hysterotomy.

Doctor Goffe regarded intraabdominal pressure as a great mystery. Pressure was divided into negative and positive, both of which were fully defined. The effect of atmospheric pressure and gravity, also intravisceral pressure as exerted by the contents of the viscera, were fully described. The principal factors in maintaining the equilibrium of the pelvic organs were the ligaments. In the discussion, Doctor Noble thought the chief factor had been omitted, viz., the vital energy of the patient. Doctor Goffe demonstrated by diagram the application of the laws as effected by posture, etc., also the effect resulting from the use of pessaries.

Doctor Dorsett described in detail the complex anatomical structure of the perineum, also his operation for restoring to the normal, following traumatism, without denudation or scar. The operation consisted of a transverse mucocutaneous incision, the dissecting up of the posterior vaginal wall with the finger, approximating the levator ani muscles with two sutures, then the fascia, and finally the skin surface on a longitudinal line. This operation was fully illustrated by lantern slides as was also the operation advocated by Doctor Somers for uterovaginal prolapse in elderly women. This operation consisted of uniting the round ligaments anterior to the lower segment of the uterus.

The operation was one of vaginal fixation, applicable to those past the child bearing age.

Dr. W. B. Chase stated that inherited longevity, other things being equal, added greatly to the chances of the patient after operation from the coincident resistance of the individual. Previous recovery from serious illness was trustworthy evidence of high resistance of the individual. Previous recovery from serious accident was ground of evidence. Such persons reacted kindly and recovered after operations. Previous recovery from operation was evidence of the ability of the patient to withstand the traumatism incident to operation. The previous clinical histories of these cases showing the absence of infection was a guide for the surgeon in these grave borderline cases.

The present standard of health as demonstrated by normal functional activities needed to be known as it was an indispensible guide to all operations.

The time of the operations, which should be based on the foregoing principals and the expert administrations of anesthetics were indispensible to the highest degree of success.

Doctor Wetherill, in discussing the subject of incompetent abdominal surgery, stated that from January, 1901, to December, 1910, a period of ten years, 1,244 women were operated upon in St. Mary's Hospital, Rochester, Minn. (C. H. and W. J. Mayo), for uterine myomas. Of these, ninety-two, or 7.1 per cent. had gallstones.

Serious pelvic lesions, enteroptosis, intestinal diverticula, kinks, bands, hernias, diseases of the stomach, gallbladder, pancreas, and kidneys had been overlooked when the operation for appendicitis had been performed through a small "gridiron" incision, and many similar oversights must be charged to pelvic surgery, even when seriously diseased pelvic organs had been properly dealt with.

SECTION IN DISEASES OF CHILDREN.

TUESDAY, JUNE 4TH.

Dr. J. P. Crozer Griffith urged physicians to exert their influence in inducing mothers to nurse their infants. In civilized countries only 30 to 55 per cent. of the mothers supplied their children with breast milk, and 74 per cent. of the deaths of infants between the ages of two weeks and one year were in the artificially fed. He believed that the ability to nurse was present in 90 per cent. of the mothers. There was, however, a growing desire among mothers to feed their offspring from the breast, although in the better classes there was an increased inability. In the working classes the causes of the inability to nurse were poverty, lack of suitable nutrition, the necessity of the mother's earning her livelihood outside of the home, and the complete ignorance of the necessity of breast milk. The contraindications to breast feeding were more fancied than real.

Dr. H. M. McClanahan said that the arguments for breast feeding applied equally to partial breast feeding, and protested against weaning, urging the supplementary artificial feedings where the breast was insufficient. In circularizing the prominent pediatrists of the country, he found that only fifteen out of 400 mothers positively refused to nurse their babies. There were two difficulties in mixed feeding; first, the infant tended to wean itself from the breast; second, there was a lessening of the quantity of the breast milk. It was surprising how small a quantity of artificial food was necessary to increase the weight of an infant who had previously not done well upon the breast alone. One bottle a day at 6 or 10 p. m. was the best plan, nursing the baby at regular intervals throughout the day. Another mistake was in allowing the child to strip the breasts, and still another error was in giving an artificial food that is too sweet.

Dr. J. C. Litzenberg cited fifteen cases of premature infants that were fed at three to five hour intervals (usually four hour intervals). All but three were fed upon breast milk. They all made rapid and continuous gains in weight, the weight charts being shown. Dr. John L. Morse made the remark that all of these babies weighed over four pounds in weight and that they were fed upon breast milk, so that he thought they would not present any difficulties under any particular interval of feeding, but he believed that the smaller infants, who were too weak to nurse at all, would do better on more frequent feedings.

Dr. Julius H. Comroe made a plea for longer intervals in milk feeding. In sending out 135 letters to the pediatrists throughout the country he got 117 replies and found that the majority of them were using the three or four hour intervals. He concluded that the average child ingested a greater quantity of food than it was formerly supposed it would and the longer intervals were necessary to empty the stomach.

Dr. John Laetty Morse reported a new symptom complex which he attributes to intestinal toxemia in the newborn. The child was normal at birth, and before the meconium has disappeared, usually at the second, third, or fourth day, the following symptoms developed with sudden onset: Cyanosis, twitching, muscular rigidity, retraction of the head, moderate temperature, and marked symptoms of nervous irritability. There was usually no diarrhea nor vomiting. The face was pinched and the baby had the general appearance of a very sick child. The condition was frequently mistaken for other diseases, but there was prompt recovery when the bowels were cleaned out with a cathartic, followed by a short period of starvation.

THE SECTION IN OPHTHALMOLOGY.

TUESDAY, JUNE 4TH.

In his address as chairman, Dr. Adolf Alt referred feelingly to the only death of a member of the section which had occurred during the past year, that of the late Dr. A. A. Hubbell. Passing then to the subject of ophthalmology he called attention to the great benefit that had accrued to all branches of medicine from the research work, great in both quantity and quality, that had been carried on in connection with diseases of the eye, and had brought about a recognition of the interdependence of all branches of medicine. He then reported a very rare case of sympathetic chorioiditis preceded by a neuritis and a very mild iritis, occasioned by an injury to the other eye, which had produced a very grave intraocular inflammation, the greatest lesions of which were in the posterior part of the globe, contrary to the general rule. The retina and optic nerve were much affected, the latter infiltrated in places as far back as it was cut. Portraits of many sections were exhibited. This case seemed to Alt to support the theory that sympathetic ophthalmia was brought about by the migration of a microbe, which



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had not yet been recognized, along the optic nerve from one eye to the other.

Dr. G. E. De Schweinitz dealt particularly with certain localized visual defects in disease of the hypophysis, central, paracentral, and peripheral scotomas, to which he thought too little attention had been paid, although the subject was not new in medical literature. An accurate classification of these scotomas could not be made, but they might be grouped as 1, small and paracentral; 2, up and out; 3, varying in size and position, persisting for a time and then disappearing; 4, bitemporal; 5, paracentral; 6, a persistent central amblyopia that might precede a scotoma and might be the first phenomenon induced by the disease of the hypophysis. It would be interesting to try to locate the lesions indicated by these scotomas, but such an attempt would be largely guesswork in most cases. Some of the defects in the visual field undoubtedly depended on vascular constriction as an important and perhaps determining factor. Sometimes no clear explanation of these visual defects could be obtained, even at autopsy.

Dr. T. B. Hollaway emphasized the difficulties in the way of diagnosis of visual defects when due to cysts of the hypophysis, hemorrhages, softenings, thromboses, and toxemias. He called attention to the fact that the chiasm was not always in the median line, but was sometimes pushed to one side.

Dr. George S. Derby reported two cases of myxedema in which the optic nerve was diseased. In one the optic nerves were atrophic, the patient had bitemporal hemianopsia and progressive loss of sight. In the other there was a low grade of optic neuritis, chorioretinitis, and concentric contraction of the fields of vision.

In the discussion of these papers Doctor Verhoef brought out that the central, papillomacular bundle of fibres in the optic nerve was the one chiefly affected and the first one to degenerate as the result of pressure upon the nerve. Doctor Lewis called attention to the selective affinity of toxines which might be observed in the optic nerve.

Dr. Arnold Knapp wished to draw attention to the ease with which the osteoplastic resection of the temporal wall of the orbit, commonly called Kroenlein's operation, could be performed as a diagnostic step when it was desired to obtain exact information as to morbid conditions in the walls or contents of the orbit, that is, for other purposes than that of removing retrobulbar tumors with preservation of the eyeball.

Dr. Martin B. Tinker, in his paper on exophthalmos, proposed a modification of Kroenlein's operation, which presented the advantages, as he stated, of giving the operator a better view of and approach to the posterior part of the eyeball and optic nerve, of leaving a less unsightly cicatrix, and of causing less danger to certain fibres of the facial nerve, involvement of which sometimes caused facial paralysis.

In the discussion of these papers Doctor Bordley expressed a very pessimistic view concerning the value of Kroenlein's operation. He claimed that the object for which the operation was performed was frequently not attained, that exophthalmos was sometimes changed to enophthalmos, that partial blindness and partial facial paralysis sometimes resulted, and that the scar resulting from a faulty reposition of the bone flap was a nightmare. He related three illustrative cases. In the first the lesion sought was not in the orbit, but in an isolated cell of the sphenoidal sinus. In the second the operation was not of service, as the tumor in the orbit was malignant. In the third the exophthalmos was not relieved, the eye had to be enucleated eventually, the scar left was a worse deformity than the exophthalmos, and the patient was unable to wear an artificial eye. Doctor Eagleton advocated the approach to the orbit by way of the temporal fossa, retracting the brain and opening the orbit subdurally.

Doctor Posey and Doctor Foster had not seen any such deformations resulting from Kroenlein's operation as that described by Doctor Bordley. Attention was also called to the fact that an exophthalmos might readily be changed to an enophthalmos by the removal of a tumor from the orbit, but as the object of the operation was to remove the tumor and save the eye if possible, such a production of an enophthalmos should hardly be charged against the operation as a discredit.

WEDNESDAY, JUNE 5TH.

Dr. Walter B. Weidler reported a case of pemphigus of the conjunctiva, the progress of which was very rapid and destroyed the vision of both eyes in about three months. The disease was limited at first to the conjunctiva, but later the characteristic eruption appeared on the body. This primary appearance of pemphigus on the conjunctiva had been known to occur before, but it was rare. The etiology of the disease was obscure. Some writers believed it neurotic, some that it was trophoneurosis, some that it was an affection of the nerve endings by toxines. In the case reported both Wassermann's and von Pirquet's tests were negative. No surgical measures were employed in the treatment. All local treatment was usually unsuccessful, although occasionally grafting succeeded. In its early stage the disease was mistaken for trachoma.

In the discussion of this case Doctor Wood stated that pemphigus of the conjunctiva was a very rare condition, of which no one knew anything. He described three cases that he had seen. The danger of mistaking it for trachoma rested in the fact that the astringents indicated in the latter disease aggravated pemphigus. Emollients gave relief. He had used arsenic hypodermically, and preferred Fowler's solution to any of the modern preparations, and thought well of the use of skin grafts to arrest the disease in the mucous membrane. Doctor Lichtenberg stated that he had succeeded in arresting one case by means of a Wolff graft of mucous membrane from the lip. Doctor Lambert related the history of a case of acute pemphigus which proved fatal in three or four days.

Dr. E. L. Jones urged the employment of large injections, 2 c. c. of fluid, of cyanide of mercury for the treatment of many ocular diseases or injuries which were not amenable to ordinary forms of treatment. The cyanide of mercury was rendered less painful and less toxic if mixed with cocaine. Morphine and dionin were added to prevent pain. The reaction was considerable and lasted some time. Only one injection was usually needed. The essential point in the treatment was the distention and flushing of the lymph channels. In ulcus serpens the lachrymal sac was destroyed when inflamed, the ulcer was cauterized, and the injection made. The cicatrix in the cornea seemed to be more transparent when this was the mode of treatment.

In the discussion Doctor Savage maintained that the day of subconjunctival therapy was just dawning, and that the treatment suggested by Doctor Jones should be used when milder measures could succeed. The primary effect of these injections was very alarming, but this might be the source of the benefit obtained. The objections were two: The reaction and the adhesion of the conjunctiva to the sclera which was always produced by cyanide of mercury. Sodium citrate did not produce this reaction, and he advised the use of this drug in glaucoma. Doctor

Fox pointed out that the treatment was not new. He had used it himself in a few cases ten years ago and abandoned it as too cruel. He preferred a saccharine saline solution, with which he had obtained good results. Doctor Bulson agreed with Doctor Fox in regard to the pain caused by cyanide of mercury which he pronounced so intense as to need from one quarter to one half a grain of morphine to control it. He had used dionin subconjunctivally for the last two or three years, which left the patient comfortable after three or four minutes though it caused an immense swelling, and had found it useful in cases of intraocular hemorrhage. Doctor Zentmayer and Doctor Randolph regarded the adhesion that resulted between the conjunctiva and sclera to be a source of danger. Doctor Risley urged the value of subconjunctival injections of salt solution, but did not believe that either the great reaction or the adhesions that followed the injections of cyanide of mercury to be devoid of danger. It should be used only as a last resort, as preferable only to enucleation. Doctor Woodruff came to the support of Doctor Jones and pointed out that the injection of cyanide of mercury was recommended only in grave cases and that the adhesion of the conjunctiva to the sclera was of no moment when the question was one of saving the eye. He had been accustomed to give smaller doses, only eight minims of a one in 1,000 solution, with an admixture of cocaine, and to apply hot fomentations immediately. He had had few complaints of pain. Doctor Donovan likewise used small doses and had observed no such reaction in pain. Doctor Woods had never used cyanide of mercury because he saw the effects when others used it. Doctor Black discussed the flushing of the lymph channels. In closing the discussion Doctor Jones advised to keep the eye covered so the great swelling would not be seen and to use enough morphine to prevent suffering. As far as the adhesions were concerned they were not likely to do harm unless there was need to operate on the muscles.

Dr. Edgar S. Thomson reported a case of sympathetic optic neuritis. About twenty such cases had been reported. The patient, aged thirty-two, had his left eye injured when a child by a blow of a stick, and the accident had been followed by a low grade inflammation that left the eye blind. He did not remember that the eye was painful or received any treatment. Vision of the other eye began to grow dim five years before coming for treatment. The left eye was not tender or red, tension normal, apparently of normal size, interior much degenerated, no perception of light. In the right eye there were no signs of uveal disease, but well marked optic neuritis; vision 10/200; field contracted. Left eye was enucleated and the optic nerve found to be reduced to little more than a string of fibrous tissue. The temperature, that had been elevated, fell to normal at once. The neuritis in the right eye had subsided almost entirely at the end of a week. The diagnosis was inferential.

In the discussion Doctor Randolph commented on the element of danger in not having a blind, injured eye enucleated, even though it might look well. Such patients should be examined regularly. Doctor Barrett, of Melbourne, Australia, raised the question whether some other disease than sympathetic ophthalmia might not be the trouble, especially as successful results were not obtained from enucleation after this disease had set in. Doctor Risley said that some things might be coincidental and related a case of his own that proved to be due to disease of the sphenoidal sinus and showed the need of being on guard in cases of contracted field or scotoma. Doctor Theobald considered that all such cases should be thoroughly investigated for other causes of irritation. Doctor Alt referred to the case of sympathetic chorioiditis he reported in his address.

According to Dr. H. D. Bruns the therapy of phlyctenular ophthalmia was large and varied, but for the most part the disease ran its course just about the same whatever local remedies were used. Still, mercury applied locally did produce little effect. The disease was constitutional and treatment must be directed accordingly. Many patients with phlyctenules were tuberculous, but even the very delicate skin test showed that from twenty-five to ten per cent. were not. His own findings were that 36.2 per cent. were not. As a negative skin reaction was held to be strong evidence of the absence of tuberculosis, and as tuberculosis was estimated by it to be present in from seventy-one to ninety-four per cent. of children in the clinics,



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it would be strange if it did not prevail among those with phlyctenular disease, while at the same time the test seemed to indicate that the latter was not dependent on it.

In the discussion that followed the line was sharply drawn between those who believed phlyctenular disease to be tuberculous and those who did not. Doctor Tirnen seemed to base his evidence of its tuberculous nature on the same figures and statements which indicated its non-tuberculous nature to Bruns. He believed keratitis eczematoza to be an atypical manifestation of tuberculosis which was free from bacilli, although it was not always possible to demonstrate tuberculous foci. Doctor Verhoeff likewise believed it to be tuberculous and considered that the cycle of outbreaks could be explained by anaphylaxis. Doctor Bennett ascribed it rather to an intestinal toxemia. Doctor Theobald was inclined to agree with Doctor Bennett and thought efficient treatment to be an old fashioned calomel purge. Doctor Woods took the ground that it was very difficult to draw conclusions from the data furnished. All that could be proved was that improved hygiene improved the condition. The experience of Doctor Barrett, of Melbourne agreed with that of Bruns, Bennett, Theobald, and Woods. The disease was not associated with gross tuberculous lesions and von Pirquet's test was important when negative rather than when positive. Doctor Derby had found gross manifestations of tuberculosis in only a small proportion of these patients. He was doubtful if the patients were improved by tuberculin and if the cases were tuberculous they were atypical.

The results obtained by Dr. W. E. Lambert in nine operations for high myopia on five patients had been uniformly satisfactory. The Fukula method was used in seven of the cases. The ages of the patients ranged from sixteen to fifty, there were extensive lesions in the fundus with opacities in the vitreous in three, commencing lenticular changes in one, a woman of thirty-two, and an almost mature cataract in one. The best result was obtained in the youngest patient, 20/20 vision. Recently he had operated on another case, a boy six and one half years old with 25 D. of myopia.

Doctor Cullan considered the operation justifiable under thirty years of age. A few more patients did perhaps suffer from detachment of the retina, but the percentage was increased very slightly. In regard to this figures varied with the operator. The second eye should never be operated on until the patient thoroughly understood the danger to which he was being submitted. Doctor Risley was opposed to operating on young eyes, under thirty-five years of age, when the myopia was increasing and choroidal changes were taking place, but had operated with good results upon older patients. Doctor Bruns thought the patients should not be over twenty and should have not less than 16 or 18 D. of myopia. He preferred repeated discission, although this took a very long time. Doctor Pates suggested the possibility of improving the distant

vision by curtain exercises without operation. Doctor Valk considered refractive myopia better suited to operation than axial.

THE SECTION IN NERVOUS AND MENTAL DISEASES.

TUESDAY, JUNE 4TH.

In his address as chairman, Dr. Edward D. Fisher considered the subject of fractures of the spinal column, with and without dislocation, and the consequent cord injuries, and suggested a definite plan in regard to the debated question of operating on such cases. He believed that the sensory symptoms offered the most reliable information as to when to operate. When, for instance, the anesthesia presented a line of sharp segmental limitation and did not improve within twenty-four hours, operation was advisable, as intradural hemorrhage was probably present. If, on the other hand, the anesthesia was irregular, or if it improved early, operation should be deferred, as the cord was probably not greatly injured in such cases. Operation several months after the injury, where the symptoms had been severe and had not improved, were usually futile. The operations on the spinal column were not in themselves particularly dangerous if done by skillful and experienced surgeons and offered the best results in properly selected cases. Doctor Fisher illustrated his points with brief clinical reports together with interesting x ray plates.

Dr. C. H. Frazier and Dr. C. K. Mills reported a case of severe spinal traumatism with fracture of the first lumbar vertebra and intraspinal lesions, in which anastamosis was made between the first lumbar and third and fourth sacral roots within the spinal canal. This case was the first one on record in which such an operation had been performed successfully. The principal permanent symptom of which the patient complained was incontinence of urine, and distinct benefit has occurred since the operation. This procedure was suggested as applicable in various cord injuries and even in certain cases of acute poliomyelitis, where other measures were impossible.

Dr. Pearce Bailey read a comprehensive paper on the atypical symptoms of myasthenia gravis, emphasizing the fact that myasthenic symptoms were not uncommon in many different diseases, especially various organic nervous diseases, and suggested the possibility of some general relationship or common etiology. The frequent association of perverted conditions of the ductless glands in such conditions was significant.

Dr. M. Allen Starr attributed many common neurotic symptoms to defective secretion of the ductless glands, classifying the cases as *formes frustes* of myxedema, Basedow's disease, etc., and had used the various animal extracts successfully in treatment. Doctor Starr emphasized the fact that many of the so called neurasthenics suffered primarily from faulty metabolism based upon defective internal secretions.

Dr. Edward Livingston Hunt summarized the symptoms and complications of tabes dorsalis with special reference to medical and surgical procedures for the relief of the crises and the vesical and joint complications. The importance of removing all possible sources of peripheral irritation was dwelt upon, as was the warning against the use of the catheter and hypodermic syringe by the patient.

WEDNESDAY, JUNE 5TH.

Dr. Hugh T. Patrick, from a very extensive experience with trifacial neuralgia, believed that certain revisions were necessary in the usual textbook descriptions of the disease. For instance, it might occur in the young, and he had seen a case in a child of seven years of age. Most of the cases were found between the ages of forty and sixty years (fifty-seven per cent.). Males and females were about equally affected. The supraorbital branch was but rarely primarily involved (0.7 per cent.). The right side of the face suffered more frequently than the left. In true tic doloreux the individual paroxysms seldom exceed sixty seconds in duration, though it was sometimes necessary to watch patients closely to determine this. As to etiology Dr. Patrick had found nothing that he considered significant; association with syphilis did not seem close; defective teeth were common in these patients, but perhaps not more so than in the general run of humanity. He considered it a distinct clinical entity, and not a reflex nor secondary condition.

Dr. A. L. Skvog presented a comprehensive pathological report of a fatal case of acute anterior poliomyelitis as well as the successful results of monkey inoculations.

Dr. M. Neustaedter offered a contribution to the etiology of poliomyelitis, citing experiments with dust from rooms where the disease had existed. This dust was found infectious, while controls were negative. Most of the evidence pointed to the nasopharynx as the port of entry in the average case. Prophylactic measures were urged, such as quarantining cases, spraying throats of patients and those exposed with hydrogen peroxide and water, and especially watering and oiling the streets in districts when the disease existed. Epidemics had been rapidly checked by this latter process.

Dr. L. Harrison Mettler, in a paper on multiple sclerosis, dwelt upon the need of fundamental definitions and systematic investigations to clarify the knowledge of this disease.

Dr. F. X. Dercum reported a case of multiple sclerosis in a man of eighteen years, whose father was syphilitic and tabetic. The symptoms most prominent were ataxia, Romberg's symptom, Argyl Robertson pupil, transient palsies of left leg and right arm, transient oculomotor palsies, unequal pupils, tremors, and speech disturbances. Mental symptoms were those of progressive dementia and euphoria. The clinical diagnosis was paresis, but necropsy proved it to be a case of multiple sclerosis with widely disseminated lesions.

Dr. T. H. Weisenburg gave a moving picture demonstration of many different cases of nervous and mental diseases, illustrating the facial expression, ocular movements, general attitudes, gaits, and behaviour of the patients.

Dr. Edward Anthony Spitzka demonstrated by lantern slides the morphological aspects of the brain with respect to race, sex, and intellect, comparing the brains of various types of apes and those of man from the most primitive races to the most highly developed intellects. He pointed out particularly the close average relationship between the weight of the brain and the intelligence and especially the area of cross section of the corpus callosum.

Dr. H. A. Cotton and Doctor Hammond presented a review of the critical histopathology as revealed by newer methods of staining, and demonstrated the subject by beautiful lantern slides of microphotographs in natural colors. Characteristic cellular and neuroglia changes were pointed out as found in so called functional diseases, dementia præcox, senility, etc.

Dr. J. H. Lloyd and Dr. S. D. W. Ludlum reported a case of primary or essential lateral sclerosis and discussed the status of this condition as a disease entity, speculating as to its etiology.

Dr. C. L. Dana reported a case which presented clinically all of the symptoms of Little's disease, in which, pathologically, nothing was found to account for symptoms. He suggested the designations of generalized tic or polyclonus as descriptive of the condition. The operation of posterior root section was attempted when the child was six years old, but resulted fatally.

Dr. Charles A. Elsburg described his conclusions from sixty cases of spinal tumor with operations. His work had been that of a pioneer in this line and many practical points were brought out. He advised two or even three stage operations in cases of intromedullary growths, making longitudinal incision in posterior columns of cord over the tumor at the first stage, after which the growth followed the line of least resistance, emerging from the incision where it was easily accessible at second or third stage operation. He made longitudinal incisions in the posterior aspect of cord as long as two or three inches in some cases, with decided benefit to the patient.

Dr. J. W. McConnell and Dr. William I. Spiller read a paper on the clinicopathological study of illuminating gas poisoning of the central nervous system, reporting a case which apparently recovered in two days, later symptoms developing of serious organic brain lesions and ending fatally, forty days after the accident. Necropsy revealed areas of softening in the lenticular nuclei and microscopic cerebral lesions.

Dr. Alfred Gordon reported a case of tumor of the hypophysis with necropsy findings from a patient who had been under observation for a period of five years. Interesting

symptoms referred to perverted function of the pituitary were discussed.

A paper by Dr. J. H. W. Rhein on Aneurysm of the Cerebral Arteries was read by title.

THE SECTION IN PRACTICE OF MEDICINE.

TUESDAY, JUNE 4TH.

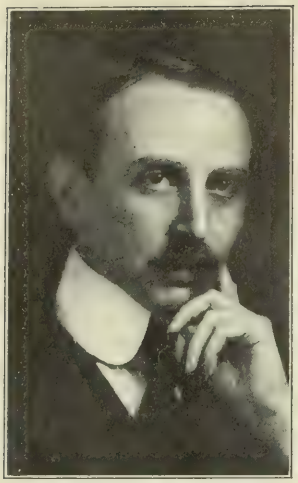
Dr. Wilder Tileston, of New Haven, in the chair. Dr. Thomas D. Colman, in the course of his remarks on arteriosclerosis, stated that tissue nutrition could not be maintained except in the presence of tension. The cause of sclerosis was a toxine or toxine acting upon the vasculomuscular system. Local sclerosis was more often found in the brain, and explained the rupture of capillary vessels there. Diagnosis of local sclerosis was not easy, as there was little to give us warning of its presence. This form was also found in the kidneys and liver. It might occur anywhere in the arterial tree. The coronary artery was very frequently affected. The explanation why certain localities were favored by this disease was impossible. Age was a factor, but age not measured by years. Lack of bodily care induced the disorder. Of all causes of sclerosis high pressure living was perhaps the main one. Man worked furiously that he might enjoy old age, but when he had acquired the means of enjoyment he found that the habit of work had enslaved him. Syphilis was a common cause; alcohol, lead, tobacco, and mineral poisons must also be reckoned with. Alcohol acted etiologically by causing disturbances of metabolism, especially in those living under high tension. Doctor Bishop, of New York, divided sclerosis into two classes, one produced by lead and other poisons and a second in which it occurred as a compensatory phenomenon, meeting a demand on the system produced by a high blood pressure. He believed that arteriosclerosis was due to the action of amino acids produced by the disintegration of proteids (eggs, fish, or meat) in the intestinal canal, and a failure of the liver to separate the toxines that they might be excreted by the kidneys. In an examination of 50,000 specimens of urine from the well cared for classes, he found first an excess of indican, then a trace of albumin, later casts, and finally neurasthenia which was a symptom of late arteriosclerosis. He found physicians especially liable to contract this disease (65 under his personal care). In the treatment of these cases he cut out meats, eggs, fish, and meat soups, then added gradually one protein after another; second, castor oil was given every day for three days, omitted, and then resumed; third, enforced physical labor. Doctor McCasky, of Indiana, found three factors in arteriosclerosis, arteriosclerosis proper, cardiosclerosis, and arterial spasm. Its etiological causes were various toxines. The therapeutic indications were elimination, sedation of the cardiovascular apparatus, and vasodilatation. In advanced cases he did not advocate much exercise, but insisted upon rest to produce sedation. He advised the use of purin free diet, rest in bed, and, if in a hospital, one drop of glonoin every hour the first day, two drops the second day, increasing the dose until the pulse comes down. Dr. H. O. Marcy, of Boston, remarked upon the greater frequency of arteriosclerosis in cities on account of the great pressure of living. If patients were sent to Carlsbad they would carry out detailed instructions, while if treated at home, club life, and the indulgences incident thereto interfered. They could take less alcohol, tea, coffee, and tobacco, larger quantities of water to drink, and rest ten hours in bed. Dr. J. M. Anders, of Philadelphia, believed syphilis to be the most frequent cause of local arteriosclerosis. If the compensatory idea was correct he would caution against interference with the blood pressure. Doctor Rochester, of Buffalo, believed that in cases where hard work and syphilis were the causative factors, hard work as a part of treatment was contraindicated. Doctor Cohen, of Brooklyn, advised the use of erythrol tetranitrate in one half grain doses, t. d. in cases with very high blood pressure. Doctor Graves, in the line of treatment, would not advise exercise in patients who were laborers. Professional men that lived high and did not exercise should cut down the total amount of food, and perhaps the proteids, and play golf. Rapid lowering of high blood pressure was dangerous. Dr. T. Williams, of Washington, considered diet most important and recommended Chittenden's diet of fifty grammes of proteid (vegetable) daily and no more. As eliminants, purgatives not advised, better hot baths with moderate exercise and cessation of strenuosity and worry. Dr. Walter L. Bierring, of Des Moines, considered chloroma a rare disease marked by a general weakness, anemia, tumors on the scalp, and perhaps ecchymoses under the skin. Albumose had not been found in the urine. The tumors contained a greenish pigment. Two varieties were named, the lymphoid and the myeloid, the former generally found in young patients, the latter in older ones. Dr. Henry K. Pancoast, of Philadelphia, in the treatment of leuchemia and pseudoleuchemia recommended the x ray treatment over all the bones of the body except those of the skull, applications to be made daily if possible and with no intermission; later the older method (over the spleen) might be used. The latter was not advised early in the case, as it liberated too rapidly hemolytic matter and reduced the red blood count. The x ray was contraindicated in acute leuchemia, as it hastened death, and in chronic cases with severe intoxication. Dr. James Tyson, of Philadelphia, reported a case of leuchemia which responded promptly to the x ray treatment and then relapsed. When retreated the case did not respond until arsenic was added. Doctor Pancoast, in closing, admitted that cure was not to be looked for, only prolonged life and an easier one.

Dr. J. A. Capps, of Chicago, in a history of the epidemic of sore throat occurring last winter, found that eighty-five per cent. of the cases were consumers of a certain dairy. He believed that careful pasteurization of the milk sold by the dairy would have rendered the epidemic impossible. They had used the "flash method." The infection was due to streptococci resembling the hemolytic and pneumococcic. Dr. L. Hamburger, of Baltimore, called attention to the great size of the throat swellings and to the feature of their rapid subsidence without rupture or suppuration. Doctor Preble, of Chicago, found in cases of similar character a relatively slow pulse and in some positive bradycardia differing from ordinary streptococcus infection. Although many cases were prolonged anemia and jaundice were absent. Dr. H. S. Anders, of Philadelphia, favored the human origin of the infection, and that it was dust borne. Dr. J. L. Miller, in closing the discussion, showed the ease of confusing these cases with those of ordinary tonsillitis.

Dr. C. L. Cummer, of Cleveland, believed aortitis to be, usually, a late manifestation of syphilis, occurring generally at the root of the vessel, causing a rubberlike thickening, *Spirochæta pallida* being found in the tissues. In thirty-six cases of aortic disease twenty-seven cases showed a positive Wassermann reaction. Pain was present in sixty-six per cent. of the cases, located under the upper part of the sternum. Mercurial treatment alleviated the pain promptly. Doctor Potter, of New York, suggested the use of salvarsan in these cases. Doctor Dunham, of Cincinnati, advocated the use of the x ray for diagnosis. Doctor Bishop, of New York, considered the results of x ray examinations fallacious, a humping of the arch being caused by increased blood pressure. Doctor Bierring, of Des Moines, spoke of the x ray pictures of apparently normal subjects, with normal blood pressure as being misleading, resembling the skiagraphs of aortitis. Doctor Dexter closed the discussion by calling attention to the importance of early diagnosis, an early significant symptom being shortness of breath, especially on exertion. Left sided humping of the aorta in radiographs was caused by the arching over of the aorta.

WEDNESDAY, JUNE 5TH.

Dr. Elliott P. Joslin, of Boston, in reviewing sixty-seven cases of diabetes, said the patient lived ten or more years in eleven per cent. of the number, or if those patients that could not be traced and those not having been sick that long were excluded the proportion rose to twenty-six per cent., or one in four. The greater number of cases occurred in males. Sixty-four were Americans, two Hebrews, and one Irish. Syphilitic history in five cases. As to age of onset, the youngest patient was sixteen years old, the oldest sixty-nine. One third of the cases were under forty, most were from fifty to sixty. One half (thirty-five) had acidosis at one time or another in the disease. Of twenty-eight fatal cases, thirteen patients died of coma, one of tu-



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berculosis, seven of arteriosclerosis, three of pneumonia, one of pernicious anemia, one of cancer. In seeking the reason why the patients lived so long, he found obesity the most prominent, twenty-six patients weighing over 200 pounds, and thirty-five patients 180 pounds or over. The average loss of weight in these cases was from forty to fifty pounds, one patient who lost 109 pounds lived twenty years. Early diagnosis was a second factor in this longevity, and was explained by the fact that most of the patients were professional men and nurses. Third, the treatment was above the average in quality, fifty with unusual care, and one quarter of the number by well known physicians. To this must be added that the patients were gifted with great common sense, no patent medicines were used, and treatment was never by extreme measures. A fourth factor was heredity in twenty-five per cent. of all cases, a favorable predisposing factor in some cases. The fifth factor was temperament; the patients were cheerful and courageous; they did not worry. In fifty-two cases pure diabetes occurred in obese patients, in nine cases after fifty-eight years of age. Eight cases were of the severest type and five were simple glycosuric cases.

Dr. Theodore C. Janeway, of New York, remarked that hopefulness toward the issue of this disease had in many cases been replaced by a pessimism, which was unwarranted by the facts in our possession, and which was born of ignorance. If an attendant physician was pessimistic his duty was to turn the patient over to some one else, as success in treatment consisted in attention to minute detail, in convincing the patient of our ability, and an endurance of hardships on the part of the patient. The knowledge that one quarter of all diabetics might live ten years or more should be an incentive to good work. The adoption of early treatment was emphasized. As an exception an occasional very long duration of life in the elderly obese was noted. He reported the case of one such who was eighty years old, and had diabetes for twenty years, who, although disregarding all rules laid down, was still alive.

Doctor Lichty, of Pittsburgh, spoke of the effect of acute infection in these cases. Many of the old obese diabetics died from acute infection (middle ear disease, pneumonia, etc.), rather than the original disease. Touching the question of hopefulness in these cases he reported the case of a young, thin patient with acute type of diabetes, in which variety the prognosis was usually bad, who was passing twenty-six ounces of urine in twenty-four hours. Rest in bed, with carbohydrate free diet caused the entire disappearance of the sugar. Doctor McCaskey, of Fort Wayne, was of the opinion that Doctor Joslin's experience was exceptional. If results were so favorable with cases on whom everything had been tried before reaching the consultant, private patients should do better. He considered that treatment should be both dietetic and hygienic. If the patient could not digest carbohydrates he could not live long. If there was a small ability to digest carbohydrates there was a fair chance, but if a reasonable amount of carbohydrate could be digested without causing glycosuria, there was a good chance for a long life. Effort should be made in all cases to increase carbohydrate metabolism because of the failure of the function of glycolysis. In addition to living within the limits of carbohydrate metabolism the patient should have enforced rest in bed. At first withdraw all carbohydrates and put patient in bed one to four days a week. Dr. J. L. Miller, of Chicago, reported a case in which faulty metabolism caused urticaria, on the appearance of which the sugar disappeared; on recession of the urticaria the sugar reappeared, also a case of uterine hemorrhage in which the latter caused disappearance of the sugar. Doctor Heyn stated that the food intake and sugar estimate should be ascertained by careful tests, and urged the necessity of cooperation as regards diabetic hospital cases. Doctor Joslin, in closing, remarked that in those long lived patients who paid no attention to diet and took no treatment, it would be generally found that they had followed out a rational diet (butter and cream in large quantity) and had lessened their work. As to acute infections he did not believe that they played an important rôle. Of over 350 patients treated, 180 were living, and thirty-nine (eleven per cent.) had been living over ten years. In the line of treatment he advised at first a residence in the hospital for two weeks as a maximum; later one week at intervals. He considered the case with urticaria interesting in the light of treatment and etiology. If tuberculosis developed in a diabetic the diabetic condition receded.

Dr. L. F. Barker, of Baltimore, reported a case of porphyruria, in which the patient passed urine of a reddish brown or port wine color, and had nausea, vomiting, with loss of weight. A sister, eighteen years old, had died with the same symptoms, and another sister was now similarly affected. The father had signs of Graves's disease. The patient reported had also enlargement of the thyroid gland, gastroduorenal dilatation, and suffered from tetanoid attacks. The urine, of port wine color, contained hematoporphyrin, as shown by spectroscopic examination. Later acetone appeared, but no diacetic acid. Signs of general multiple neuritis developed, followed by death from bronchopneumonia. Seven cases similar to this were reported in literature. In this case the gastroduodenal dilatation was associated with a narrowing of the lumen of the bowel below and was considered the primary factor in the case; the porphyruria, multiple neuritis, and tetanoid attacks were secondary. The prevalence of this trouble in one family was to be emphasized, the dilated stomach and duodenum found in all these cases produced an intoxication.

Dr. Theodore C. Janeway, of New York, considered the causes of death in 100 cases of high blood pressure. The study of these cases, he believed, was only possible in private practice. His former impression was that the most common cause of death was from chronic nephritis. The high blood pressure was caused by chronic nephritis in seventy-nine cases, primary diabetes seven, general arteriosclerosis four, coronary sclerosis four, aortic regurgitation two, aortic aneurysm one, myocardial disease one, myocardial insufficiency one, pericarditis one. Diabetes *per se* stood in no causal relation, but associated with nephritic disease it did. Seventy-four patients were men and twenty-six women (twenty-two married). As to age, below twenty, two cases; below forty, five; below fifty, twenty-four; below sixty, thirty-nine; below seventy, thirty-two; seventy and over, fourteen cases. Oldest was eighty years.

The causes of death were: Gradual cardiac insufficiency twenty-nine cases, uremic convulsions fifteen, chronic uremia twenty, uremic psychosis one, uremic coma fourteen, acute edema of legs four, angina pectoris three, unclassified four, progressive anemia two, acute pneumonia four, unrelated disease four. The average duration of the disease was from three to four years in all types. He concluded that early dyspnea with high blood pressure was due to cardiac insufficiency and the disease should be treated as a cardiac disease, the musculature of the heart claiming first attention; anginoid pain on exertion did not affect prognosis; in cases with nocturnal urination, morning headaches, growing better as the day lengthened, a guarded prognosis should be given. Dr. L. F. Barker, of Baltimore, stated that while sclerosis of the palpable arteries may not be detected there was always present a change in

the arterioles. He warned against the use of vasodilators in these cases, and advised the use of cardiac muscle tonics (digitalis and strophanthine) with rest in bed, for he considered the high blood pressure compensatory. If very high or in low blood pressure digitalis was to be preferred. Doctor Bishop, of New York, considered this condition due to poisoning by aminoacids of intestinal origin. In very high blood pressure he advised phlebotomy to the extent of one quart of blood at the beginning of the case; if the condition recurred six months later the patient would ask for it. He believed in exercise, and could not see how the tone of the muscle could be raised by rest in bed; he suggested graduated exercise and elimination of the toxines by the use of castor oil in the first stage. A digitalis stage was recognized by him where there was a tendency to the onset of low blood pressure (measure high but was relatively low). He warned against the danger of using the high frequency current in these cases. Doctor Cornwell, of Brooklyn, stated that high blood pressure could not be treated as a symptom. He advised the use of nitroglycerin only when coronary sclerosis was present, and agreed as to the injurious effects of the high frequency current. He would eliminate the intestinal toxines which contained a substance similar in action to adrenalin in that it increased blood pressure. Doctor Fussell, of Philadelphia, believed that cases of heart failure with high blood pressure were not to be benefited by exercise, but required at first rest in bed; later graduated exercise might be used. Doctor Potter, of New York, was of the opinion that frequent use of the sphygmomanometer had a tendency to demoralize and depress the patient. Doctor Janeway in closing stated that the effect of treatment had an important bearing on the classification of the cases, especially when high blood pressure was associated with a failing heart or uremic symptoms. He advised the use of glonoin only in cases where angina or threatened apoplexy was present. The question of exercise he believed to be a personal matter in each case. He did not endorse the use of high pressure currents.

Dr. E. C. Rosenow, of Chicago, in considering the question of immunization in pneumonia and other pneumococcic infections, found the opsonic index low during the height of the disease, becoming higher during convalescence. He had found a reduced mortality from the use of an autolysed pneumococcic vaccine in lobar pneumonia. Doctor Warren, of Arkansas, observed that the termination of cases, if seen early and vaccine was used, was by lysis and not by the ordinary crisis. Dr. S. Solis-Cohen, of Philadelphia, looked upon the use of vaccine as a marked advance in therapeutics. One case thoroughly studied teached him more than a mass of statistics. He found that injection of quinine and urea promoted resolution. He used vaccines in unresolved cases of pneumonia to hasten resolution and advised the study of cases in a hospital. Doctor Rosenow, in closing, remarked that the duration of immunity was very short. He advocated the statistical method of study. In the use of vaccine containing mixed infections in addition to that of the pneumococcus, he reported two deaths, seen by him, during the decline of the fever with collapse. A soluble vaccine, after the toxic substance had been removed, might be given early.

Dr. Elsworth Smith, of St. Louis, presented an analysis of pleural vomicæ with a report of sixteen cases. He defined the condition to be one in which pus is ejected from the bronchi, being coughed up, and generally having an odor of decomposition. The x ray was valuable in its diagnosis, as it was a condition apt to be overlooked. Its progress was generally fatal unless relief was given by operation. It was mistaken often for advanced tuberculosis, bronchiectasis, pulmonary abscess, or empyema. The treatment consisted of resection of the rib and drainage, done under general anesthesia. All patients bore the operation well, and the results were almost magical. Dr. Theodore C. Janeway, of New York, reported a case of pleural vomicæ which showed also the tubercle bacilli in the sputum, the patient developed clubbed fingers and arthropathies. A perinephritic abscess perforating the diaphragm entered the pleural cavity and became a pleural vomica. The diagnosis might be made from the history of the case. Doctor Robinson, of Boston, believed that the primary infection was pulmonary, as a rule, in these cases. Doctor Gillette, of Rome, N. Y., reported a case showing



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DR. C. J. MILLER,
of New Orleans; chairman of the Section in Obstetrics and Gynecology.

the value of early diagnosis. Dr. Smith, in closing, agreed with Doctor Robinson as to the primary origin of the infection. In the matter of diagnosis the use of the hypodermic syringe to withdraw the fluid was not satisfactory, as the pus might be thick and stringy. The effect of operation was always good.

Dr. Mary E. Lapham, of Highlands, N. C., gave a description of the treatment of tuberculosis by compression of the lung by nitrogen gas injected into the pleural cavity which she said was useful in hopeless cases of advanced tuberculosis. She admitted the danger of gas embolism, if the needle thrust through the chest wall does not enter and stop in the pleural cavity. The amount of compression produced is determined by an x ray examination. Recovery depends upon the healing of the cavity tissues by fibrous scar tissue. Repeated injections were made at intervals to maintain uniform pressure. After the injection of the nitrogen, the fever falls, and night sweats and cough disappear. She gave as results a saving of forty per cent. of hopeless cases; a saving in time and money, and that the surroundings of the patient were freed from infection. Dr. Samuel Robinson, of Boston, stated that J. B. Murphy first described the operation which was taken up by Lempke and then abandoned. Since 1898 Bromer, Schmidt, and others had revived interest in it. Symptomatically it gave relief in all cases, and for that reason merited attention. The percentage of cures would not be as high as forty per cent. in a large number of cases. He considered it a safe operation for the internist or general practitioner, but would advise beginning with small, frequent injections of nitrogen. Doctor Knopf, of New York, looked upon the term "cure" as indefinite, and said that an absence of bacilli for two years should determine it. It was indicated in unilateral involvement of the lung. Doctor Minor, of Asheville, considered it a means of ameliorating the condition of our advanced cases, and valuable as such. Although cure was not always possible, amelioration was always desirable. Doctor Pottenger, of California, considered the treatment valuable if only a help in hopeless cases, but one should go carefully and slowly and not be too enthusiastic, nor yet pessimistic. Doctor Lapham, in closing, stated that cause of failure was not to be found in the method, but in the inability to use it (in cases seen too late). If infection attacked the other lung or the intestines it was again too late, although in four cases a second infected lung had been successfully compressed. The condition of the heart must be closely watched in the latter cases. Too much nitrogen, nor too much pressure should be used.

Dr. Homer F. Swift, of New York, in speaking of the intensive treatment of syphilis, stated that the spirochete was found at some time in all primary lesions. No suspicious ulcer should be treated until a definite diagnosis had been made (Wassermann or Noguchi test). The

technique of Wassermann was simple. Early diagnosis was essential for rapid cure, each week's delay in the early stage meant a month longer of treatment by the intensive method. Intravenous injections should be made only in hospitals. Two efficient remedies were at our command (mercury and salvarsan), two methods of early diagnosis and control, the only need was room in hospitals for the care and study of cases. Doctor Friedman, of New York, made a plea for the treatment of late syphilis, explaining his point by the report of a case. Dr. Theodore C. Janeway, of New York, stated that syphilis should receive recognition as entitled to treatment in general hospitals.

THE SECTION IN LARYNGOLOGY, OTOLOGY, AND RHINOLOGY.

TUESDAY, JUNE 4TH.

George E. Shambaugh, of Chicago, in the chair: The chairman, in his address on The Specialist in Medicine, considered carefully the specialties of medicine as found in existence to-day, and deplored the fact that many men posing as specialists in the various branches were ill trained and unfit to act in such a capacity. The regulation of medical education should eliminate many if not all of these faults, and supply the community with men who were really specialists in their branches. Such was the goal toward which medical education is now leading.

Dr. Ross H. Skillern, of Philadelphia, discussed the exploratory needle puncture of the maxillary antrum in one hundred tuberculous individuals, demonstrating the marked dissimilarity between the clinical and post mortem findings. His results were somewhat at variance with the post mortem observations of E. Fraenkel, Wertheim, and others, probably due to the fact that his experiments were conducted on patients still alive but in the last stages of the disease. His technique, in brief, was to douche the nasal cavities with a normal saline solution, apply a twenty per cent. solution of cocaine, insert the needle into the antrum, force air into the cavity to determine the presence of fluid, and then to wash the sinus out with a saline solution, catching the washing in a clean basin. The conclusions reached were that 1. Sinuses in health were free of bacteria. 2. Tuberculous subjects were not more prone to sinus inflammation than other individuals. 3. Tuberculosis of the lungs did not predispose to sinus inflammation. 4. Genuine tuberculous processes were rarely if ever found isolated within a sinus.

Ballenger regretted that x ray plates had not been made, which would have added much to the value of the report.

Ethmoiditis a Common Sequel of Hay Fever, by Dr. F. C. Todd, of Minneapolis, aroused a lively discussion as to what extent pathological conditions of the nose were responsible for the phenomena frequently spoken of as hay fever. The author believed that susceptible individuals were affected, irrespective of intranasal conditions, when the pollen toxine was brought in contact with the mucous membrane, whether it was that of the eye, nose, mouth, throat, or rectum.

Doctor Richards, of Fall River, was of the opinion that intranasal abnormalities were really not the cause of hay fever, but were merely aggravated by the existing conditions, at the same time placing much stress on the neurotic element, while Ballenger, of Chicago, believed that some form of ethmoiditis would be found in the majority of cases. Frees, of Chicago, noted that an internascent condition of the inferior turbinate was an important predisposing element.

Dr. P. M. Hickey, of Detroit, emphasized in his paper on the Röntgen Ray in Otolaryngology the importance of the x ray plate, at the same time stating that it should be considered merely as an adjuvant to other means of diagnosis.

WEDNESDAY, JUNE 5TH.

Symposium on Intracranial Complications.—Diseases of the Ear which Lead to Brain Abscess was discussed by Max Goldstein, of St. Louis, in a paper which brought out the facts that the tegmen tympani and the tegmen antri were the two most vulnerable points in the development of brain abscess from acute middle ear infections, and that there was an important relationship between the lymphatic ring of Waldeyer and the cavum tympanum. Erosions and depiscences were important in the consideration of this subject. Infection might also take place along the emissary veins or it might be found to have traveled along the sheath of the facial nerve to the labyrinth and thus to the brain. There seemed to be an enormous possibility of the extension of acute and chronic middle ear infection to the development of brain abscess.

Dr. James F. McKernan, of New York, considered the Operative Technique for the Relief of Brain Abscess of Otitic Origin, remarking that most brain abscesses developed after the mastoid operation had been performed. With symptoms pointing to cranial involvement, a button of bone should be removed at the point of election, the dura carefully incised so as to make two flaps. Sutures were passed through these flaps and then used as retractors. Later, if indications justified, these flaps could be sutured and the button of bone returned in order to prevent a hernia of the brain tissue. Through the button hole exploration could be made in every direction, but this should be made only with a knife, as the finger, forceps, or any blunt instrument were liable to cause sufficient laceration and destruction of brain substance as to predispose to secondary abscesses. If pus was found, proper drainage should be instituted, the cigarette drain for acute cases and the rubber tube for chronic conditions being advised. The dressing should not be changed oftener than every three or four days, for too frequent handling interfered with resolution and delayed rapid recovery.

Diagnosis and Localization of Brain Abscess was presented by Dr. F. X. Dercum, of Philadelphia, and it was very evident in the discussion of this subject that many difficulties were encountered, because the symptoms produced were frequently vague and indefinite. In suspected cases of intracranial involvement an exhaustive study should be made and due consideration shown to the nervous symptoms produced. It is important to make a lumbar puncture and to determine the character of the cerebrospinal fluid, while examination of the eye grounds might prove a significant factor in determining the diagnosis.

In discussing the subject of the symposium from the standpoint of the general surgeon, Dr. John H. Gibbon, of Philadelphia, stated that it was of the utmost importance to the operator to know the location of the abscess. He mentioned the fact that it was far safer to make a large opening and reflect the dural flaps, protecting them during the operation by proper packing in case an abscess was found. He preferred the cigarette drain to the rubber tube, saying that the latter was too unyielding and capable of doing damage, especially in acute cases.

Doctor Eagleton, of Newark, called attention to the possible existence of a slight paralysis of the face on the opposite side from the abscess, and only evident during emotion, as in laughing. He further stated that perverted hearing in the other ear, lapse of naming sense associated with headache was sufficient to make a diagnosis of temperosphenoidal abscess.

The possibility of a brain abscess being secondary to accessory sinus disease was suggested by Doctor Hurd, of New York, while Doctor Hubbard, of Toledo, mentioned abnormal conditions in the anterior nares of the nose and especially ozena.

Doctor Stucky, of Lexington, Ky., placed importance upon the differential leucocyte count in the diagnosis of obscure cases stating that where other conditions were eliminated, a diminution in the number of lymphocytes and an increase in the number of multimorphonuclears was sufficient to justify interference.

In discussing the use of salvarsan in lesions of the nose, throat, and ear, Dr. C. R. C. Borden, of Boston, stated that of all syphilitic lesions, those of the nose and throat gave way most readily to treatment by the use of salvarsan. It was especially indicated with a positive Wassermann reaction, although the contraindications to its use should be remembered. The essayist was of the opinion that the best results were obtained when mercury was given in conjunction with salvarsan.

Dr. Justus Mathews, of Rochester, Minn., under Relation of Nasal Conditions to Asthma, stated that the symptoms were due to reflex influences from the lungs, stomach, intestines, or nasal mucosa and that pathological conditions were frequently found in the accessory sinuses, the treatment of results in relief or cure of the asthmatic symptoms.

Dr. Wolff Freudenthal, of New York, gave an account of Further Experience with Endobronchial Therapy of Asthma. Even if abnormalities were not found the thera-

peutic value was sometimes marked because of the removal of secretions. All underlying causes must be removed before success could be assured.

Treatment of chronic laryngeal stenosis by prolonged intubation was performed by Dr. Homer Dupuy, of New Orleans, by the persistent and gradual dilatation of the constricted portion of the larynx with a suitable sized tube patterned after the O'Dwyer tube, but with the enlargement at the end. This tube was retained in the larynx by a silver fixation pin inserted through an incision made in the neck.

THE SECTION IN GENITOURINARY DISEASES.

TUESDAY, JUNE 4TH.

The chairman in his address pointed out that marked advances in diagnostic methods had been made. Dr. B. A. Thomas stated that the paramount question involved was whether the disease was unilateral or bilateral, and that deduction from multiple tests was the only reliable way. The indigo carmin test, because of its simplicity was probably the best to use. In his judgment chromoureterocystoscopy would give the surgeon more exact information than the methods ordinarily used. Where the dye was not eliminated grave disease was to be suspected. Indigo carmine test promised to be of value in the determination of operative from nonoperative prostatic cases.

Dr. Martin Krotoszyner and Dr. George W. Hartman in their paper stated that if cryoscopy was correctly performed, it would give valuable information as to renal function. They placed great emphasis upon technique, as faulty technique was alone responsible for failure of the test. After a study of 135 cases they concluded: 1. Cryoscopies gave from 0.5 to 0.6 below zero. 2. This point was not materially altered in unilateral lesions, provided the other kidney was anatomically, and functionally, healthy. 3. In the presence of material derangement, blood cryoscopy as a rule demonstrates 0.06 and above.

Blood cryoscopies if correctly performed, with faultless technique, gave valuable data as regards renal function and should be applied particularly in those cases where study of bilateral catheterization was difficult or impossible.

Dr. John T. Geraghty at the outset said that most of the criticisms pertaining to the phenolsulphonephthalein test came from those not using it. He described in detail its technique, affirming that he had not found it necessary to modify much from the original method adopted. When both kidneys were diseased periods of fifteen minutes were employed. He had used the test in 200 cases of nephritis, 250 cases of prostatic disease, besides 1,000 other routine cases. He also said that the glomeruli were rarely diseased without marked disease of the tubes. Uremia and function were usually parallel. One case, where by ordinary methods no disease was demonstrable, under this test, a 7.4 per cent. finding was made, marking the case as suspicious, which was confirmed some months later when uremia developed. His conclusion was that he found no reason to change his view as to the accuracy and efficiency of the test.

Dr. Thorkild Rovsing, of Copenhagen, rendered a masterly paper. So comprehensive was it that it seemed to be the last word on renal tuberculosis. He stated that the lesion in by far the greater number of cases proceeded from one kidney, and that in sixty-five per cent. of the cases seen, that the disease had already advanced to the bladder. He sounded a note of warning against the prevalence of a habit in regarding these cases as medical cases, treating them as cases of nephritis. He insisted that only by comprehensive study and by successive analysis of urine as to physical tests, microscopic findings, and bacterial content, all carefully worked out, could an early diagnosis be made. The neglect to do all of these things in a given case where unilateral lumbar pain, or bilateral, with hematuria, together with such clinical symptoms as usually presented themselves, was responsible for many failures to arrive at a proper conclusion. In this connection he stated that many of these cases showed in the urine pus cells, which, coupled with an increased urea percentage and added to the symptoms already given, should call for detailed bacterial search, and with no positive findings of tubercle bacilli a tentative diagnosis could be made. The prognosis must be based on careful study to be neither pessimistic nor too optimistic. In his experience, however, nephrectomy saved seventy-five per cent. of these patients. In the treatment he advised conservative operative procedure. In bladder involvement he used a six per cent. solution of carbolic acid, with preliminary washing of the organ with sterile water, this treatment to be carried out persistently until the solution came away clear.

Dr. A. Raymond Stevens presented an interesting case history, the patient presenting successive attacks of pain and hematuria. Cystoscopy revealed a right sided dorsomesial secondary opening suggestive of double ureter. Skiagraphic catheters were introduced, and the x ray finding was corroborative, showing also that a growth was present in the kidney, from whence the blood was probably coming. Operation proved all the suspicions entertained. He discussed the probable embryological causes of double ureter.

THE SECTION IN DERMATOLOGY.

TUESDAY, JUNE 4TH.

Dr. W. S. Gottheil laid much emphasis upon the rare occurrence of cancerous degeneration in chronic dermatitis with ulceration. Notwithstanding the extreme chronicity of varicose ulcer of the leg, only ten cases had been recorded, to which Doctor Gottheil added two.

Reference was also made to cancerous degeneration of ulcerative processes, occasioned by trauma, pus infections, tuberculosis, syphilis, and leprosy.

Hyperkeratosis and parakeratosis in many cases precede malignant cutaneous degeneration. Of the factors that favored its development, irritation was the commonest.

In one institution, where 200 leg ulcerations were under treatment, there was found only one case of cancer.

Dr. M. L. Heidingsfeld called attention to the host of precancerous affections which presented unusual facilities for the recognition and study of the transitional changes from benign to malignant conditions. The genesis and fundamental origin of all forms of epithelioma could be elucidated if we could infer that the original progeniated tissue proliferated itself to the exclusion of all other types—this we knew was not true, because the types proliferated synchronously.

While it was clinically true that cutaneous malignancy sometimes took its origin from moles, etc., the vast majority of cases presented no such etiology. If malignancy was derived from hair follicles, sweat glands, and other preformed cellular structures, spontaneous development in neighboring tissue and multiple epitheliomata should be more frequent.

Dr. Ludwig Weiss reported the second case in literature of the very rare skin disease parakeratosis ostracea (scutularis). The affection probably was due, like other parakeratoses, to some unknown microorganism. A peculiarity of the horny masses was their oyster shell like architecture —and lanugo hairs coiled up in the shell—holding the mass together like hairs do in mortar. The lesions were dry without any surrounding inflammatory zone.

Dr. Wm. B. Trimble reported five cases of keratosis follicularis occurring in the same family covering three generations—a mother, three children, and one grandchild. Doctor Trimble called attention to the severe and marked keratosis of the soles that was present in a majority of these patients, although little or no mention of this was made in the textbooks.

Dr. Frank E. Simpson reported a case of *keratodermie blenorrhagique*—the first one to be reported in American literature. The patient was bedridden, being unable to move, suffering with generalized gonorrheal arthritis. Six months after the first joint trouble a generalized rash appeared, which was most abundant on the anterior surfaces of the legs, the forehead, hands, and fingers. The eruption was bilateral, symmetrical; the bulk of the eruption was made up of variously sized crustlike lesions, the largest lesions resembling the "rupial syphilide" without an inflammatory base. The palms and soles were covered with a thick, horny epidermis and the nails were thickened, yellowish, and eventually exfoliated. The scalp was affected with numerous hornlike crusts. The eruption was without symptoms except slight itching. On the penis a marked balanitis was noted. The visible mucous membranes were free. The career of all the lesions was a prolonged one. Resorcin and sulphur ointment was of benefit. Spontane-

ous involution of the eruption took place with the subsidence of the arthritis.

Dr. Marcus Haase stated that there were three forms of microorganisms constantly present in the comedone—a small bacillus, a coccus, and the battle bacillus.

There was a bacillus constantly present in all enlarged sebaceous follicles after the age of puberty which under normal conditions might remain harmless, but might become pathogenic in susceptible individuals. The general opinion prevailing is that a bacillus was the etiological factor in both the comedone and pustule. The diplococcus of Varney and Clark probably was similar to the one of which Kenna spoke. The coccus was regarded as an important factor in the causation of the hyperkeratosis, comedone, pustule, as well as the pathological changes that took place in the corium.

Dr. Joseph Zeisler called attention to the fact of the same cutaneous regions being affected upon each administration of the same drug—citing antipyrine as an example.

During the discussions reference was made to the production of a dermatosis by the high frequency current, also that a case of erythema scarlatinoides due to the eating of strawberries had been diagnosticated as scarlet fever.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH.

TUESDAY, JUNE 4TH.

Surgeon General Blue called attention briefly to the development of the present relations between the Federal health authorities and the local, State, and municipal boards. The Federal activity began where the State work ended. Heretofore in many localities State work had been much hampered by lack of sufficient funds and efficient help Improvement was needed in methods for the dissemination of knowledge concerning contagious diseases. Public sentiment was the most powerful factor in stamping out epidemics. Plague was not driven out of California until the people understood its nature and the nature of means to eradicate it. In New Orleans when the cooperation of the people was secured by a campaign of education yellow fever was overcome. The United States possessed the best sanitary corps in the world and the Public Health and Marine Hospital Service was ready at all times to act in an advisory capacity when called upon by local organizations. The central Federal bureau must exercise its function in work that could not be handled by the State, in the collection of vital statistics, in the control of interstate traffic in serums, viruses, etc. There must be a mutual dependence. Doctor Blue believed that "all things worked together for good" and saw much reason for an optimistic attitude in public health work in this country.

Dr. Rosalie Morton paid a graceful tribute to the late Surgeon General Wyman. In founding the National Bureau of Public Health he paved the way for much good that was to result from his work in addition to that which had already been accomplished.

The morning session was devoted practically to two important needs in public health work—*standard methods*, and *education*. Dr. Le Grand Powers, of the Bureau of the Census, called attention to the difficulty this bureau had experienced in the preparation of strictly comparable statistics of the expenditures of health departments. The adoption of a standard system would greatly facilitate the collection of health statistics and materially reduce the cost thereof. Such methods would also extend the field of usefulness of the health board by furnishing a basis for a more intelligent study of the administration of the laws and rules of the locality and its actual and comparative cost. Doctor Snow had found the matter of accurate cost accounting of great value particularly in obtaining appropriations. One difficulty health officials had had was in obtaining adequate appropriations for their work. Much of this was undoubtedly due to unbusinesslike methods used in studying and estimating costs, especially of administration. A standard method of accounting was a necessity.

Dr. J. W. Kerr had studied the differences in the regulations with regard to quarantine that existed in the various States. Much of this was undoubtedly due to ignorance of what was actually necessary in order to keep the once infected person isolated until the infective period had passed. Epidemiological and laboratory data were desirable in order that quarantine methods might mean something definite. Only then will it be possible to have standard regulations.

Public eating and drinking places were, in the opinion of Dr. Walton Forrest Dutton, prolific sources of infection. He had recently seen three patients with gonorrheal ophthalmia contracted by the use of a common towel. The common drinking cup had been largely banished, but in restaurants and at soda fountains the utensils and vessels were often no better cleansed than was the drinking cup at a public fountain. He called for the enactment of laws requiring the sterilization of dishes, brushes, combs, etc., for each individual served. Patrons should be required to wash face and hands before eating.

Education of the individual was the slogan of Doctor Kiefer's most interesting paper. If he had been asked ten years ago what were the proper methods to control infectious disease he would have said quarantine, vaccination, and isolation. In answer to the same question to-day he would without hesitation say *education*. By means of house to house visitation his corps of trained nurses had done much valuable work in Detroit. The 'bugaboo" of aerial convection of contagious disease must be eliminated. Milk, water, flies, and other insects undoubtedly were factors in the spread of disease, but the most important of all modes of transmission was personal contact.

Allied Societies.

The thirty-seventh annual meeting of the American Academy of Medicine was held in the Hotel Dennis, May 31st to June 1st. The feature of the meeting was the symposium on the Medical Problems of Immigration, which emphasized the fact of the responsibility of the people of the United States for the economic and social conditions under which the presence of the immigrant became a problem. The following officers were elected: President, Dr. Roy Lyman Wilbur, San Francisco, Cal.; vice-presidents, Dr. H. A. Tomlinson, St. Peter, Minn.; Dr. W. Edgar Darnall, Atlantic City, N. J.; Dr. Alice Wells Tallant, Philadelphia, and Dr. J. E. Tuckerman, Cleveland, Ohio; secretary-treasurer, Dr. Charles McIntire, Easton, Pa. (reelected); and assistant secretary, Dr. W. L. Estes, Jr., South Bethlehem, Pa. The following resolution was adopted: "Resolved, that the American Academy of Medicine hereby expresses its sense of the extreme importance of the early establishment of a Department of Public Health as a part of the National Government."

CLINICS FOR VISITORS.

Clinics were held in the Central Pavilion on the Steel Pier, Monday, June 3d, as follows: Dr. Milton B. Hartzell, of Philadelphia: Recent Contributions to the Diagnosis and Therapy of Skin Diseases. Dr. Robert W. Lovett, of Boston: Recent Advances and Some Fundamentals in Orthopedic Surgery. Dr. Harvey R. Gaylord, of Buffalo: Recent Contributions to the Solution of the Cancer Problem. Dr. Louis B. Wilson, of Rochester, Minn.: Recent Advances in Medicine and Surgery Incident to the Study of Living Pathology. Dr. Chevalier Jackson, of Pittsburgh: Improved Diagnostic Methods in the Study of the Respiratory Tract. Dr. Alfred Stengel, of Philadelphia: Recent Contributions toward a Fuller Understanding of Cardiovascular Diseases. Dr. John B. Murphy, of Chicago: Recent Contributions toward the Advancement of Clinical Surgery. Dr. James and Dr. Deeks, of Ancon, C. Z.: Observations on Diseases at the Canal. Major Frederick F. Russell, Medical Corps, U. S. Army: Army Experience with Typhoid Prophylaxis. Medical Inspector, E. R. Stitt, and Surgeon A. W. Dunbar, U. S. Navy: Recent Advances in Sanitation in the United States Navy. Passed Assistant Surgeon, J. F. Anderson: Recent Contributions by the United States Public Health and Marine Hospital Service to Preventive Medicine.

HEALTH TALKS IN THE CHURCHES.

A feature of the meeting which enabled the public to participate somewhat in its benefits were the health talks from the pulpits of various churches of Atlantic City on Sunday, June 2d, by some of the distinguished medical

visitors. Among those who thus addressed large and interested audiences were Dr. Maszyk P. Ravenel, of the University of Wisconsin, Tuberculosis; Dr. W. A. Jones, of Minneapolis, Public Health; Dr. Oscar Dowling, of Shreveport, La., Cleaning up a State; Dr. John A. Witherspoon, of Nashville, Public Health Questions; Dr. J. N. Hurty, of Indianapolis, The Gospel of Hygiene; Dr. Ennion G. Williams, of Richmond, Progress of Prevention; Dr. Harvey A. Wiley, of Washington, D. C., The Medical Profession and Public Health; Dr. W. A. Evans, of Chicago, Dawn of the Health Age; Dr. J. W. Foss, of Phoenix, Ariz., Human Life; Dr. C. A. Harper, of Madison, Wis., Advantages Gained by Keeping well; Dr. S. H. Knopf, of New York, A Citizen's Duty in the Fight against Tuberculosis; Dr. Edward Jackson, of Denver, Health in the Schools; Dr. F. A. Tucker, of Noblesville, Ind., Responsibility for Tuberculosis Control; Dr. A. B. Cooke, of Nashville, Religion of the Human Body; Dr. Victor C. Vaughan, of Ann Arbor, Influence of Disease on Civilization; Dr. John A. Hornsby, of Chicago, Efficient Charity; Dr. E. C. Levy, of Richmond, Va., Responsibility of the People in Protecting Public Health; Dr. F. Park Lewis, of Buffalo, Conservation of Life.

AMERICAN MEDICAL EDITORS' ASSOCIATION.

The American Medical Editors' Association held its sessions in the South Solarium of the Marlborough-Blenheim, June 1st and 3d. Owing to the lamented death of Surgeon General Walter Wyman, Dr. Thomas L. Stedman, the vice-president, was in the chair. The following papers were read: The Province of the Editor in Medical Journalism, by W. B. Snow, M. D., New York. Commercialism, by C. F. Taylor, M. D., Philadelphia. Shifting Medical Conditions Confronting Medical Journalism, by invitation, E. A. Ayers, M. D., prof. emeritus of obstetrics, New York Polyclinic. Differential Diagnosis between the "Write-up" and an Honest Article on a New Remedy, by invitation, H. S. Baketel, M. D., New York. Laboratory Experiments versus Clinical Experience as a method in determining the therapeutic value of a remedy, by John W. Wainwright, M. D., New York. The Advisability of Newspapers and Magazines Having Medical Editors on their Staffs, by Edgar A. Vander Veer, M. D., Albany, N. Y. False Values in the Practice of Medicine, by H. Edwin Lewis, M. D., New York. Science in Personal Journalism, by T. D. Crothers, M. D., Hartford. Eugenics in the Medical Magazines, by C. H. Hughes, M. D., St. Louis. Research Work in Life Insurance Medicine, by invitation, Frederick L. Hoffman, Newark, Statistician Prudential Ins. Co. Medical Journalism from a Disinterested Standpoint, by Albert E. Sterns, M. D., Indianapolis. What Doctors Read and Write, by Erwin Reissman, M. D., New York. Independent Medical Journalism and the Task of the Independent Editor of Today, by W. J. Robinson, M. D., New York. The Medical Editor of a Daily Newspaper, His Duties and His Educational Opportunities, by A. S. Burdick, M. D., Chicago. Medical Expert Testimony, by R. B. H. Gradwohl, M. D., St. Louis. Book Reviews, by Arnold Snow, M. D., New York. State Board Examination Questions and Answers in Medical Journals, by Hills Cole, M. D., New York. Subscription Getting, by G. Strobach, M. D., Cincinnati. Anonymous vs. Personal Journalism, by Charles A. Wingerter, M. D., Wheeling, W. Va. Medical Journalism in Years Gone by, by W. A. Young, M. D., Toronto, Canada. How the Medical Press Can Cooperate with the Manufacturers for the Proper Introduction of New Materia Medica Science and Brands of the Same to Commerce, by invitation, F. E. Stewart, Ph. G., M. D., professor of materia medica, School of Pharmacy, Medico-Chirurgical College, Philadelphia.

The following officers were elected: President, Dr. Thomas L. Stedman; vice-president, Dr. W. C. Abbott; secretary and treasurer, Dr. Joseph MacDonald, Jr.

The annual banquet was held in the Marlborough-Blenheim on the evening of June 1st and was attended by some eighty doctors and members of their families, with several nonprofessional guests. Dr. Walter M. Brickner made an admirable toastmaster, reading several original burlesque letters of regret, and keeping up the atmosphere of enjoyment and good fellowship. The menu was well chosen. The toasts and those who replied to them were as follows:

The Relation of Medicine to Law, by the Hon. Henry H. Snedeker, of New York. The Public Health and Hospital Marine Service, by Surgeon General Rupert Blue, of Washington, D. C. Fancies, Facts, and Figures, by Frederick L. Hoffman. An Appreciation of General Wyman, by William Porter, A. M., M. D., of St. Louis, Mo. The Ladies, by Dr. George F. Butler, of Chicago. Doctors and Canals, by Dr. Edwin A. Ayers, of New York. A Little Journey into the Future, by Dr. James P. Warbasse, of Brooklyn; Lord Lister, by H. O. Marcy, A. M., M. D., LL. D., of Boston.

THE AMERICAN MEDICINE GOLD MEDAL.

This medal, the history of which has been given in the JOURNAL, was to have been bestowed on the winner at the banquet of the American Medical Editors' Association, at Atlantic City, June 3d, but his unavoidable absence made it necessary to postpone the award. The committee, made up of Dr. H. Edwin Lewis, editor of *American Medicine*, Dr. William C. Robinson, editor of the *Critic and Guide*, and Dr. Claude L. Wheeler, editor of the NEW YORK MEDICAL JOURNAL, with hardly a moment's debate, awarded this testimonial to the American physician who had most honored the profession during the past year, Colonel William C. Gorgas, of Ancon, Panama, feeling that their decision would meet with the enthusiastic endorsement of their colleagues throughout the country.

THE AMERICAN SOCIETY OF TROPICAL MEDICINE.

This society held its sessions at the Hotel Rudolf, this being its ninth annual meeting, Monday, June 3, 1912, morning and afternoon, Dr. Joseph H. White in the chair. The following papers were read:

1, President's address, The Eradication of Malaria, by Dr. Joseph H. White, of New Orleans; 2, Secretary's report, by Dr. John M. Swan, of Rochester; 3, Treasurer's report, by Dr. C. Lincoln Furbush, of Philadelphia; 4, Comparative Observations on the Biological Characteristics of *Spirochæta pallida* and *Spirochæta pertenuis*, by Dr. Henry J. Nichols, of Washington; 5, Cultural Studies of Malarial Parasites, by Dr. C. C. Bass, of New Orleans; 6, Some Entomological Points for the Worker in Tropical Medicine, by Dr. C. S. Ludlow, of Washington; 7, The Digestive Symptoms of Pellagra, by Dr. Seale Harris, of Mobile; SYMPOSIUM ON BERIBERI: 9, Summary of the Literature on the Etiology, by Dr. John M. Swan, of Rochester; 10, Investigation of Louisiana Rice with Reference to the Etiology, by Dr. Creighton Wellman, Dr. C. C. Bass. Dr. Allen C. Eustis, of New Orleans; 11, Symptoms and Treatment, by Dr. W. E. Deeks, of Ancon; 12, The Public Health Problems in Connection with Beriberi, by Dr. R. H. Creel, of Ellis Island; 13, Gangosa, by Dr. G. L. Angeny of Philadelphia; 14, A Malarial Hotbed within Sight of the National Capital, by Dr. Thomas W. Jackson, of Fort Washington.

The following officers were elected: President, Dr. E. R. Stitt, of the United States Navy; vice-president, Dr. Richard R. Strong, of Manila; second vice-president, Dr. F. Creighton Wellman, of New Orleans; secretary, Dr. John M. Swan, of Rochester, N. Y..

THE NEW OFFICERS.

The election resulted in the choice of the following officers:

President-elect, Dr. John A. Witherspoon, of Tennessee; first vice-president, Dr. Philander A. Harris, of New Jersey; second vice-president, Dr. John L. Heffron, of New York; third vice-president, Dr. H. M. McClanahan, of Nebraska; fourth vice-president, Dr. Harry D. Fry, District of Columbia; secretary, Dr. Alexander R. Craig, reelected, of Illinois; treasurer, Dr. William Allen Pusey, reelected, of Illinois.

Next meeting will be held at Minneapolis.

News Items.

Changes of Address.—Dr. Casper Stock, to 126 West 122d Street, New York.

Illinois State Medical Society.—At the recent annual meeting of this society, held in Springfield, the following officers were elected to serve for the ensuing year: President, Dr. L. H. Nickerson, of Quincy; first vice-president, Dr. S. E. Munson, of Springfield; second vice-president, Dr. W. H. Curtis, of Wilmington; secretary, Dr. E. W. Weis, of Ottawa; treasurer, Dr. A. J. Markley, of Belvidere.

Medical and Chirurgical Faculty of Maryland.—The one hundred and fourteenth annual meeting of this organization was held in Baltimore on April 23d, 24th, and 25th, under the presidency of Dr. Hugh H. Young. Officers for the ensuing year were elected as follows: President, Dr. A. C. Harrison; vice-presidents, Dr. C. F. Davison, Dr. J. Staige Davis, and Dr. E. B. Claybrook; secretary, Dr. John Ruhräh, reelected; treasurer, Dr. William S. Gardner.

Commencement Exercises of the Boston College of Physicians and Surgeons.—The trustees and faculty of the College of Physicians and Surgeons, Boston, have issued invitations to the annual commencement exercises of the college, to be held on Wednesday afternoon, June 12th. Addresses will be delivered by Dr. Henry O. Marcy, of Boston, and Dr. George F. Butler, of Chicago, and the degrees will be conferred by the Hon. Joseph Bennett, president of the university.

Honorary Degrees Conferred by Jefferson Medical College.—At the eighty-seventh annual commencement exercises of Jefferson Medical College, held on June 3d, four men prominent in Philadelphia's medical circles received honorary degrees. The degree of doctor of science was conferred upon Dr. William W. Keen, class of 1862, who is emeritus professor of surgery at Jefferson Medical College, and upon Dr. James W. Holland, class of 1868, emeritus professor of chemistry at the institution. The degree of doctor of laws was conferred upon Dr. J. Solis-Cohen, honorary professor of laryngology at Jefferson Medical College, while Dr. Joseph S. Neff, director of the Department of Health and Charities, received the degree of doctor of public health. Doctor Neff was graduated from Jefferson Medical College in 1875.

Infectious Diseases in Chicago.—During the week ending May 25, 1912, the following cases of communicable diseases, with deaths therefrom, were reported to the Department of Health of Chicago: Typhoid fever, 20 cases, 3 deaths; smallpox, 2 cases, 0 death; chickenpox, 38 cases, 0 death; measles, 280 cases, 4 deaths; German measles, 8 cases, 0 death; scarlet fever, 243 cases, 16 deaths; whooping cough, 118 cases, 4 deaths; diphtheria, 123 cases, 20 deaths; tuberculosis, 130 cases, 68 deaths; cerebrospinal fever, 1 case, 0 death; pneumonia, 27 cases, 90 deaths; ophthalmia neonatorum, 1 case, 0 death. There were fifty-three cases of contagious diseases of minor importance reported, making a total of 1,047 cases for the week. The total deaths from all causes numbered 600, corresponding to an annual death rate of 13.7 in a thousand of population, as compared with a rate of 14.1 for the corresponding period in 1911.

Vital Statistics of New York.—During the week ending June 1, 1912, the total deaths from all causes reported to the Department of Health numbered 1,275, corresponding to an annual death rate of 12.86 in a thousand of population, as compared with a rate of 13.96 for the corresponding week in 1911. The average death rate for the first twenty-two weeks of this year was 15.52, as compared with a rate of 16.80 for the same period in 1911. The deaths from principal causes for the week ending last Saturday were: Measles, 22; scarlet fever, 21; diphtheria and croup, 15; whooping cough, 6; typhoid fever, 4; cerebrospinal meningitis, 7; diarrheal diseases, 53; diarrheal diseases under five years of age, 46; other digestive diseases, 55; heart diseases, 170; influenza, 3; bronchitis, 12; lobar pneumonia, 92; bronchopneumonia, 88; pulmonary tuberculosis, 136; other tuberculous diseases, 30; Bright's disease and nephritis, 80; diseases of the nervous system, 55; violence, 94; all other causes, 332.

Nebraska State Medical Society.—Officers to serve for the ensuing year were elected as follows, at the recent annual meeting of this society, held in Lincoln: President, Dr. I. N. Pickett, of Odell; vice-presidents, Dr. W. B. Kern, of Ingleside, and Dr. Q. A. Quigly, of North Platte; secretary, Dr. Joseph M. Aikin, of Omaha; treasurer, Dr. A. S. Von Mansfelde, of Ashland; librarian, Dr. A. C. Stokes, of Omaha.

Infectious Diseases in New York.—The following cases of infectious diseases, with the deaths therefrom, were reported to the Department of Health of the City of New York during the two weeks ending May 25, 1912:

	May 18th—		May 25th—	
	Cases.	Deaths.	Cases.	Deaths.
Pulmonary tuberculosis	512	178	556	183
Diphtheria and croup	270	24	276	29
Measles	1,713	42	1,676	22
Scarlet fever	394	15	351	15
Smallpox	..	..	..	..
Chickenpox	222	..	183	..
Typhoid fever	30	5	35	6
Whooping cough	77	11	70	4
Cerebrospinal meningitis	8	3	7	7
Total	3,226	278	3,154	256

Faculty Changes in the University College of Medicine.—At a recent meeting of the board of trustees of the University College of Medicine, Richmond, the following changes in the faculty were announced: Dr. Jacob Michaux's resignation from the chair of obstetrics was accepted and he was made professor emeritus. Dr. Paulus A. Irving, professor of pediatrics, was made professor emeritus, on account of his leaving the city. Dr. John F. Winn was elected to the chair of obstetrics to succeed Doctor Michaux, and Dr. Virginius Harrison was made associate professor. Dr. Francis W. Upshur was appointed professor of materia medica and therapeutics and Dr. C. Howard Lewis professor of pharmacology and associate professor of physiology, these two physicans dividing the chair formerly held by Doctor Harrison. Dr. E. C. L. Miller was elected profesor of bacteriology and physiological chemistry.

Personal.—Dr. Charles Lee Bailey, of Albany, N. Y., will sail for Europe on June 20th. He intends to spend some time abroad, and will take the August postgraduate course at the University of Edinburgh.

Dr. Abr. L. Wolbarst, of New York, has just returned from a brief visit to Professor Paul Ehrlich, at Frankfort on the Main, Germany.

Dr. John F. Winn, of Richmond, Va., for some years professor of clinical obstetrics in the University College of Medicine, has been elected to the chair of obstetrics in that institution.

Dr. William M. Sweet has been elected to the chair of clinical ophthalmology and Dr. H. R. Loux to the chair of genitourinary surgery in Jefferson Medical College, Philadelphia.

Dr. Vincent Y. Bowditch, of Boston, was elected president of the American Sanatorium Association, at the annual meeting of the organization held in Washington, D. C., on May 29th.

Annual Meeting of the New Jersey State Medical Society.—The one hundred and forty-sixth annual meeting of the Medical Society of New Jersey will be held at Spring Lake on June 11th, 12th, and 13th, with headquarters at the New Monmouth Hotel, which the Committee on Arrangements has secured for the exclusive use of the society during its sessions. There will be five general sessions devoted to the reading and discussion of scientific papers. Dr. J. C. Bloodgood, of Baltimore, will deliver the Oration in Surgery and Dr. Richard C. Cabot, of Boston, the Oration in Medicine. An interesting feature of the programme will be a symposium on child life, which will be held on Wednesday morning. The officers of the society are: President, Dr. Daniel Strock, of Camden; first vice-president, Dr. Norton L. Wilson; second vice-president, Dr. Enoch Hollingshead, of Pemberton; third vice-president, Dr. Frank D. Gay, of Jersey City; corresponding secretary, Dr. Harry A. Stout, of Wenonah; recording secretary, Dr. William J. Chandler, of South Orange; treasurer, Dr. Archibald Mercer, of Newark. Dr. John W. Ward, of Trenton, is chairman of the board of trustees, and Dr. David C. English, of New Brunswick, is secretary.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

May 23, 1912.

1. H. W. Marshall: Causes for Failures in Treatments of Chronic Joint Diseases: How Greater Successes Can Be Obtained.
2. A. J. McLaughlin: Eradication of Typhoid Fever.
3. Mark W. Richardson: Control of Typhoid Fever.
4. Arthur E. Howard: Importarce of Milk Stations in Reducing City Infant Mortality.
5. John H. Musser: Hypodermic Injections of Iron and Arsenic in Secondary Anemia.
6. Frank E. Peckham: Treatment of Fracture of Clavicle.
7. H. Linenthal: Prevention of Occupational Diseases.

1. Failures in Treatments of Chronic Joint Diseases.—Marshall begins with the statement that causes for failures include those originating with the patients themselves; those found in the general lack of understanding of arthritis, and those for which lack of skill of physicians individually is responsible. The latter is common and very important. New discoveries will not compensate for lack of dexterity, and an increase in the percentage of cures will be attained only through the acquisition of greater expertness. Skillful employment of fewer remedies of well recognized and thoroughly understood action should be advocated. Success depends upon the following considerations: 1. Knowledge of the nature of arthritis. 2. Knowledge of the various clinical types of arthritis. 3. Knowledge of the physiological action of each therapeutic agent used in arthritis. 4. Knowledge of the principal therapeutic agents. 5. Knowledge of the conditions of patients. 6. Accuracy of judgment in making diagnoses. 7. Art in prescribing appropriate remedies.

2. Eradication of Typhoid Fever.—McLaughlin presents tables that show a startling contrast between the death rate from typhoid fever in Europe and in the United States. In one of these the death rate in fifteen large Northern European cities is shown to range from 1.3 to 5.6 per 100,000 of population, while that of the fifteen largest American cities ranges between 8.8 and 58.7 per 100,000. To attain the low rates for typhoid fever which are reported for the northern European cities seems to be an ideal difficult of accomplishment in America, yet he thinks there is no reason why we should not accomplish it and go even farther toward the complete eradication of the disease. Theoretically the eradication of typhoid fever is possible by the ideal execution of two measures, safe disposal of human excreta, and disinfection of the hands of those who handle the food and drink of others. The former is far from being attained, but is an ideal toward which we may aspire, although much education in personal hygiene is necessary before we may hope that the individual carrier will protect others voluntarily by disinfecting his hands at the proper time. Much of the typhoid fever is preventable by the installation of a safe water supply. This is shown by a comparison of twenty-two large American cities with a good water supply, with twelve in which the water supply is of a doubtful character. The elimination of impure milk is another means of prevention. After these factors have been eliminated there remains the "residual" typhoid, in which the greatest factor is the more or less direct transference of the germs from the fresh feces or urine of one person to the alimentary canal of another. The fly is a factor in this transference, especially in the country, the fingers and food are others. The moral duty of the physician to report cases promptly, as distinguished from the legal duty, is pointed out, as well as the fact that he should make a much wider use of the clinical laboratory as a routine procedure, especially in atypical cases. The householder needs to be taught the danger inherent in the excreta of the sick. Hospitalization should be insisted on when there is inability to understand, or failure to carry out the precautions directed. Educational effort must be made to obtain control of typhoid carriers. McLaughlin urges that a campaign of education in regard to the eradication of typhoid fever should be entered into; that it should be systematically planned and should press into service every possible agency, the press, clergymen, settlement workers, and school teachers taking a prominent part, to impress two primary facts: 1. Contamination of food or drink by careless fingers may be equivalent to homicide; 2, such dire results can be avoided by careful cleansing of the hands and finger nails after using the toilet and before handling food and drink. Such a campaign of education would reduce not only the prevalence of typhoid fever, but also of bacillary dysentery, diarrhea, and enteritis of children.

5. Hypodermic Injections of Iron and Arsenic in Secondary Anemia.—Musser contends, in this posthumous article, that the intramuscular injection of iron and arsenic in organic compounds is entirely practical in office and dispensary work; that it is a valuable adjunct to the treatment of anemia secondary to some relatively mild condition; that it affords a method of giving the drugs in which the exact amount taken is accurately known; and that it does away with the annoying complications that frequently result from the administration of the drugs by mouth.

7. Occupational Diseases.—Linenthal urges that the following measures be adopted for the prevention of the ill effects upon health of industrial processes or conditions: 1. To collect complete and accurate data about industrial processes and about conditions under which the various industries are carried on. 2. To obtain more accurate and detailed information relative to occupation on morbidity and mortality records. 3. To instruct the medical student in this field of preventive medicine by a course of lectures on the more important industrial processes and the diseases to which they give rise. 4. To place the specific industrial diseases on the list notifiable to the central health authority. 6. To exclude minors and women from certain industries which are designated as injurious to health. 7. To have adequate laws regulating sanitary conditions and protective devices in industrial establishments, and to have such laws intelligently enforced. 8. To have the central health authority issue regulations for certain dangerous trades with instructions to employers and employees how to guard themselves against the ill effects of their work, and to have such instructions posted in the workrooms. 9. To carry on an extensive educational campaign both among employers and employees as to the value of protective measures and good sanitary conditions.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

May 25, 1912.

1. William O'Neill Sherman: Operative Treatment of Fractures by Lane Bone Plates and Screws.
2. Allan McLane Hamilton: Asthenobulbospinal Paralysis (Myasthenia Gravis).
3. Thomas W. Grayson: "Gas on the Stomach."
4. Louise Morrow and Olga Bridgman: Gonorrhea in Girls.
5. Herbert S. Carter: Abdominal Gain as Initial Symptom in Typhoid; Causation.
6. Edgar Garceau: New Occluding Ureteral Catheter and Cystoscopes for Functional Renal Tests.
7. Mortimer Frank: Medicine as Depicted in English Literature before the Eighteenth Century.
8. Robert W. Lovett: Atrophy of Muscle and Bone Resulting from Joint Disease, Injury, and Fixation.
9. Albert Keidel: Simple Bleeding Tube for Obtaining Specimens for Wassermann Reaction.
10. Edmund A. Babler: End Results of Sixty-six Platings. Treatment of Fracture of Long Pipe Bones.
11. Charles E. Holzer: Rare Lymphatic Leuchemia.

1. Operation Treatment of Fractures.—Sherman states that no fracture should be compounded if it can be properly reduced and reduction maintained, but advises the employment of Lane bone plates and screws in the following cases: Simple fractures not amenable to satisfactory treatment by means of splints, extension, etc. (as in oblique fractures, when both bones are broken); compound fractures; irreducible fractures (serrated, or near the joints); fractures showing abnormal position where accurate reposition has not been secured and in which there is fibrous, delayed, or faulty union. As to time, he operates after the first week or ten days. The advantages are: The duration of illness and convalescence is lessened, as union is practically by first intention, very rapid and satisfactory; the injured parts are restored to a normal position, the best continuity is established, an essential feature. Pain and discomfort are relieved, these being provoked by the movements of the fractured parts on one another, and the extravasation of blood and serum into surrounding tissues, causing increased tension; the restoration of the parts to their former anatomical position lessens physical disability. The writer denies that the presence of a foreign body (bone plate) is an exciting cause of rarefying osteitis. He asserts that fever cases of nonunion would occur if faulty approximation was early recognized and corrected. Proper operating equipment and a most rigid technique are essentials. The periosteum should be preserved and the tissues handled with great delicacy. Speed in operating, though highly desirable, should not have precedence over thoroughness. In the majority of the compound cases removal of the plates and screws will be found necessary to prevent formation of a sinus from irritation. The writer recommends the use of the new vanadium steel plates and self tapping machine screws. He reports seventy-six cases operated in with good results.

2. Asthenobulbospinal Paralysis (Myasthenia Gravis).—Hamilton reports a case, the chief characteristic of which is a peculiar exhaustion confined to the voluntary musculature, and aggravated by repetition of functional acts, the asthenic muscles being used the most. The prognosis is generally bad, although the disease is not necessarily fatal unless due to some serious lesion. The bulbar variety of this disease is the most common and important. The writer first prescribed thyroid extract with very bad results, but considerable improvement and survival for eleven years followed the exhibition of five grammes of thymus extract thrice daily. Use of thymus extract was suggested by the theory that the disease was due to some affection of the thymus gland.

3. Gas on the Stomach.—Grayson holds that slight eructation of air after meals is perfectly normal. Although comparatively rare, true fermentation may be present in stasis. The annoying symptom called "gas on the stomach" is due to an unusual accumulation instead of excessive production of gas in the stomach. When this condition annoys a patient it is usually because he is nervous and has too much acid (alkalies, proper diet, and general treatment relieve). Disease of adjacent organs may cause a feeling of fullness, wrongfully confounded with the condition under consideration.

4. Gonorrhea in Girls.—Morrow and Bridgman, with the experience derived from the treatment of 300 cases, deprecate the use of douches as worse than useless. Diagnosis is made by microscopical examination of vaginal and cervical secretion or discharge, prepared and stained by Gram's method. In treatment the writers use, in connection with gonococcic vaccine, local cleansing of the parts and the application, through a speculum, of 4 to 25 per cent. silver nitrate solutions, pure ichthyol, followed by an application of petrolatum. Silver nitrate, 25 per cent., to the cervix and 10 per cent. to the vagina once a week, and iodoform glycerin paste (25 per cent.) once a week has proved best in their hands. Joint involvement indicated the use of vaccine.

10. End Results of Plating.—Babler reports that in sixty cases, under his care, in which sixty-six platings were done, there was one operative death, one death from postoperative pneumonia, and two from sepsis. There were twenty-six perfect results. The greatest danger is from infection and consequent osteomyelitis. He advises the removal of the plate as early as possible in all platings of compound fracture of the tibia, fibula, radius, ulna, and clavicle, and cautions against placing the plate immediately beneath the skin. Plating is the most successful in simple fracture of the humerus and femur, if strict asepsis is observed. The writer advises the application of a snugly fitting cast immediately after plating; this requires as much attention as the plating. He uses plating only in cases in which the skiagraph shows that it is indicated, because infection will occasionally creep in.

MEDICAL RECORD.

May 25, 1912.

1. R. B. H. Gradwohl: Luetin Test for Syphilis.
2. G. K. Swinburne: Gonorrheal Arthritis: Diagnosis and Treatment.
3. Morris Manges: Typhoid Fever with Unusually Long Duration of Seventy-eight Days of Primary Attack. Two Transfusions. Recovery.
4. Clarence E. Coon: Autointoxication, Direct Result of Mechanical Defects which Produce Stasis in Colon.
5. Geo. M. Niles: Sitophobia: Digestive Phantasm.
6. Martin B. Tinker: Surgical Treatment of Exophthalmic Goitre.
7. J. F. Baldwin: True Diverticulum of Cecum; Unique Case.
8. Augustus Maverick: Seasickness and Pneumogastric.

1. Luetin Test for Syphilis.—Gradwohl, from consideration and observation of forty-four cases, in which the Wassermann reaction was made according to the so called "straight" technique, using the antisheep system, with careful controls, with two kinds of antigen, etc., concludes that, if lues can be cured, the luetin test of Noguchi will become useful in aiding in the diagnosis and, possibly, in

estimating a "cure." In the primary and secondary stages the test is not available. A positive luetin reaction may be looked for when active treatment, particularly with salvarsan, has been given in the secondary stage. In those obscure tertiary manifestations where the Wassermann reaction so often fails, it appears to be most useful. As to its availability as a test in parasyphilitic manifestations the writer feels at loss to venture an opinion. The Noguchi test is only a symptom, like the Wassermann, and should be valued only as such. The Noguchi test, in each case was applied according to the technique described by its inventor and compared with a Wassermann test made on the same patient.

2. Gonorrheal Arthritis.—Swinburne insists that an accurate diagnosis is essential for the intelligent treatment of all cases of arthritis. The complement fixation test for gonorrhea should be made from a specimen of the patient's blood. The diagnosis made he begins by using gonococcic bacterins, first with twenty millions, then running up at each successive injection, every other day, until 500 millions are reached for the dose. The prostate and vesicles are also treated by the application of the Morton wave through the prostatic electrode over the prostate and vesicles. In cases not yielding to the gonococcic bacterins, he advises the use of the mixed infection vaccine (Schäfer) and the gonorrheal vaccine (Schäfer), giving on alternate days five c.c., subcutaneously beneath the scapula.

3. Typhoid with a Duration of Seventy-eight Days.—Manges reports a case remarkable for its duration and for the dual use of transfusion, to save life after severe hemorrhages, and to terminate the disease. The duration was due to a persistent typhoid bacteriemia, typhoid bacilli being found in the blood culture taken on the sixty-sixth day. Human serum was injected on four different occasions after hemorrhage which seemed to be caused by erosion of the bloodvessels in the ulcers, rather than any deficiency in the coagulating power of the blood. Although the blood possessed high coagulating power no venous thrombosis occurred. On the sixty-ninth day, to terminate the disease, if possible, an arm to leg transfusion was made, the flow of blood being stopped when the hemoglobin was raised from 35 to 52 per cent. Arm to arm transfusion, in this case, was impossible on account of extreme subsultus, and because the rapid transfusion by this route would embarrass the weak heart of the patient.

6. Surgical Treatment of Exophthalmic Goitre.—Tinker recalls the observations of Möbius and Osler in asserting that the symptoms of goitre are the symptoms of poisoning similar to those produced by the narcotics. The excessive secretion, acting as a poison, is produced by the thyroid. The cause of the trouble is removed when a portion of the thyroid gland is removed. Ligation of one or more of the arteries supplying the gland, perfect rest in bed, the appliance of cold and all measures which inhibit the function of the overactive gland improve the patient's condition. The author advises operation if the patient has not improved after three months' careful medical treatment, and certainly before irreparable damage has resulted to the important vital organs of circulation and the nervous system, including arteries, heart, liver, and kidneys. Prolonged rest, preferably in the open air, before and after operation, flushing the kidneys with large quantities of good water to eliminate the toxins, and overfeeding with raw eggs which do not stimulate the thyroid are important factors in his routine treatment. The operation is done in several short stages, a few days or weeks apart, local anesthesia or nitrous oxide being administered.

7. True Diverticulum of the Cecum.—Baldwin reports a unique case of a cecal diverticulum, globular in shape, and about two inches in diameter. It was found on the wall of the cecum directly opposite the ileum. Although there was no pedicle, the growth could be pulled away to allow the application of a clamp between it and the cecum and the removal of the tumor. The tumor was filled with a solid fecal mass arranged in concentric layers, and had communicated with the cecum by a small opening. Microscopical examination revealed all the coats of a normal intestine, showing it to be a true diverticulum.

8. Seasickness and the Pneumogastric.—Maverick calls attention to the close relation of seasickness and irritation of the pneumogastric nerves as revealed in a comparison of their symptoms. He rejects as insufficient and altogether unsatisfactory the usual theories as to the production of the overstimulation of the vagi in seasickness. A simple explanation is that continued rocking to and fro of the stomach, loaded or empty, would be sufficient to excite nausea and vomiting through irritation of its motor nerves, the pneumogastrics. After hypodermic injections of atropine and strychnine with little or no relief, he gave an intramuscular injection of fifteen minims of adrenalin solution (one to 1,000). Thirty minutes afterward the symptoms were markedly ameliorated, and fifteen minutes later the patient was up and about. Atropine, 1/150 grain t. i. d., kept her well. When stock tablets of adrenalin are used, one is taken every hour or two until relief follows. When given by the stomach or hypodermically, adrenalin is not as effective as when absorbed from the mouth, nose, rectum, or intramuscular injection.

BRITISH MEDICAL JOURNAL.

May 18, 1912.

1. A. C. Geddes: Scheme for the Teaching of Anatomy.
2. H. R. Andrews: Pyelonephritis of Pregnancy.
3. J. V. Martin: Etiology of the Excessive Vomiting of, Pregnancy.
4. E. Cautley: Fever in the Newborn.
5. W. Bain: Functional Derangement of the Liver.
6. J. Morton: Congenital Absence of the Colon.
7. R. Row: Simple Hemoglobinized Saline Culture Medium.
8. G. F. Aldous: Notes on Four Cæsarean Sections.
9. H. T. Gray and L. Parsons: Mechanism and Treatment of Shock (Lecture II, Part II).

4. Fever in the Newborn.—Cautley believes that at least fifty per cent. of the fevers in the newborn are due to sepsis. About twenty-five per cent. are ascribable to gastrointestinal infection but it is probable that of these many are really of septic origin and the alimentary condition is purely secondary and symptomatic. The sources of the infection are very numerous and among them may be mentioned: Antenatal, maternal, congenital; natal, due to infected amniotic fluid or vaginal secretions, postnatal, from lack of cleanliness in the handling of the child. Occasionally the infection occurs by

way of the mouth. The umbilicus is the most frequent region primarily affected. Sepsis through the cord may arise at any time from the second to the fifth day of life; via the umbilicus at any time until healing is complete. The treatment of all of these conditions in which infection is the causative factor is essentially preventative, for but little can be done in most instances after the infection has become well established. Prophylaxis is solely the observation of strict cleanliness and asepsis in the care of the infant.

5. **Functional Derangement of the Liver.**—Bain regards this as a frequent condition and one which is generally secondary to a disturbance in some other part of the organism. One of the best criteria by which one can be certain that he is dealing with this condition is the presence of an increase in the vertical area of liver dulness which declines or disappears as the result of treatment. The symptoms may be enumerated thus: Coated tongue, a bitter taste in the mouth, nausea, a perverted appetite, flatulence, constipation with clay colored stools, sallow complexion, irritable skin, dull headaches, mental depression, lassitude, insomnia, irritability of temper, drowsiness after eating, a disinclination for work, sense of weight or discomfort in the right hypochondrium, and occasionally an ache in the tip of the right shoulder. Bain believes that the chief causes of this condition of liver derangement are: Dyspepsia, gastrointestinal disturbance, alcoholic excess, rich and highly seasoned foods, fevers, nervous influences, and residence in the tropics.

7. **Hemoglobinized Saline Culture Medium.**—Row describes in detail the mode of preparing a medium for the culture of the *Leishmania donovani* and allied species of protozoa. The composition of the medium is an 0.85 per cent. solution of sodium chloride containing a small amount of human or rabbit's hemoglobin. He claims the following advantages for this medium: 1. It can be made at once when urgently required and without any loss of time as the technique is simple. 2. The technique does not necessitate the sacrifice of rabbits; it is economical. 3. Human blood can be used for the preparation of the medium when required for special purposes or for general use. 4. The fluid does not alter to any appreciable extent in four to six weeks, owing to the small surface which is exposed to evaporation. 5. There is a larger quantity of medium available in each tube than by the older methods which is of great advantage when abundant cultures are required, as for the preparation of vaccines. 6. The fluid keeps sterile more easily and for longer periods than the media previously employed.

9. **Mechanism and Treatment of Shock.**—Gray and Parsons find that the prepuce, urethra, and the bladder show marked pressor types of curves and have a low shock value. The susceptibility of these structures to infection is marked, and this agrees with the law of inverse immunity which the authors have previously described. The enormous pressor response in prostatic operations may cause sudden death in two ways: 1. By the failure of the heart, which is usually hypertrophied in the patients affected with prostatic hypertrophy; 2, possibly, in some cases, by cerebral hemorrhage. The kidney has a high shock value, and in conformance to the law of inverse immunity it is highly immune to infection. Traction on one kidney induces vasoconstriction in the opposite, due to the direct stimulation of the solar plexus. A continuation of this will eventually lead to fatigue of the vasoconstrictors and a reversal, or vasodilatation. They believe that this alternation of constriction and dilatation in operations upon the kidney, when both organs are diseased, with the consequent physiological disturbances, is of greater importance than the anesthetic in the production of postoperative urinary suppression. Experimentally they find that fatigue is most complete in those afferent paths supplying the area of operation. They are able to show that the vasomotor centre in the medulla is not fatigued by the most complete shock. They are led by their experiments to the conclusion that the fatigue which results in the failure of the transmission of the pressor impulses to the vasomotor centre occurs at the afferent synapses in the cord. Incomplete experiments form the basis of the suggestion by the authors that this fatigue is due to the production of a toxine, perhaps allied to choline though not identical with it, which acts directly on these synaptic endings. Unlike Crile, they have been unable to find any definite histological changes in the central nervous system which could be ascribed to shock, particularly in a causative relation. They conclude their observations by defining shock as "the reaction of the central nervous system to exaggerated or abnormal afferent impulses." In the order of their importance the centres most concerned are: 1. The vasomotor and cardiac; 2, the respiratory; and 3, the centres of consciousness and the special senses. Their susceptibility to any sort of injury is in the inverse order. Collapse is associated with a low blood pressure and is only an end result of the reaction to abnormal or exaggerated afferent stimuli constituting shock, and is not identical with shock. The mechanism of mental shock is precisely the same as that of surgical, the stimulus being dependent in size and nature upon the hyperactivity of the centres of consciousness. Among the factors in the treatment the prophylaxis plays the most important rôle and consists chiefly in gentleness in manipulation and in the cutting off of centripetal impulses by cocainization where applicable and spinal anesthesia in other cases. When the depressor stage is beginning, after depression and fatigue of the pressor synapses, strychnine is of great value as it restores the activity of the latter.

LANCET.

May 18, 1912.

1. J. W. H. Eyre: Tuberculosis of the Conjunctiva.
2. P. N. Panton and H. L. Tidy: Myeloid Leuchemia.
3. E. R. Morton: Treatment of Rodent Ulcer.
4. A. C. Geddes: Neuralgic Pain in the Arms after Childbirth.
5. C. Williams and W. H. Martindale: Cystitis and Urinary Antiseptics.
6. C. E. Walker: Treatment of Cancer with Selenium.
7. D. Forbes and C. Banks: Sterile Abscesses from Tuberculin.
8. O. Gruenbaum: The Hemorenal Index.
9. W. E. M. Armstrong: The Preparation of a Bronchitis Vaccine.
10. A. E. Horn: Health of Europeans in West Africa.

1. **Tuberculosis of the Conjunctiva.**—Eyre defines this condition as an infective granuloma of the conjunctival tissues, either bulbar or palpebral,

which is due to the local multiplication of the tubercle bacillus and to the action of its toxines. The frequency of the condition as seen by the ophthalmologist is about one in 2,500. Eyre recognizes the following clinical types: 1. Ulceration; 2, miliary tubercle; 3, hypertrophic granulation; 4, lupus; 5, pedunculated tumor. As the condition in one or another of its forms is closely simulated by a variety of other affections the presence of the tubercle bacillus is an essential factor in the positive diagnosis. Tuberculin may be of diagnostic value and the best results for this purpose are to be obtained by the ophthalmo reaction of Calmette. This is limited to such cases as have the disease confined to one eye. Estimation of the opsonic index of a series of samples of the sufferer's blood gives valuable information in some cases of doubtful diagnosis. The etiological factors other than the bacillus are chiefly a family or personal history of tuberculosis. Age and sex have some influence, but it is slight. The eye may become involved by direct extension by continuity of surface from preexisting tuberculous lesions (lupus); direct inoculation of the conjunctiva; or through endogenous or hemic sources.

2. **Myeloid Leuchemia.**—Panton and Tidy analyze the records of twenty-one chronic and four acute cases of this disease and come to the conclusions: 1. That the average duration of the chronic form is only fifteen months from the time of first observation. 2. That death may occur by the failure of the erythroblastic function of the bone marrow, and the presence of severe anemia with large numbers of nucleated red cells is of grave prognosis. Exhaustion of the leucoblastic tissues, as shown by the decreased production of leucocytes and the immaturity of the forms produced, would seem, however, to be the more usual cause of death. 3. Treatment by x rays and arsenic causes no improvement or a striking one which is only temporary. The fatal issue sometimes is hastened by these measures of treatment. 4. The absence of marked splenic enlargement in the acute cases is suggestive of a failure of the protective action of the spleen.

4. **Neuralgic Pain in the Arms.**—Geddes explains the occurrence of severe neuralgic pain in the arms following childbirth as being due to the pressure of the fifth cervical nerves against the transverse processes of the fifth cervical vertebra. This is the result of the descent of the shoulder girdle secondary to the descent of the thorax. The thorax descends on account of the loss of the support of the diaphragm which falls as the result of the delivery of the child. The diaphragm and the thorax are allowed to descend further than normal on account of the abnormal descent of the abdominal viscera and the atrophy of the supporting cervical musculature. This atrophy follows the prolonged passive support of the shoulders during pregnancy by the upward pressure of the uterus on the diaphragm. Support of the shoulders and abdomen by a properly fitting corset relieves the pain at once. Redevelopment of the cervical and abdominal musculature by exercise will complete a cure.

6. **Treatment of Cancer with Selenium.**—Walker has made a considerable number of observations upon the treatment of cancer with selenium in a colloidal state and also in combination with eosin. In all the results have been negative. The dioxide of selenium, which is readily formed from the metal in the colloid state by the influence of heat or even of an acid atmosphere, is highly toxic and this is a possible explanation of the irregular toxicity of the preparation used by Wassermann, as this is said to be a colloidal compound of selenium and eosin. Walker's experiments on the effects of these combinations of the two drugs on the tumors of many animals will serve to prevent the excitement of an undue optimism by the reports of isolated cases of cancer in man which are said to have been cured in this manner.

JOURNAL DE MÉDICINE DE PARIS.

May 11, 1912.

1. Raoul Bayeux: Treatment of Pulmonary Tuberculosis by Hypodermic Injections of Oxygen.
2. Raoul Dupuy: Treatment of Backward Children.
3. A. Spire and J. Parisot: Pituitary Extract in Obstetrics.
4. Bernard: Gastroenterostomy.

1. **Oxygen Hypodermically Used in Phthisis.**—Bayeux has injected oxygen hypodermically in over 700 cases of pulmonary tuberculosis by means of an apparatus he has devised for the purpose, an automatic oxygenator, which permits of absolute regulation of quantity and speed of administration. Despite some cases where the treatment was without effect, and which ended fatally, the author is greatly pleased with the method. Deliberation and a moderate quantity at a time are the secrets of success. The site of injection is the buttock, thigh, lumbar region, or external third of abdomen. Five litres an hour indicate the proper speed for injection, and a half litre daily is the dose, 100 c. c. for young children, increasing gradually with age. Slowness of absorption is proportionate to the gravity of the case.

2. **Backward Children.**—Dupuy's treatment for these children is combined opotherapy. The writer points out that France has lagged behind other countries, including the United States, in providing for the education of such children.

3. **Pituitary Extract in Obstetrics.**—Spire and Parisot, using an extract of the entire gland, have not been as successful as others in producing "a real tempest of contractions," but have used it with good results in delayed labor and in causing micturition in retention. They have used the extract both per os and hypodermically in doses of 30 to 50 c. c.

PRESSE MÉDICALE.

May 11, 1912.

1. E. Bonnaire: Obstetrical Examination of Nurslings.
2. Charles Richet, Jr., and Fr. Saint-Girons: Pathogenesis of Typhoid Enteritis.

May 15, 1912.

3. Gaucher: Treatment of Syphilis.

1. **Care of Nurslings.**—Bonnaire points out that the care of the nursling begins before birth, so to speak, a branch of puericulture which may be called feticulture. His address being to midwives, he tells them how their care must be limited to prophylaxis, and cease as soon as disease is present. Instruction of the mother is their important duty; "there can be no real puericulture unless the mother is at the child's side." Maternal nursing is not to be left to instinct, but must be regulated by the weight, age, and general condition of the child. Example is more powerful than precept and this is

where the midwife may be most useful. The natural instinct of the human mother is to overfeed; when the child cries from repletion, it is interpreted as a demand for more milk. Mothers should be inspired with a real terror of the bottle. A bottle fed baby is already half an invalid, and if infection supervenes, its chances are almost nil. A tactful midwife or nurse can inspire a mother with the warmest confidence and friendship.

2. **Typhoid Enteritis.**—Richet, Jr., and Saint-Giron recall that in typhoid affections there is a general poisoning of the system, of the blood particularly, before the intestinal lesion appears. They experimented with twenty-four hour bouillon injected into the auricular vein of rabbits and drew the following conclusions: 1. The Eberthian septichemia ceased at the end of fifty-five minutes. 2. At the end of a half hour intestinal elimination was complete, preceding both biliary and urinary elimination. 3. The intestinal lesion was invariably at the appendix, owing probably to the richness in lymphoid tissue of this region in the rabbit, and recalling the structure of the human ileum at its terminal portion. The odyssey of the bacillus, say the writers, is, first, penetration into the digestive tube, then septichemia, then either intestinal elimination with enteritis, or elimination by the liver or kidney, with either angiocholecystitis or nephritis.

3. **Treatment of Syphilis.**—Gaucher, returning from the Congress at Rome, is confirmed in his idea that a great deal of rubbish has been taught of late years concerning the treatment of lues. He agrees with Finger, of Vienna, who avers that there are more relapses after the use of "606" than after that of mercury. Salvarsan is a remedy *pro re nata (remède de circonstance)*, with a powerful cicatrizing action on all kinds of syphilitic lesions, more powerful from this viewpoint than either mercury or iodide. That is its limitation, however; tertiary lesions remain usually cured, as from any other remedy, but chancres and secondaries tend to relapse. The mere recurrence of the chancre has frequently been noisily hailed as a reinfection. Salvarsan, as a matter of fact, is an apparent remedy only. It does not sterilize syphilis, and effects only temporary cure. We know this positively after only eighteen months' experience. What is to be expected after years have elapsed? Salvarsan does not cure syphilis, only syphilitic ulceration; it is a perfidious remedy! It is dangerous in making syphilis latent. Its use will cause the suppression of vegetative lesions, which then appear later in the course of the disease than if mercury had been exhibited. When using salvarsan warn your patient of the probable reappearance of his lesion, even the chancre. Salvarsan may be used legitimately when mercury is not tolerated or has been prescribed without result. It acts best on skin lesions, not at all on visceral lesions, and not at all in so called parasyphilis, tabes, or leucoplasia. Use it always in small doses, cautiously, even tremblingly. The deaths after its use, considered so inexplicable, are due simply to arsenical poisoning. Like all organic preparations of arsenic it is particularly harmful to the kidney. It also attacks the nervous system, having produced a profuse rhachidian lymphocytosis. The inflammations of the eye and ear, the deafness and blindness noted under "606" are due to arsenical intoxication, nothing more. Salvarsan has caused more deaths than ever did untreated syphilis. With these few remarks, Gaucher proceeds to outline a rational treatment of syphilis. He accords preference to the subcutaneous use of soluble mercury salts, the benzoate with common salt, the biniodide with sodium iodide. Inunction is next best, by the mouth the least useful method. Early and thorough use of mercury probably sterilizes, although this cannot be definitely proved. If a patient is seen early, give a daily injection of 0.02 gramme of mercury benzoate; a month later, an injection every second day; the third year, treat for one month out of three; the fourth year, one month in six. If lesions appear during the periods of suspension, this obviously modifies treatment. Push treatment for four years even if you get negative Wassermann reactions. A syphilitic patient should not marry till five years after infection, and a month's treatment should be given just before marriage. Potassium iodide is merely an adjuvant to mercury and may be employed at any stage in resistant lesions, especially in phagedenic chancres, papular and tubercular syphilides, and in syphilis of the nervous system, in daily doses of two to six grammes. If this rational treatment ever fails, then salvarsan may be tried cautiously. In these anarchistic times, let us reestablish our therapeutical and professional traditions.

MEDIZINISCHE KLINIK.

April 7, 1912.

1. Fritz König: Injuries of the Knee.
2. Fr. Rolly and K. Kühnel: Chlorosis and Pseudochlorosis with Investigations of Accidental Heart Sounds.
3. Hans Rietschel: Mortality of Nurslings during Summer (*Continued*).
4. H. Friedrich: Atypical Carcinomata of Alimentary Canal.
5. Ernst Barth: Relation of the Nose to Pathology of Larynx and Deeper Air Channels.
6. E. Rautenberg: Acethylcresotin Acid as an Antirrheumatic.
7. Roemheld: Heart Oppressions of the Neurasthenics Produced through Abnormal Tension of the Stomach.
8. Karl Grube and Karl Reifferscheid: Experimental Investigation of the Toxines of Pregnancy.
9. H. Boruttau: General Loss of Electrical Excitation (*Continued*).
10. Hoffendahl: Paradental Inflammation.

April 14, 1912.

11. R. Schmidt: "Constitutional" Achylia.
12. P. L. Friedrich: Proper Position for Extensive Resection of Ribs in Tuberculosis of Lungs.
13. Hans Rietschel: Mortality of Nurslings during Summer (*Concluded*).
14. A. Westphal: Etiology and Symptomatology of Chorea Minor.
15. H. Vogt: Education of Senses.
16. Answers to Questions Referring to Treatment of Malignant Tumors with Röntgen Rays.
17. Goldbach: Intravenous Treatment with Salvarsan (*To be concluded*).
18. H. Winternitz: Chineonal, a Chemical Compound of Quinine and Veronal.
19. Johannes Schubert: Temperature of Winds.
20. H. Boruttau: General Loss of Electrical Excitation (*Concluded*).
21. Karl Weiss: Physical Therapeutics of Tabetic Symptoms.

April 21, 1912.

22. E. Feer: Bronchial Tendency and Bronchopneumonia of Infants.
23. Alexander Pilez: Conditions for Development of Progressive Paralysis.
24. Karl Grube: Importance of Pregnancy in Etiology of Gallstones.
25. Walter Wolff and Osmar Opp: Action of Bromide Salts in Organism.
26. Goldbach: Intravenous Treatment with Salvarsan (*Concluded*).
27. M. Krabbel: Phenyldimethylpyrazolonamidomethansulphon Acid Sodium, a New Antipyretic.
28. Georg Kelling: Effect of Thyrochromic Tablets in Carcinoma of Alimentary Canal.
29. O. Steiger: Importance of Diminution of Febrine, Poor Contractibility of Blood Coagulum, and Decline of Blood Plates, in Diagnosis of Typhoid.
30. Hoffendahl: Difficult Eruption of Lower Wisdom Teeth.

8. **Experimental Investigations of the Toxines of Pregnancy.**—Grube and Reifferscheid have

made experiments with the blood of gravid rabbits. Shortly before parturition, which is indicated by the animal preparing its nest with hair, which it pulls from its fur, the rabbit was bled to death through the carotid; the blood was defibrinated and diluted with about five times its volume in ninety-six per cent. alcohol. After twenty-four hours the alcohol was taken away and the residue again diluted with alcohol, which also was taken away. Both extracts were mixed and the alcohol was distilled off. The residue, which consisted of only a few c.c., was added to a physiological salt solution, filtered, and the extract thus gained used. In some experiments the coagulum was dissolved with ether; during which process the same procedure took place as described above with the alcohol preparation. The authors found that the coagulum, prepared with alcohol alone, had no influence upon other nongravid rabbits. The ether coagulum was in most cases strongly toxic, producing in the injected nongravid subject paralysis, epileptic attack, diminution of the blood pressure, and finally death, while the ether coagulum of nongravid rabbits did not produce any effect upon the injected subject. The ether extract was not toxic for a gravid rabbit.

16. Answers to Questions Referring to Treatment of Malignant Tumors with Röntgen Rays.—The more important questions sent out by the editor were: In what kind of tumors did you observe beneficial influence? In what locality of the tumors do you think treatment to have results, or otherwise? Did you use a combination treatment? In what cases do you think operations would be indicated and when contraindicated? Did you observe any detrimental effects upon the patient? Did you observe any stimulation of growth of the tumor under treatment? What were your permanent results? The present issue contains answers from Levy-Dorn, Alban Köhler, Albers-Schonberg, G. F. Haenisch, Robert Kiemböck, and Leopold Freund. In reviewing the answers we find that for question number one primary tumors were indicated, chancroids, lymphosarcoma, myoma of the uterus, etc. 2. The nearer the tumor to the surface, the better the results. 4. If the tumors are large or exist for some time or if the seat is quite a distance from the surface, operation is indicated. 5. Detrimental effects were not observed; they could appear only in the hands of inexperienced manipulators, or if treatment is performed in deeply seated tumors. 7. Permanent results were quite often observed.

18. Chineonal, a Chemical Compound of Quinine and Veronal.—Winternitz reports on the effects of the chemical combination of quinine and veronal. He states that chineonal can be used in large doses (0.75 gramme), that it does not show the after effects of quinine. He thinks that chineonal should be used especially in pertussis.

ZENTRALBLATT FÜR GYNÄKOLOGIE.

April 20, 1912.

1. M. Walthard: Importance of Psychoneurotic Symptoms in Gynecology.
2. M. Slgwart: Tentamen Abortus Provocandi Deficiente Graviditate.
3. J. Halban: Uterine Perforation.
4. K. Flesch: Accumulation of Glycogen in Human Placenta.
5. A. Paunz: Successful Extirpation through Perineum of Entire Genital Apparatus with Rectum in Case of Carcinoma of Vagina.

April 27, 1912.

6. R. Meyer: Influence of Röntgen Rays upon Anatomical Structure of Human Uterus and Ovaries.
7. H. Gradl: Gravidity after Double Pyosalpinx.
8. L. M. Bossi: Experiences after Extension of Cervix by Bossi's Method and in Cæsarean Operation.
9. G. Bertolini: Early Symptom of Extrauterine Pregnancy.

May 4, 1912.

10. E. Ruge: Local Anesthesia in Gynecology. Total Extirpation of Vagina under Current Anesthesia (*Leitungsanesthesie*).
11. C. J. Gauss: Instrumental Compression of Abdominal Aorta, Harmless and Sure Method for Stopping Hemorrhages during Labor.
12. W. Bylicki: So Called "Dyspygie" Pelvis of Professor Schaut.

4. Accumulation of Glycogen in the Human Placenta.—Flesch found that the ripe placenta contains glycogen; the most glycogen is found in the maternal part; there is also a large amount of glycogen to be found constantly in the decidua, although it is possible that there exists glycogenfree cells of the decidua; the other parts of the fetus contain much less glycogen, where it is found mostly in the connective tissue. Very frequently glycogen is also found in the syncytium, but quantitatively of small amount; amnion and chorion also nearly always contain glycogen. Glycogen is also to be found in the young placenta, where it exceeds the amount in the mature placenta. The glycogen itself is mostly found in the form of granules.

10. Local Anesthesia in Gynecology.—Ruge warns against the use of local anesthesia in major operation in gynecology; he speaks of injections of cocaine into the lumbar region, and says that this local injection should be used only if a general anesthesia is absolutely contraindicated.

11. Instrumental Compression of the Abdominal Aorta for Stopping Hemorrhages.—Gauss describes an instrument which is placed upon the external wall of the abdomen in such a way that a pressure can be brought to bear especially upon the umbilical region. The instrument consists of a rectangle, one side of which rests against the back, while through the other three sides run screws to which are attached plates which exert a pressure upon the two sides and the front. By regulating the screws a certain amount of pressure may be thrown upon a certain region of the abdomen through which the abdominal aorta can be reached.

CORRESPONDENZ-BLATT FÜR SCHWEIZER AERZTE.

April 20, 1912.

1. E. Fricker: Diagnosis and Therapeutics of Stasis of Stomach.
2. E. Anderes: Hypophysis Extract as Parturifacient.
3. F. Paravicini: Postoperative Plexus Paralysis, Etiologically Uncertain.

May 1, 1912.

4. A. Bühler: Treatment of Arteriosclerosis.
5. F. R. Nager: Scleroma of Upper Air Passages.

2. Hypophysis Extract as Inducing Labor.—Anderes reports seven cases in which he has used pituitrin during labor. He found it equally useful during the first period, during the period of expulsion of the fetus, during the period of expulsion of the placenta, and, finally, in placenta prævia. He comes to the conclusion that the extract of the hypophysis may be placed in the hands of the general practitioner as a good remedy for inducing labor. He remarks that it has great advantages over quinine, which is still used during labor, as it does not influence the temperature and is much surer in its effects.

4. Treatment of Arteriosclerosis.—Bühler speaks of the treatment of arteriosclerosis with high frequency currents, which, he says, may be used in

every case, as bad after effects have not been observed. Good results may always be expected in uncomplicated cases of early arteriosclerosis, while the results are not so good where organic changes of the arteries have already occurred, and where the disease is complicated by other maladies, such as nephritis, diseases of the heart, neurasthenia, etc. The high frequency current influences beneficially the pathologically increased blood pressure and through this an improvement of the pulse and indirectly of the action of the heart will be noticed.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES

April, 1912.

1. William J. Mayo: Jejunostomy.
2. John B. Deaver and Damon B. Pfeiffer: Pancreatic Lymphangitis.
3. J. Russell Verbrycke, Jr.: Chronic Cholecystitis.
4. H. R. M. Landis and George Fetterolf: Value of Frozen Sections in Teaching Physical Diagnosis.
5. Mary E. Lapham: Treatment of Pulmonary Tuberculosis by Compression of the Lung.
6. Clarence A. McWilliams and Frederick M. Haines: Leuchemic Tumors of the Breast Mistaken for Lymphosarcoma.
7. B. Franklin Stahl: Osteitis Deformans, Paget's Disease.
8. Paul Bartholow: Value of Nitric Acid in Cauterizing Wounds Made by Rabid Animals.
9. Willard J. Stone: Medical Aspect of Chronic Typhoid Infection (Typhoid Bacillus Carriers).
10. Richard Stein: Epidemic Poliomyelitis; Acute Stage.
11. L. Pierce Clark: Our Knowledge of Poliomyelitis with Cortical Involvement.
12. E. Avery Newton: Nauheim Baths in Nephritis with High Blood Pressure.

1. Jejunostomy.—Mayo says jejunostomy is an operation which gives rest to the stomach and allows the maintenance of good nutrition, being an alternative with gastrostomy in cases of esophageal and cardiac obstruction and in extensive ulcers which cannot be excised and gastrojejunostomy is not possible. It also is a palliative operation in malignant gastric diseases of the ulcerous type. The technique is simple and easy. An epigastric incision is made, either in the middle line or to the left in the rectus muscle, and a loop of the jejunum is picked up and nicked on the convex surface about twelve to sixteen inches from its origin. A No. 9 (English) rubber catheter is pushed through the opening down stream for about three inches inside the lumen of the gut. This point is anchored by a single chronic catgut suture, and the catheter infolded by the jejunal wall for one or one and a half inch by mattress linen sutures (Witzel's plan). The intestine is attached to the peritoneum by two or three linen sutures in the lower angle of the incision, which is closed down to the tube in the usual manner, or the end of the catheter may be brought through a stab wound at one side of the incision, the intestine being fixed to the peritoneum on the inside by several linen sutures. Liquid feeding may be started at any time and continued indefinitely without fear of leakage and with the assurance that the food will pass into the digestive tract. Removal of the tube is not followed by leakage, and if accidentally displaced it may be reintroduced within twelve hours; obliteration of the tract occurs after that length of time. Preparations of milk and other fluids, eggs, meat ground fine and mixed with fluid, carbohydrates in liquid form, etc., are well tolerated. This operation improves nutrition, and a gain of from ten to thirty pounds can easily be made without forced feeding.

2. Pancreatic Lymphangitis.—Deaver and Pfeiffer attribute all cases of pancreatitis, acute and chronic, to microorganismal invasion, even though it be admitted that certain systemic intoxications due to alcohol, syphilis, tuberculosis, or other unknown circulating toxines may produce degenerative lesions which may be classed as chronic pancreatitis. The retroinjection of bile into the pancreatic duct may, however, initiate an acute pancreatitis of severest type even in the absence of microorganisms. Infection enters the gland through four portals: 1. The systemic circulation, through the arteries of supply—infection in this manner must be classed as a rare exception. 2. By contiguity from adjacent viscera—instances of this are not rare, as from chronic perforating ulcer of stomach or duodenum. 3. Ascending infection of the duct from the biliary tract or duodenum—in the senior author's experience about one third (36 per cent.) of all instances of chronic pancreatitis, and 25 per cent. of acute cases were not associated with disease of the biliary passages. 4. Infection by way of the lymphatics—from gallbladder to the pyloric region. In this form of pancreatitis operated in at the fortunate time, the chain of infection is possible of demonstration: infected gallbladder, enlargement of the cystic gland, enlargement of the glands at the head of the pancreas, and swelling of the regional lymphatic distribution of the pancreatic head; one gland especially constant in position and enlargement is found just to the right of the choledochus, where it passes beneath the duodenum. While infection may at times be furnished by other organs, the biliary tract and the duodenum are the most fertile primary sources. To this early and remedial stage of pancreatic inflammation it seems well to apply the term pancreatic lymphangitis, to distinguish it from the advanced types commonly known as chronic pancreatitis. The diagnosis of this condition, at the present time, can be made only by the surgeon who can inspect and palpate the gland. The treatment is that of the primary focus of infection (cholecystitis, cholelithiasis, ulcer, or duodenitis).

5. Treatment of Pulmonary Tuberculosis by Compression of Lung.—Lapham details the history of treating pulmonary tuberculosis by the use of an artificial pneumothorax to produce compression of the lung. Brauer and Spengler's modification of Murphy's apparatus is preferred. This method seems best adapted to hopeless cases of pulmonary tuberculosis. Fifty per cent. of advanced cases treated by this method have been reported as permanently cured. The certainty and precision of this method allow the patient much liberty, and raises the patient's spirits by the sense of security established. A lung that is not densely infiltrated and has no adhesions is easily compressed and the results are striking. The amount of lung infiltrated and held out by pleural adhesions determine the dangers and difficulties of this method. The degree of obliteration of the pleural cavity, the distention of the pleural vessels, and the amount of clotting in the pulmonary vessels are also factors to be dealt with.

7. Osteitis Deformans, Paget's Disease.—Stohl reports a case with autopsy in a woman, sixty-five years old, who gave an indefinite history of the onset of the disease. Nine years before admission she had shooting pains in the legs, which sometimes extended to the shoulder. These pains were worse

in damp weather, but not at night. Three years later she noticed that her legs were curving and the bones of the head becoming "lumpy." For three years she had gastric symptoms, dyspnea, and lately edema of the ankles. Bony increase of skull (one inch thick), marked curving of the bones of the extremities with great thickening of the compact structure of the shaft and irregular encroachment upon the medullary cavity were found. The findings were corroborated by autopsy and the x ray.

8. Value of Nitric Acid in Cauterizing Wounds Made by Rabid Animals.—Bartholow lauds the merits of fuming nitric acid as a caustic; it paves the way for the success of the Pasteur treatment. It is not a treatment of hydrophobia, merely a mechanical means for destroying the poison; the specific vaccine must be used to cure the disease.

9. The Medical Aspect of Chronic Typhoid Infection (Typhoid Bacillus Carriers).—Stone, after considering this subject rather fully, concludes that typhoid patients and all persons attendant upon the patient should receive immunizing treatment, as such treatment has been found efficient and productive of little discomfort. This immunization should be repeated at intervals of two or three years.

ARCHIVES OF INTERNAL MEDICINE.

April, 1912.

1. S. T. Darling and H. C. Clark: *Linguatula serrata* (Larva) in Native Central American.
2. L. J. Pollock: Blood Pressure in Cheyne-Stokes Respiration.
3. Charles H. Lawrence: Effect of Pressure Lowering Drugs and Therapeutic Measures on Systolic and Diastolic Pressure in Man.
4. Mary Rowley-Lawson: Cause of Malarial Anemia, and the Intravascular Migrations of the Malarial Parasite.
5. Charles H. Sanford and Jacob Rosenbloom: Glycyltryptophan and Tryptophan Tests for Cancer of Stomach.
6. Samuel Robinson and Cleaveland Floyd: Artificial Pneumothorax as a Treatment of Pulmonary Tuberculosis.
7. Frank Billings: Chronic Focal Infections and Their Etiological Relations to Arthritis and Nephritis.
8. Thomas L. Gilmer: Chronic Oral Infections.
9. David J. Davis: Bacteriological and Experimental Observations of Focal Infections.
10. Eugene R. Whitmore: Parasite Amebas in the Intestine of Man; Protozoa Found in the Intestines of Healthy Men in Southern United States.
11. H. F. L. Ziegel: Practical Value of Noguchi's Luetin Reaction.

2. Blood Pressure in Cheyne-Stokes Respiration.—Pollock reports a series of blood pressure estimations in fifteen cases of Cheyne-Stokes respiration arising from various causes, which confirm the earlier observation of Cushing that in Cheyne-Stokes respiration with increased endocranial tension the blood pressure is low during the period of apnea and high during that of hyperpnea, as well as the demonstration by Eysner that this fact is of clinical value in the differentiation of Cheyne-Stokes respiration with increased endocranial tension from other types. In the cases with increased tension the blood pressure began to rise slightly before respiration commenced and began to fall after the summit of respiratory activity was reached, whereas in the other cases the pressure began to fall after the beginning of respiration and rose as respiration diminished.

3. Blood Pressure Lowering Drugs.—Lawrence calls attention to the fact, shown by recent investigations, that the pulse pressure is an important factor in determining the efficiency of the circulation and is of more value in prognosis than the systolic pressure. He conducted blood pressure measurements in twenty patients with permanent hypertension—chiefly cardiorenal cases—to determine the effects of various pressure lowering agents on the diastolic pressure. The systolic pressure was first taken at the point where the pulse just appeared at the wrist after complete obliteration, and the diastolic pressure then ascertained by the auscultatory method. Reduction of systolic pressure by the use of nitrites, venesection, electricity, or hot air, is accompanied by a fall in diastolic pressure amounting, as a rule, to approximately one half of the systolic fall. Such a reduction produces a coefficient of pressure more nearly approaching the normal than that prevailing in conditions of hypertension. Sodium nitrite reduces diastolic pressure more rapidly than the more complex compounds, thus causing a shorter initial diminution of pulse pressure than mannitol or erythrol. Its effect on the pulse is more marked than that of the other drugs; the duration of its action is slightly less. None of the nitrite group is efficient for maintaining a pressure at a permanently lowered level, as a tolerance is soon acquired and increasing the dose is apt to cause unpleasant symptoms. Venesection has a more lasting effect in lowering the pressure than have any of the drugs used by the author. The diastolic pressure is depressed longer than the systolic, the pulse pressure thus being increased. The effect of hot air baths, electric light baths, and high frequency currents is uncertain; a fall in pressure, if produced, is transient. Vasotonin is not certain in its action and is not safe to use in cases showing marked hypertension, an increase of which might bring about untoward results; in each of the five cases in which this agent was used, it caused a rise in both the systolic and diastolic pressures, in one instance accompanied by a severe anginal attack and in another by marked vertigo.

4. Causes of Malarial Anemia.—Rowley-Lawson, after an extensive hematological study, is inclined to believe that the grave and rapid anemia occurring in some malarial infections can easily be explained as due to the migration of parasites of all ages from corpuscle to corpuscle. The most important fact supporting this is the frequent finding of parasites in similar stages of development, 1, free, with varying amounts of pigment included in their substance; 2, on healthy corpuscles (corpuscles showing abundant hemoglobin and no evidence of degeneration); 3, on corpuscles which show conclusive evidence of degeneration. The fact that parasites in every stage of development may be seen on healthy corpuscles seems to be conclusive evidence of migration; for a parasite could not receive nourishment and secrete pigment (if that pigment is derived from the red corpuscle) and complete its life cycle on a single corpuscle without that corpuscle showing evidence of degeneration. The fact that young parasites are seen on corpuscles with an almost complete loss of hemoglobin seems to indicate that the parasite must migrate, or perish for lack of food. Further evidence is found in cases of multiple infection, in which three or four young parasites (sometimes six or seven) are attached to a corpuscle; one can hardly expect that all these can grow up on a single corpuscle, and if they are not to perish, they must migrate. Several plates showing the various possible relations between the red corpuscles and the

plasmodium in its different stages accompany the article.

5. Glycyltryptophan and Tryptophan Tests for Gastric Cancer. — Sanford and Rosenbloom, discussing the reasons for the wide differences of opinion heretofore prevalent regarding the value of the glycyltryptophan test, recall the findings of Warfield, which showed that neutral or alkaline saliva, when swallowed and mixed with neutral or faintly acid gastric contents, imparts to the latter the power of producing tryptophan from glycyltryptophan, thus rendering the glycyltryptophan test of doubtful value. The authors have discovered, in addition, that the salivary peptidase may produce tryptophan from Witte "peptone" and from casein, and find it hard to believe, in consequence, that the presence of this enzyme in swallowed saliva vitiates the glycyltryptophan test without invalidating the tryptophan test also, since proteoses and peptones are naturally present in the stomach contents after all test meals. From their experience with the tryptophan test in thirty-eight cases, the authors cannot believe that the test is a reliable one for gastric carcinoma. The reaction proved positive in two cases of cancer and in two noncancerous cases; it was negative in nine cases of cancer, verified by operation or post mortem, in five cases of cancer (clinical diagnosis), and in twenty noncancerous cases.

6. Artificial Pneumothorax in Pulmonary Tuberculosis. — Robinson and Floyd subjected twenty-eight patients to this treatment; all but three were advanced cases which had already failed to respond to other measures. A distinct relief of symptoms was the immediate result in practically all. The tuberculous process was arrested in at least six under continued observation; in two there was cessation of all activity in both lungs. The authors advise repeated injections of nitrogen, as complete lung compression is thus more nearly attained, and the partial mobilization permitted by absorption of the gas is prevented by its early renewal. No accidents, or deaths referable in any way to the treatment, occurred. Accidents are always avoidable. "Pleural eclampsia" (Forlanini), or reflex cardiac inhibition through vagus irritation from the pleura,— a danger to be considered in any thoracentesis,—may always be prevented by anesthetizing the pleura, the early stages of the procedure being carried out as follows: The skin is frozen with ethyl chloride, then novocainized. The hypodermic needle, inserted at right angles, is then gradually forced through the tissues, each introduction of novocaine being followed by an interval of fifteen seconds, in which the tissues ahead of the needle become anesthetized. A minute skin incision permitting introduction of the needle without any marked obstruction, the slight resistance of fascial layers, followed by the lack of resistance of the intercostal muscles, then gives warning that the point is approaching the parietal pleura. The resistance of the latter, even when it is not thickened, is next distinguishable, and the sudden ease of advancing the needle beyond indicates that the pleural cavity is entered. At this point the method of manometric oscillation is employed to prove further that the opening of the needle is between the pleural layers. Air embolism, which has been known to occur, owing to introduction of gas directly into the pulmonary vein through puncture of the lung surface, should never take place, if the technique is carefully followed.

10. Parasitic Intestinal Amebas.—Whitmore reports that *Entamœba coli* and *Trichomonas intestinalis* are common parasites in the intestinal tract of healthy men in a portion of Florida. In the stools of one hundred persons examined, the first of these organisms was found fifty-seven times and the second forty-two times. The finding of parasitic amebas and flagellates in the intestinal tract in cases of pellagra is purely coincidental, the parasites having nothing to do with the disease. It is very probable that *Entamœba tetragena* is the cause of at least a part of the amebic dysentery in the United States.

11. Noguchi's Luetin Reaction.—Ziegel describes the luetin test as a simple, harmless procedure consisting essentially of the endodermatic injection of a carbolized emulsion containing dead *Spirochætæ pallidæ*. The test can already be accepted as of considerable negative value. Whereas the von Pirquet reaction gives more than fifty per cent. of positive reactions in apparently nontuberculous adults, the luetin test is constantly negative in both adults and children who are clinically and serologically nonsyphilitic. The positive value of the test appears more limited. A positive reaction is rarely obtained in primary syphilis and inconstantly in secondary syphilis. Noguchi found the test unsatisfactory in parasyphilitic conditions, but in hereditary and tertiary syphilis obtained positive reactions in more than ninety per cent. of cases.

MONTHLY CYCLOPEDIA AND MEDICAL BULLETIN.

April, 1912.

1. Thomas E. Satterthwaite: Graphic Methods and Instruments in Diagnosis of Cardiac Affections.
2. Isaac Ott and John C. Scott: Action of Corpus Luteum and Pineal Body.
3. Boris Sidis: Causation of Psychopathic Maladies (*Concluded*).
4. C. E. de M. Sajous: Ductless Glands in Surgical Therapeutics.

2. Action of Corpus Luteum and Pineal Body. —Ott and Scott found that upon intravenous injection of corpus luteum extract there occurred an initial depression of the blood pressure, followed by a rise above normal for a short time; the pulse rate was practically unchanged. There was no effect upon the urinary secretion, except that in tests performed on rabbits, 0.5 per cent. of glucose was observed to appear in the urine. Applied to a uterine strip of the rabbit *in situ*, corpus luteum increased the contractions both in pregnant and slightly in nonpregnant animals. The contractions of an excised piece of rabbit's intestine were greatly increased in height. With pineal body, the circulatory effects were much the same as with corpus luteum. The urinary secretion was augmented, an increase in the volume of the kidney owing to vasodilatation occurring at the same time. On the nonpregnant uterus there was no action, but in the pregnant uterus the contractile power was increased. The contractions of the intestinal strip were slightly increased. In rabbits with the superior cervical ganglion excised, local application of

pineal extract to the eye caused slight pupillary dilatation.

3. Causation of Psychopathic Maladies.—Sidis points out the fundamental importance of fear as a source of these affections. The fear instinct may be associated with any of the body functions, and may give rise to subconscious states of which an abnormally developed suggestibility is characteristic. These conditions may, in turn, lead to a somopsychosis or psychoneurosis. That one patient should be a psychosomatic while another is a psychoneurotic depends on the character, temperament, and whole training of the patient, as well as the nature of the event that has aroused the slumbering fear instinct. Patients of an introspective turn of mind, with their attention directed to mental and social accomplishments, become psychoneurotic, while those not mentally introspective but having their attention and fears turned to their physical needs and bodily functions become psychosomatics.

4. Ductless Glands in Surgical Therapeutics.—Sajous concludes that thyroid (including parathyroid) preparations, owing to their power to increase the opsonins and enhance the germicidal and antitoxic power of the blood, are indicated in surgical diseases, septichemia, pyemia, erysipelas, etc., and in suppurative processes wherever situated, the organs of special sense included. Being endowed with the property of enhancing calcium metabolism beside acting as stimulants of the defensive process, thyroid preparations are also indicated in diseases of the osseous sytem (including those due to the tubercle bacillus in the spine and hip joint); osteomyelitis, rhachitis, etc. Thyroid preparations are also indicated in those cases of larval myxedema in which convalescence after operation is slow and the tendency to infection is great owing to inefficiency of the patient's defensive mechanism. The fact that the parathyroids are the main source of opsonins, and that the latter increase the activity of the defensive process, emphasizes the importance of always conserving these organs when removing the thyroid, or of restoring them at once after their accidental removal. The adrenals, as coworkers of the thyroid apparatus in the defensive process and in sustaining oxidation, metabolism, and nutrition, seem to offer a new clue to the pathogenesis and treatment of cancer that is worthy of further inquiry. The adrenal secretion, especially when obtained from regions in which it occurs in organic combination, the stomach, spleen, and pituitary, for example, powerfully excites, as hormone, the contraction of unstriped muscular tissue. Hence the activity of the splenic hormone and pituitary body in postoperative paresis of the intestine and cardiovascular adynamia.

PEDIATRICS

April, 1912.

1. Francis Huber: Empyema in Infants.
2. A. M. Gossage: Rheumatism in Children.
3. Finley Ellingwood: Plea for Thorough and Systematic Study of the Materia Medica and Therapeutics.
4. Anna Ries-Finley: Infantile Pernicious Vomiting and Rectal Hemorrhage.
5. Henry L. Coit: Public School as Factor in Preventing Infant and Child Mortality.

2. Rheumatism in Children.—Gossage points out that the manifestations of rheumatism are produced in two ways: 1. The local effects resulting from the focal growth of the organism; 2, the general action of the toxines, manufactured by the organism, after they have been absorbed into the blood. Children are prone to the chronic or subacute manifestations of rheumatism because the chief site of the multiplication of the organism and the manufacture of the toxines is in focal lesions outside the blood stream, while in adults it is in the blood itself. Great stress is laid upon the rheumatic nodules, since these afford the typical example of the local response to rheumatic infection. They are often subcutaneous and occur in about one third of all the cases of rheumatism in children. They are found over bony prominences, or over the sheaths of tendons, especially the flexor tendons in front of the wrists, varying from a small one that can just be recognized, up to the size of a pea, and, in number, from a single specimen to many hundreds. They are usually associated with grave cardiac mischief, and the more numerous and the larger they are the more serious the cardiac involvement. While they are present, they prove the persistence of the rheumatic infection, and it is on this account that they have to be regarded as of such unfavorable import in prognosis. The lesions found in the heart are similar in structure to the subcutaneous nodules, but their duration is probably less prolonged. In the mesocardium they are found chiefly in the walls of the left ventricle, especially near the mitral and aortic valves. The toxines manufactured in these lesions would have a local action on the muscle fibres adjacent to them. In pericarditis the nodular lesions may be confined to a small area or scattered all over the pericardium. It is probably never necessary to tap the pericardium, as the physical signs are due to dilated heart, and not to pericardial effusion. In endocarditis the nodules are subendothelial, and are situated mostly at the upper part of the left ventricle, especially in the mitral valve. The swellings project into the cardiac cavity and become covered with fibrin from the blood, thus forming the vegetations which afford the macroscopic evidence of inflammation. Pericarditis is shown by a rub and effusion of fluid. Its recognition has an added importance, because it is always associated with myocarditis and endocarditis. Endocarditis has itself no symptoms and no physical signs, and its presence can be merely inferred from the signs of inflammation elsewhere. The evidence of myocarditis consists in the development of a systolic murmur at the apex due to loss of tone in the mitral sphincter. Unfortunately there is no sign of fresh myocarditis where the mitral valve is already incompetent. Sometimes a diastolic murmur is heard at the apex early in rheumatism; this is probably caused, as has been pointed out by Carey Coombs, by dilatation of the left ventricle without any enlargement of the mitral orifice, when the suction action of the ventricle drawing blood through a relatively narrow orifice would produce a "fluid void" and so a bruit. This murmur, therefore, should be a sign rather of muscular poisoning than of inflammation. Further manifestations of the action of the toxines on the cardiac

muscle are dilatation of the chambers and weakness of the first sound.

ST. PAUL MEDICAL JOURNAL.

April, 1912.

1. A. Schroyze: Circumcecal Hernia; Apparently Unique Epicecal Hernial Sac.
2. Charles E. Smith, Jr.: Public Health and Morality.
3. E. B. Daugherty: Rural Tuberculosis Survey.
4. A. R. Hall: Status Lymphaticus.

May, 1912.

5. Warren A. Dennis: Treatment of Uterine Prolapse.
6. E. A. Meyerding: School Health.
7. Warren Little: Bacillus Aerogenes Capsulatus.
8. J. H. Stewart: Trachoma.

4. Status Lymphaticus.—Hall calls our attention to the fact that after many cases of sudden death, and after some deaths where there was not sufficient apparent cause of a fatal termination, necropsy has revealed hypertrophy of the thymus and the various lymphatic tissues with no other pathological findings by which it could be explained. This seems to prove that this condition is a constitutional entity. The hyperplasia of the lypmhatic tissue may be general but it is most marked in the nasopharynx, alimentary tract, the mesenteric and retroperitoneal glands, and spleen. With this hyperplasia is associated enlargement of the thymus, which is not usually great, but it is large for the corresponding age, or persistent at an age when it is normally atrophic, and which is marked by no great change in the histological structure of the thymus or lymphoid tissue proper. With this habitus lymphaticus is frequently noticed a hypoplasia of the arterial system (a narrow aorta and small arteries with a flabby heart). A relative lymphocytosis is noticed in some cases and a simple anemia, especially in adults. The subjects of this condition seem less resistent to disease. They bear infections and operations badly. They often die unexpectedly during mild attacks of diphtheria, gastroenteritis, bronchopneumonia, etc. In a large proportion of the deaths from caisson disease in workers in the New York tunnels status lypmhaticus was present. Slight shock or irritation easily disturbs the coordination of the vital mechanism and suffices to bring about dissolution. Eunuchs show persistences of the thymus and the same tendency to sudden death as the subjects of status lymphaticus. Removal of the thymus, on the other hand, is apparently followed by a more rapid development of the testes. The diagnosis of status lymphaticus is of deep concern to the surgeon. When this condition exists he should be wary of any operation. The coroner who looks will find this condition to explain many sudden deaths. In this condition the internal secretion from the thymus gland is possibly at fault.

8. Trachoma.—Stewart says trachoma, although a disease confined to the superficial tissues in and overlying the orbit, is as little known and as intractable as it was a century ago. Halberstaedter and Prowaczek attribute the disease to infection by the germ chlamydozoon. As to the pathology of the disease it appears that in the protoplasm of the epithelial cells of the infected conjunctiva, granules first appear, as large as ordinary cocci, or larger, which, as they multiply, become separated, so that they enclose a cavity devoid of granules. In this cavity very minute granules appear later, which are smaller than cocci and which stain differently from the granules that are developed first. The seat of infection is in the upper folds of transmission, the rigid torsal cartilage protecting the germs in their destructive work. A good, free cantholplasty is the first step in treatment, the vesicles being then destroyed by electrolycis or scrubbed well with antiseptics. In some cases excision of the conjunctival folds is advisable. If rolling or crushing is thoroughly done, too much healthy tissue is macerated and broken down.

JOURNAL OF TROPICAL MEDICINE AND HYGIENE.

April 15, 1912.

1. P. H. Macdonald: Pemphigus Contagiosus.
2. Emilius Hopkinson: Sleeping Sickness on Gambia.
3. R. H. Castor: Pigmented Maculæ on Tongue, Gums, and Palate.

May 1, 1912.

4. George C. Low: Blood in Sprue.
5. Creighton Wellman and David Hoyt Sparks: "Winter Cases" of Pellagra.
6. P. Tertius Clarke: Nephritis and Quartan Fever.

4. The Blood in Sprue.—Low finds that in the early stages of sprue there is little change in the blood, but that as the disease progresses, an anemia of typical secondary type develops. The white cells at first remain more or less normal, but then tend to decrease in number till a marked leucopenia may ultimately result. Differentially, the leucocytes may be said to be normal. As the condition advances, there are found microcytes and megalocytes, together with poikilocytosis. Polychromatophilia and basophilic degeneration are also not uncommon, while nucleated red cells, chiefly normoblasts, may be encountered occasionally. In severe cases, especially toward the termination of the disease, the blood picture may resemble very closely that of progressive pernicious anemia, with high hemoglobin index. The blood examination is useful for determining the progress of a case of sprue and its ultimate prognosis. Nothing resembling parasites was ever seen in the blood of the author's cases.

5. "Winter Cases" of Pellagra.—Wellman and Sparks report three cases unusual in that the characteristic skin lesions appeared before the onset of warm weather and without exposure to sunshine. According to their observations, all the symptoms of pellagra may declare themselves at any time of the year and under almost any circumstances.

6. Nephritis and Quartan Fever.—Clarke, after many years of observation in the Malay States, asserts that he has been forced to the conclusion that in the tropics the occurrence of an edema of such nature as to suggest parenchymatous nephritis is reason for making a search for quartan malarial parasites imperative. Of sixty-two cases which would have ordinarily been diagnosticated as nephritis—showing albuminuria, weakness, dyspnea, and edema—only five showed fever, and in these five alone would the blood have ordinarily been examined for malarial parasites. Yet of the remaining fifty-seven cases thirty-two had parasites in the blood, quartan in all but three instances. A history of syphilis and enlargement of the supracondylar glands were also looked for in the series, and one or the other was found in twenty of the cases. Quinine was given, and but one of the patients died.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Manual of Practical Physiology. Designed for the Physiological Laboratory Course in the Curriculum of the American Association of Medical Colleges. By JOHN C. HEMMETER, M. D., Ph. D., LL. D., Professor of Physiology in the University of Maryland, Baltimore; Member of the Physiological Society of Germany. With Fifty-five Illustrations. Philadelphia: P. Blakiston's Son & Co., 1912. Pp. xxii-223. (Price, $2.50.)

The distinguishing feature of this manual of physiology lies in the opinion expressed by its author in the preface that the secret to success in the practical teaching of this branch is to be found in general and comparative physiology. We accordingly find considered in the course outlined certain subjects not usually dealt with in practical physiology, e. g., the laws of irritability, osmotic pressure, fermentation, cell catalysis, immunity, and the effects of inorganic salts on life processes. The internal secretions are considered to the extent of nearly thirty pages. Under the chapter heading, Immunity, are explained the phenomena of hemolysis, bacteriolysis, agglutination, the opsonins, etc., and appropriate illustrative experiments are described. Considerable space is devoted to the action of inorganic salts on tissues, as elucidated by the researches of Jacques Loeb. In addition there are the customary sections on the physiology of the circulatory system, the blood, the respiration, and vision, on electrotonus, etc., all so planned as to reflect the most recent advances in these subjects. The illustrations are numerous and good. In that on page 40, however, is depicted a metronome which in its dislocated condition could surely not perform the function for which it is intended. There are a number of errors in the text which have evidently escaped the proofreader and should be corrected in a future edition, e. g., "hypophesis" (page 173), "adrenlin," "essentual" (page 180), "S. J. Metzer" (page 165), and even "this phenomena" (page 89)! Exception being made for these minor defects, the book may be said to offer an original, up to date, and altogether excellent course in practical physiology.

Die Goldschmidtsche Irrigations-Urethroskopie. Eine zusammenfassende Darstellung der Methode. Von Dr. S. SCHLENZKA, Arzt für Harn- und Hautkrankheiten in Berlin. Leipzig: Dr. Werner Klinkhardt, 1912. Pp. xii-99.

This book of some 100 pages is probably the most important work on urethroscopy published. It is written by Dr. A. Schlenzka, an associate of the late Dr. H. Goldschmidt. Much of the written matter as well as the illustrations are attributed to Goldschmidt, the first man to perfect irrigation urethroscopy and the originator of the Goldschmidt irrigating urethroscope.

The first portion of the book is devoted to the description of Goldschmidt's anterior and posterior urethroscopes, and the prismatic attachment by which the posterior urethroscope is adapted to cystoscopy. In a book of this sort, which is avowedly a description of a single instrument and its use, much interest and value which a book on urethroscopy ought to contain is lost, because no other instruments are mentioned and there is nothing to suggest that any instrument other than the one described might be better for a given purpose. For instance, why use an anterior water dilatation urethroscope when an open tube is, and always has been, the best instrument? Again, using the posterior urethroscope as a cystoscope may be possible, but the long beak and the calibre of the instrument seem to make an awkward and unnecessarily large cystoscope. No mention is made of the Buerger water dilatation urethroscope nor of the comparative values of the two instruments.

The second part of the book is devoted to the technique and the observation of the normal and pathological urethra. The portion on pathological conditions is commendably brief. This brevity leads to some few omissions; cysts of the urethra, and such rarer conditions as leucoplakia are not mentioned. One grave omission in this book is the failure of the author to give any indications of contraindications for urethroscopy. He describes, however, how an acute anterior gonorrheal urethritis may be examined "without the least harm accruing to the patient"! He also describes the picture of a subacute posterior urethritis and an acute prostatitis. It may be of value scientifically to have recorded at least one observation on these conditions, but urethroscopy in acute gonorrhea is not to be commended.

The third portion of the book is devoted to the description of various instruments which may be used through the urethroscope. Some of the most interesting of these are prostatic incisors. These are designed for use through the urethroscope, very much in the same manner that a Bottini incisor is used for incising the bladder neck. This instrument seems to be a more valuable one than other instruments designed for this purpose, for example, the Young prostatic punch. The illustrations are rather crude.

Principles of Human Nutrition. A Study in Practical Dietetics. By WHITMAN H. JORDAN, Director of the New York Agricultural Experiment Station. New York: The Macmillan Company, 1912. Pp. xxi-450. (Price, $1.75.)

The author treats his subject under two heads, the principles of human nutrition and practical dietetics. Under the first head he considers the plant as the source of human sustenance, the chemical elements, and the compounds of human nutrition, the digestion of food, the distribution and transformations of the digested food, the functions of food compounds, and the laws of nutrition. Under the head of practical dietetics he takes up certain general considerations, the selection of food or regulation of diet, the relation of diet to the varying conditions of life, food economics, special dietetic methods (vegetarianism, and raw foods), the nutrition of the child, the character and value of meat extracts, breakfast foods, and alcohol, the preparation of food, and food sanitation. The tabular matter is good and abundant.

This volume, not written for those who have specialized in organic and biological chemistry, but rather for use among the laity, is, however, a reliable handbook for elementary students in dietetics. There is no reference in this book to the use of diet in disease.

Health and Medical Inspection of School Children. By WALTER S. CORNELL, M. D., Director of Medical Inspection of Public Schools, Philadelphia; Lecturer on Child Hygiene, University of Pennsylvania; Director of Division of Medical Research, New Jersey Training School for the Feeble Minded, etc. Illustrated with Two Hundred Half Tone and Line Engravings, Many of Them Original. Philadelphia: F. A. Davis Company, 1912. Pp. xiv-614. (Price, $3.)

Doctor Cornell has been interested in the hygiene of school children for a number of years and holds at present an important position in the municipal government of Philadelphia. He is thus prepared to lay before his readers a book both interesting and instructive, to the profession as well as to the layman.

The book is divided into three parts: Medical inspection, hygiene, and defects and diseases. In the first part we find such chapters as administration, inspection of children, correction of defects, and results of medical inspection. Part two treats personal and school sanitation. The third division takes up the body of the child and its ailments, eye, nose and throat, ear, teeth, nervous system, the mind and its deficiencies, skeleton, nutrition, skin, speech, and infectious disease.

The book is well written, exhaustive without being tiresome; the illustrations, about 200 in number, are instructive; and the makeup is a good example of the art of typography. The book can be well recommended and should find the appreciation which it deserves.

Klinische Bakteriologie und Protozoenkunde. Von Dr. JULIUS CITRON, Assistenten der II. medizinischen Klinik der Universität Berlin. Mit 65 Abbildungen im Text und 7 farbigen Tafeln. Leipzig: Dr. Werner Klinkhardt, 1912. Pp. vii-172.

In this guide to clinical bacteriology and protozoology the author has embodied his experiences in a large clinical

institution. Particular stress is placed on technique, inasmuch as that is the crucial point on which the results depend. The theoretical side is but briefly discussed and methods that are not of value in the clinic are briefly dismissed. On account of the modern interchange of commerce and methods of transportation a short description of the more common protozoa is added. In the space of 127 pages a great deal of useful information clearly presented has been compressed. Starting with the more common grouping of bacteria, there follow chapters on the microscope, microscopic preparations, methods of examination, etc. A chapter on the more important pathogenic bacteria, one on the nonpathogenic, one on the hyphomycetes, and a final chapter on the blastomyces concludes the bacteriological portion. Under the heading of the tubercle bacillus is given Much's modification of Gram's stain and also the antiformin method of obtaining the bacillus from sputum. It is stated, however, that the leprosy bacillus cannot be cultivated and cannot give rise to the disease in experimental animals. The recent work dealing with those subjects seems to have been overlooked. With these exceptions the characteristics of the various organisms are very well described. Under the protozoa are taken up the following, ameba, malarial plasmodia, spirochete, trypanosomes, and chlamydozoa. Although but some thirty-five pages are devoted to the foregoing, the important clinical points have been well brought out. The illustrations are particularly good, having been selected with care. The seven plates are also well executed, many of the representations being original and all showing well the conditions. The book is one to be highly recommended to all those who are doing work in laboratories, clinical or bacteriological. It would soon show indications of frequent use.

The New Physiology in Surgical and General Practice. By A. Rendle Short, M.D., B.S., B. Sc., F.R.C.S., Senior Demonstrator of Physiology, University of Bristol. New York: William Wood & Co., 1911. Pp. vii-201. (Price, $2.)

Many of the discoveries of the past ten years having changed what the author terms "the face of physiology," he attempts in the present volume, and, in a very creditable way, to adjust them to the needs of the clinician. The section on the thyroid and parathyroid presents nothing new,—admittedly so—the object being mainly to correlate established facts. Concerning the pituitary, the writer correctly concludes that all that is positively known concerning its functions is that it contains a principle which will act as a diuretic and raise the blood pressure. The third chapter bears upon the alimentary system. This is made up, in so far as the gastric functions are concerned, mainly of Pawlow's work and the confirmatory evidence contributed in recent years. Hyperchlorhydria and other subjects of deep interest to the practitioner are carefully reviewed in the light of modern work. This may also be said of the applied physiology of blood pressure, the hemorrhagic diathesis, the physiology of uric acid and other urinary deposits, acidosis, acetonuria, and diabetes, the immediate and remote toxic effects of chloroform, and of several other topics which modern research has considerably elucidated. On the whole, much praise is due the author for the evident pains he has taken in the preparation of this book.

NEW PUBLICATIONS

Kerr, J. W.—Vaccination. An Analysis of the Laws and Regulations Relating Thereto in Force in the United States. Public Health Bulletin No. 52. Washington: Government Printing Office, 1912. Pp. 82.

Young, James Herbert.—Milk Modification Card. Boston: F. H. Thomas Company, 1912. (Price, 50 cents.)

The Anglo-American Medical Association of Berlin. Club Rooms and Bureau of Information Friedrich-Strasse No. 105, Hotel Atlas. 1911-1912. Pp. 80.

McLaughlin, Allan J.—The Necessity for Safe Water Supplies in the Control of Typhoid Fever. Reprint from Public Health Reports, No. 76. Washington: Government Printing Office, 1912. Pp. 13.

Moore, A. R.—A New Method of Heterogeneous Hybridization in Echinoderms. Can the Presence of Acid Account for the Œdema of Living Muscle? University of California Publications in Physiology, Volume IV, Nos. 14 and 15. Berkeley: University of California Press. Pp. 113.

Geddings, H. D.—The Bacteriological Diagnosis of Cholera. A Report Presented to the Permanent Committee of the International Office of Public Hygiene in the Name of a Commission Composed of Messrs. Ruffer, president, Calmette, Gaffky, Geddings, Murillo, Praum, and Pottevin, Reporter. An English Translation. Reprint from Public Health Reports No. 75. Washington: Government Printing Office, 1912. Pp. 30.

Annual Report of the Bureau of Health for the Philippine Islands for the Fiscal Year Ending June 30, 1911. Carroll Fox, Passed Assistant Surgeon of the United States Public Health and Marine Hospital Service, Acting Director of Health. Pp. 125.

Shaw, H. L. K.—How to Save the Babies. Suggestions to Mothers from the New York State Department of Health, Eugene H. Porter, A. M., M. D., Commissioner. Issued by the Division of Publicity and Education of the State Department of Health, Albany, N. Y. Pp. 16.

Eighteenth Annual Report of the Managers and Officers of the Craig Colony for Epileptics at Sonyea, Livingston County, N. Y. Pp. 259.

Quarterly Reports of the Board of Health of the Department of Health of the City of New York, for the Quarters Ending March 31 and June 30, 1910.

Eighty-fifth Annual Report of the Directors of the General Hospital Society of Connecticut. For the Year 1911. Pp. 50.

Fitch, William Edward.—The New Pocket Medical Formulary. With an Appendix Containing Formulæ and Doses for Hypodermic Medication; Posological Table; Obstetrical Table; Poisons and Antidotes, etc. Philadelphia: F. A. Davis Company, 1912. Pp. viii-474. (Price, $2.)

Adler, I.—Primary Malignant Growths of the Lungs and Bronchi. A Pathological and Clinical Study. New York: Longmans, Green, & Co., 1912. Pp. xii-325.

Schmieden, Victor.—Der chirurgische Operationskursus. Ein Handbuch für Aerzte und Studierende. Zweite, erweiterte und verbesserte Auflage. Mit 435 Abbildungen im Text und einem Vorwort von Prof. Dr. A. Bier. Leipzig: Johann Ambrosius Barth, 1912. Pp. xvi-380.

Robin, Albert.—Thérapeutique usuelle du practicien. Traitement de la tuberculose. Troisième série. Paris: Vigot frères, 1912. Pp. 640.

Page, Charles Whitney.—The Care of the Insane and Hospital Management. Boston: W. M. Leonard, 1912. Pp. 155.

Pusey, William Allen.—The Care of the Skin and Hair. New York and London: D. Appleton & Co., 1912. Pp. xiii-182.

Gamel, Raymond.—Chiqueurs, mangeurs, buveurs et fumeurs d'opium. Etude médico-sociale sur l'abus de l'opium en France et dans les colonies françaises. Montpellier: Coulet et fils, 1912. Pp. 117.

Sticker, Georg.—Das Heufieber und verwandte Störungen. Klinik der Idiopathien. Zweite, gänzlich umgearbeitete Auflage. Mit 2 Tafeln. Wien und Leipzig: Alfred Hölder, 1912. Pp. v-194.

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Bleuler, E.—The Theory of Schizophrenic Negativism. Translated by William A. White, M. D., Superintendent of the Government Hospital for the Insane, Washington, D. C. Nervous and Mental Disease Monograph Series No. 11. New York: The Journal of Nervous and Mental

Disease Publishing Company, 1912. Pp. 36. (Price, 60 cents.)

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Hunter, Walter K.—Recent Advances in Hematology. Being the Dr. James Watson Lectures for 1910. With a Colored Plate. New York: William Wood & Co., 1912. Pp. xi-119. (Price, $2.25.)

Miscellany.

List of Presidents of the American Medical Association and Meetings at which They Presided:

1912, Atlantic City, Abraham Jacobi.
1911, Los Angeles, John B. Murphy.
1910, St. Louis, William H. Welch.
1909, Atlantic City, W. C. Gorgas.
1908, Chicago, Herbert L. Burrell.
1907, Atlantic City, Joseph D. Bryant.
1906, Boston, William J. Mayo.
1905, Portland, Lewis S. McMurtry.
1904, Atlantic City, John H. Musser.
1903, New Orleans, Frank Billings.
1902, Saratoga Springs, John A. Wyeth.
1901, St. Paul, C. A. L. Reed.
1900, Atlantic City, W. W. Keen.
1899, Columbus, Joseph M. Mathews.
1898, Denver, George M. Sternberg.
1897, Philadelphia, Nicholas Senn.
1896, Atlanta, Beverly Cole.
1895, Baltimore, Donald MacLean.
1894, San Francisco, James F. Hibbard.
1893, Milwaukee, Hunter McGuire.
1892, Detroit, Henry O. Marcy.
1891, Washington, William T. Briggs.
1890, Nashville, E. M. Moore.
1889, Newport, William W. Dawson.
1888, Cincinnati, Alexander Y. P. Garnett.
1887, Chicago, E. H. Gregory.
1886, St. Louis, William Brodie.
1885, New Orleans, Henry Fraser Campbell.
1884, Washington, Austin Flint.
1883, Cleveland, J. A. Atlee.
1882, St. Paul, J. J. Woodward.
1881, Richmond, John T. Hodgen.
1880, New York, Lewis A. Sayre.
1879, Atlanta, Theophilus Parvin.
1878, Buffalo, T. G. Richardson.
1877, Chicago, Henry I. Bowditch.
1876, Philadelphia, J. Marion Sims.
1875, Louisville, W. K. Bowling.
1874, Detroit, J. Meredith Toner.
1873, St. Louis, Thomas M. Logan.
1872, Philadelphia, David W. Yandell.
1871, San Francisco, Alfred Stille.
1870, Washington, George Mendenhall.
1869, New Orleans, William O. Baldwin.
1868, Washington, Samuel D. Gross.
1867, Cincinnati, Henry F. Askew.
1866, Baltimore, D. Humphrey Storer.
1865, Boston, N. S. Davis.
1864, New York, Alden March.
1863, Chicago, Eli Ives.
(No meetings during 1862 and 1861.)
1860, New Haven, Henry Miller.
1850, Louisville, Harvey Lindsley.
1858, Washington, Paul F. Eve.
1857, Nashville, Zina Pitcher
1856, Detroit, George B. Wood.
1855, Philadelphia, Charles A. Pope.
1854, St. Louis, Jonathan Knight.
1853, New York, B. R. Wellford.
1852, Richmond, James Moultrie.
1851, Charleston, Reuben D. Mussey.
1850, Cincinnati, John H. Warren.
1849, Boston, Alexander H. Stevens.
1848, Baltimore, Nathaniel Chapman.

Meetings of Local Medical Societies.

MONDAY, *June 10th.*—Medical Association of the Greater City of New York (Special Meeting in the Borough of Richmond); Williamsburgh Medical Society, Brooklyn; Society of Medical Jurisprudence; New Rochelle Medical Society; Corning Medical Association; Waterbury, Conn., Medical Association.

TUESDAY, *June 11th.*—Buffalo Academy of Medicine (Section in Medicine); Medical Society of the County of Schenectady; Medical Society of the County of Rensselaer; Rome Medical Society.

WEDNESDAY, *June 12th.*—Medical Society of the Borough of the Bronx; Brooklyn Medical and Pharmaceutical Association; Alumni Association of the Norwegian Hospital, Brooklyn; Richmond County Medical Society; Dunkirk and Fredonia Medical Society.

THURSDAY, *June 13th.*—West Side Clinical Society; Brooklyn Pathological Society (annual); Blackwell Medical Society of Rochester (annual); Auburn City Medical Society (annual); Jamestown Medical Society; Society of Physicians of Village of Canandaigua; Gloversville and Johnstown Medical and Surgical Association; Physicians' Club of Middletown.

FRIDAY, *June 14th.*—Eastern Medical Society of the City of New York.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending June 1, 1912:

CHOLERA—FOREIGN: *India*, March 24 to April 27, 37 cases, 112 deaths; *Indo China* (Saigon), March 19-April 15, 200 cases, 129 deaths.

YELLOW FEVER—COLONIAL: *Canal Zone*, March 2-4, 1 case, 1 death.

YELLOW FEVER—FOREIGN: *Brazil* (Manaos), April 28-May 4, 2 deaths; *Mexico*, May 25, 4 cases, 1 death; *Venezuela* (Caracas), March 1-31, 4 deaths.

PLAGUE—FOREIGN: *India*, March 24-April 27, 552 cases, 643 deaths; *Indo-China* (Saigon), March 19-April 15, 21 cases, 9 deaths; *Japan* (Formosa), April 1-13, 27 cases, 23 deaths; *Java*, April 7-13, 5 cases, 4 deaths; *Mauritius*, May 15-21, 10 cases, 7 deaths; *Persia*, April 1-13, 189 cases, 135 deaths; *Straits Settlements*, April 7-13, 2 cases, 2 deaths; *Turkey* (Basra), April 10-12, 3 cases.

SMALLPOX—UNITED STATES: *Arizona*, Feb. 1-29, 16 cases, 1 death; March 1-31, 10 cases; *Illinois*, April 1-30, 109 cases; *Indiana*, April 1-30, 137 cases, 2 deaths; *Missouri* (St. Louis), May 12-18, 1 case; *Montana*, April 1-30, 29 cases; *North Carolina*, April 1-30, 145 cases; *Vermont*, April 1-30, 24 cases.

SMALLPOX—FOREIGN: *British East Africa*, March 1-31, 5 cases; *Brazil*, April 21-May 4, 4 cases, 1 death; *Canada*, May 12-18, 13 cases; *Ceylon*, April 7-13, 1 case; *Egypt* (Cairo), April 9-29, 6 cases, 1 death; *France* (Marseilles), April 1-30, 2 deaths; (Paris), April 14-May 4, 2 cases; *Germany*, April 21-27, 6 additional cases; April 28-May 11, 34 cases; *Great Britain*, April 28-May 11, 2 cases; *India*, March 24-April 27, 226 cases, 146 deaths; *Indo China* (Saigon), March 19-April 15, 12 cases, 4 deaths; *Italy*, April 28-May 12, 16 cases, 3 deaths; *Java*, April 7-13, 5 cases, 2 deaths; *Mexico*, March 9-May 18, 36 cases, 25 deaths; *Portugal* (Lisbon), April 28-May 4, 2 cases; *Russia*, April 14-May 4, 32 cases, 7 deaths; *Spain*, April 1-May 11, 37 cases, 6 deaths; *Turkey* (Beirut), April 14-May 4, 45 cases; (Constantinople), April 29-May 12, 17 cases; *Venezuela* (Caracas), April 1-30, 3 cases.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers serving in the United States Public Health and Marine Hospital Service for the seven days ending May 29, 1912:

Cofer, L. E., Assistant Surgeon General. Directed to proceed to Arundel Cove, Baltimore, Md., to confer with the Revenue Cutter officers relative to repairs upon the bark *Chase* destined for use at the Cape Charles Quarantine Station. **Creel,** R. H., Passed Assistant Surgeon. Relieved from further duty at Ellis Island Immigration Station about June 5, 1912, and directed to proceed to Providence, R. I., and assume the functions of quarantine officer for that port. **Earle,** B. H., Passed Assistant Surgeon. Directed to take charge of the Marine Hospital Station at Port Townsend, Wash., in addition to present duties. **Goldberger,** J., Passed Assistant Surgeon. Detailed to represent the Service

in the Section of Preventive Medicine and Public Health at the annual meeting of the American Medical Association to be held at Atlantic City, N. J., June 3 to 7, 1912. **Hotchkiss,** S. C., Assistant Surgeon. Directed to proceed to Birmingham, Ala., at the request of the Director of the Bureau of Mines, on or about June 1, 1912, to make an examination of the sanitation of mines and housing and sanitary conditions in mining camps; also to attend the annual meeting of the Alabama Coal Operators' Association, to be held in Birmingham, June 11, 1912. **Irwin,** C. H., Pharmacist. Upon arrival of Pharmacist Troxler, relieved from duty at San Francisco quarantine station and directed to report to the medical officer in command, Fort Stanton Sanatorium for duty and assignment to quarters. **Kerr,** J. W., Assistant Surgeon General. Detailed to represent the Service in the House of Delegates of the American Medical Association to be held in Atlantic City, N. J., June 3 to 7, 1912. **Roberts,** Norman, Passed Assistant Surgeon. Directed to accompany the steamer *Bratton* on her trip to Norfolk, Va., for the purpose of continuing the experiments of the Harbor Disinfecting Apparatus recently installed on board that vessel. **Rucker,** W. C., Assistant Surgeon General. Detailed to represent the Service in the Section of Preventive Medicine and Public Health at the annual meeting of the American Medical Association, to be held in Atlantic City, N. J., June 3 to 7, 1912. **Slamberg,** N. L. A. K., Acting Assistant Surgeon. Granted thirty days' leave of absence from May 26, 1912. **Warren,** B. S., Passed Assistant Surgeon. Relieved from further duty in the Hygienic Laboratory and directed to report to the Bureau for temporary duty.

Promotion.

Warner, H. J., Assistant Surgeon. Commissioned a passed assistant surgeon, to rank as such from April 4, 1912.

Appointments.

Dr. Charles L. Williams commissioned an assistant surgeon in the Public Health and Marine Hospital Service, from May 13, 1912.

Dr. Howard A. Knox commissioned an assistant surgeon in the Public Health and Marine Hospital Service, from May 13, 1912.

Resignation.

Pharmacist M. B. Eldridge resigned, effective May 27, 1912.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending June 1, 1912:

Campbell, George F., First Lieutenant, Medical Reserve Corps. Resignation accepted, to take effect May 28, 1912. **Dunbar,** Lee R., Lieutenant, Medical Corps. Relieved from duty at Fort Douglas, Utah, and from temporary duty at Fort Logan, Colo., and will proceed to the Letterman General Hospital, Presidio of San Francisco, Cal., will proceed to Washington Barracks, D. C., for duty. **Geeuwkes,** Henry, Lieutenant, Medical Corps. Relieved from duty at Fort Jay, N. Y., and will proceed to the Presidio of San Francisco, Cal., for duty with Ambulance Co. No. 2, relieving Lieutenant Herbert H. Sharpe. **Halliday,** C. H., First Lieutenant, Medical Reserve Corps. Reported for temporary duty at Fort Wayne, Mich. **Hartsock,** F. M., Major, Medical Corps. Granted fifteen days' leave of absence, about June 1, 1912. **Huber,** Edward G., Captain, Medical Corps. Granted leave of absence for one month and fifteen days. **Michie,** Henry C., Jr., Lieutenant, Medical Corps. Relieved from duty at Fort Missoula, Mont., and will proceed to Fort Flagler, Wash., for duty, relieving Captain William M. Smart. **Sharpe,** Herbert H., Lieutenant, Medical Corps. Upon being relieved from duty with Ambulance Company No. 2, Presidio of San Francisco, Cal., and also relieved from duty with Field Hospital No. 2, will proceed to Fort Winfield Scott, Cal., for duty. **Smart,** William M., Captain, Medical Corps. Upon being relieved from duty at Fort Flagler, Wash., will proceed to Fort Monroe, Va., for duty. **Walker,** Thomas C., First Lieutenant, Medical Reserve Corps. Leave of absence extended twenty days. **Wheate,** J. M., Major, Medical Corps. Ordered to proceed from Boise Barracks, Idaho, to the Presidio of San Francisco, Cal., for temporary duty pending the arrival of the *Logan,* then to assume the duties of surgeon of that transport during the absence of Lieutenant M. C. Stayer, Medical Corps. **Wilson,** Elsworth, First Lieutenant, Medical Reserve Corps. Granted fifteen days' leave of absence.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending June 1, 1912:

Cohn, I. F., Passed Assistant Surgeon. Detached from the *Michigan* and ordered to the *Washington.* **Dunn,** H. A., Surgeon. Detached from the *Utah* and ordered to the *Solace.* **Gill,** J. E., Passed Assistant Surgeon. Detached from the *North Dakota* and ordered to the *Missouri.* **Jenness,** B. F., Passed Assistant Surgeon. Detached from the Navy Recruiting Station, Atlanta, Ga., and ordered to the *Utah.* **Mann,** W. L., Passed Assistant Surgeon. Ordered to the Naval Disciplinary Barracks, Port Royal, S. C. **Omelvena,** J. G., Assistant Surgeon. Detached from the *Pompey* and ordered to the Naval Station, Cavite, P. I. **Pearson,** J. F., Pharmacist. Detached from the *Solace,* and will await orders. **Rhoades,** G. C., Passed Assistant Surgeon. Detached from the *South Carolina* and ordered to the *Ohio.* **Steadman,** W. G., Passed Assistant Surgeon. Detached from the *Kansas* and ordered to the *Mississippi.* **Strite,** C. E., Passed Assistant Surgeon. Detached from the *Vermont* and ordered to the *New Jersey.* **Stuart,** Allen, Surgeon. Detached from the Naval Disciplinary Barracks, Port Royal, S. C., and ordered to the Naval Recruiting Station, Atlanta, Ga. **Turner,** H. W. B., Assistant Surgeon. Detached from the Naval Hospital, Olongapo, P. I., and ordered home to await orders. **Webb,** U. R., Surgeon. Detached from the Naval Hospital, Canacao, P. I., and ordered to the Naval Hospital, Olongapo, P. I.

Births, Marriages, and Deaths.

Married.

Brumbaugh—Beaver.—In Huntington, Pa., on Thursday, May 23d, Dr. Cloy G. Brumbaugh and Miss Mabel Beaver. **Gladman—Emerick.**—In Syracuse, N. Y., on Wednesday, May 22d, Dr. Everett Aldrich Gladman and Miss Ellen M. Emerick. **Halley—Hopkins.**—In Granfield, Colo., on Tuesday, May 21st, Dr. S. C. Halley and Miss Frances G. Hopkins. **Thomas—Smith.**—In Minneapolis, Minn., on Saturday, May 25th, Dr. Clarkson O. Thomas and Mrs. Serena J. Smith.

Died.

Antony.—In Pineville, La., on Tuesday, May 21st, Dr. S. O. Antony. **Axelrod.**—In Vancouver, Wash., on Saturday, May 25th, Dr. Max Axelrod. **Bromwell.**—In Washington, D. C., on Saturday, May 25th, Dr. J. R. Bromwell, aged sixty-eight years. **Brooks.**—In Binghamton, N. Y., on Tuesday, May 21st, Dr. J. E. Brooks. **Cassady.**—In Mamaroneck, N. Y., on Friday, May 24th, Dr. A. W. Cassady, aged thirty-nine years. **Dwyer.**—In Passaic, N. J., on Monday, May 27th, Dr. Joseph W. Dwyer, aged thirty-four years. **Gould.**—In East Orange, N. J., on Friday, May 24th, Dr. Elizabeth Taylor Gould, aged sixty-nine years. **Hanford.**—In Watertown, N. Y., on Monday, May 27th, Dr. Harold Wood Hanford, aged forty-five years. **Howkins.**—In Savannah, Ga., on Saturday, May 25th, Dr. John Smallwood Howkins, aged fifty-four years. **Irwin.**—In New York, on Saturday, June 1st, Dr. John Arthur Irwin, aged fifty-eight years. **Johnson.**—In Asbury Park, N. J., on Friday, May 24th, Dr. Samuel Johnson, aged sixty-six years. **Norwood.**—In Lexington, Ky., on Wednesday, May 29th, Dr. E. M. Norwood, aged eighty-one years. **O'Brien.**—In Troy, N. Y., on Sunday, May 26th, Dr. Pierce J. O'Brien. **Ray.**—In Eunice, La., on Tuesday, May 21st, Dr. James O. Ray, of Opelousas, aged fifty-seven years. **Riley.**—In Orangeburg, S. C., on Tuesday, May 21st, Dr. J. T. Riley, aged fifty years.

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Original Communications.

COMMENTS ON SEX ISSUES FROM THE FREUDIAN STANDPOINT.*

BY JAMES JACKSON PUTNAM, M. D.,
Boston,
Professor of Neurology and Psychology, Harvard Medical School.

"When half gods go the gods arrive."

To those physicians who have made themselves familiar with the difficult conceptions of the Freudian school, still more to those who have endeavored conscientiously to put them into practice, the attitude of the leaders of this movement toward the various sex problems at issue, usually appears, in the main, so well founded and of such extraordinary interest, that the opposition to it, formerly so bitter, now becoming greatly modified, seems a needless prejudice which a temperate reconsideration of the facts and arguments should remove. It is to such a reconsideration that I ask your attention in this paper. The subject is a difficult one to handle, and I shall begin by endeavoring to correct what I believe to be a common and unfortunate misapprehension, namely, that the prime objective point of a psychoanalytic investigation is the dragging to light of the patient's sexual experiences and misdemeanors. This is not the case. There is but one objective point in such an inquiry, and that is to find means to enable the patient to know the whole of the forces which are ruling his destiny, instead of only a part of them. The patient presents himself with various nervous symptoms and various traits of character which hamper his progress, and cause him great distress. The psychoanalyst seeks to understand these mental peculiarities better, and, for this purpose, to discover, not indeed their ultimate cause, but the conditions existing since birth which have prepared the way for them, best exemplified them, and most strongly accentuated them, and also the protean changes of form which the traits themselves have undergone.

The psychological phenomena which most definitely absorb the attention in such a search as this, are those which have to do with the evidences of strong, imperative passions; of the dissociation of apparently single emotions into opposing elements; of the repression of a portion of these elements, and of the subsequent reappearance of the repressed emotions under a new form.

The investigation of such phenomena as these necessarily brings out a full history of the patient's sexual life, even in forms of which the patient himself had been wholly unaware, and he must learn to break down the internal resistances by which he had made sure his concealment from himself.

But this history is not dragged out as if in and for itself; it comes out as indicating the partial causes of symptoms or of hampering traits of character, for which the patient seeks relief.

It is as much a right and a duty to investigate the results of sex hunger, and the workings out of the instinct of reproduction, as it would be to investigate food hunger and the function of digestion, if the disturbances of the latter gave rise—as they do not to any considerable extent—to repressed passions and complex nervous symptoms. These investigations should invariably be made in such a way that the patient's sympathies become widened, and that he learns to interpret the psychology of his fellow men through his own experiences, and his own psychology through a better knowledge of the experiences of his fellow men.

Men differ in endowments of all sorts, and thus, too, in the relative strength and relative inhibition of their sex instincts. It is partly on this account that it becomes much harder for some men than for others to make the best choices, in the face of the difficult and constantly recurring necessity for deciding between the path which leads to the broader life of unselfish devotion and that which leads to the narrow life of personal gratification.

In spite of these differences and these difficulties, however, every man has the capacity for acquiring a suitable balance of mental functions and the happiness and efficiency which go with it, provided only the conditions for the best development can be made favorable. If he misses this opportunity in the years of his early development he can still make the loss good, in some measure, during his later years; but to do this is so hard that he needs all the help that he can get toward its accomplishment, and one important kind of help is a clearer, a more intelligent recognition of the obstacles in his way. Some of these obstacles are external, others consist in the lack of adequate ideals; but after these are dealt with there usually remains a vast and subtle group of difficulties, peculiarly difficult to grapple with because peculiarly hard to see, namely, the internal difficulties established by strong, insistent, partially repressed passions and emotions; and the chief among these emotions are those which relate to the sex life.

Shall we let ourselves be led by prejudice and a false prudery to restrain our patients from investi-

*Read before the Neurological Section of the New York Academy of Medicine, April 4, 1912.

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gating these passions and their results, and thus, even though unwittingly, lend our aid to the success of the cruel "confidence" game, through which the self indulgent instincts of every neurotic invalid, brought over from his days of childhood, seek to outwit his nobler powers and intuitions?

The public and the profession have indeed the right to demand that those physicians who ask their patients to lay bare the details of their lives, of whatever sort, even if the request is made solely for the patients' good, should do this with understanding, sympathetic consideration, and skill. But when the demand is made that the sexual life should be excluded from such an investigation, or the criticism advanced that morbid introspection will thereby be increased, it is forgotten that every psychoneurotic patient is already, in the depths of his unconscious mind, suffering from the abnormal working of his sexual instincts, and indulging perpetually in morbid introspection, and that the very object of the treatment is to overcome these real defects, to which hitherto he had been a blinded victim.

It is indeed true that a psychoanalytic treatment *imperfectly carried out* may bring with it certain dangers. Of what treatment that attempts any considerable modification of character cannot such a statement be made? But it should be remembered that this treatment aims at results which cannot be gained equally well in any other way, and that objectionable results are, practically, very rare.

To state the matter in other words, we neurologists, as students of the psychoneuroses, are pledged to the thorough investigation of the disorders involving a disturbed action of the emotions. How shall we redeem this pledge? Obviously, by studying the emotional life in the very widest sense. But sex issues, of one or another sort, lie at the very heart of the emotional life. Every child knows that; and if Freud, instead of asserting that where any one of the psychoneuroses is seen, there some primary or secondary abnormity of the sexual life is discoverable also, as a partial causal factor, had declared the opposite to be true; had said, namely, that there is no causal relationship between this portion of the emotional life and the remaining portions, the statement would have been considered as too ridiculous for notice. An index of the importance of the part played by the reproductive functions is furnished through the universal recognition of the part played by the emotion of love, taking the word in a wide sense. One need not, and could not go so far as to maintain that the complex mental state that one calls love—which Dante avers to be, when normally developed, at the root of all that is good, and, when abnormally developed, of all that is bad in the world—is wholly describable in sex terms. But one can with confidence maintain that it is impossible to give form and color to this philosophical conception of the office of love—that is, one cannot show *how* and *why* this sentiment is at the root of happiness and misery, of courage, cunning and crime, of war and conquest, of poetry and romance, of the home and the community; of civilization itself—without using sex terms (or at least having them in one's mind) on a large scale.

The questions at stake, then, are not whether the consideration of sex issues is important as a preparation for the study of the psychoneuroses, but solely as to the degree of this importance, as to how these issues can most profitably be studied, and whether the particular way in which Professor Freud and his colleagues have approached this great problem is a good way.

With these ends in view, I beg leave to ask your approval of the following propositions:

A rigidly scientific attitude is an absolutely essential prerequisite for anything like a fair discussion of sex problems. One must be able to look squarely and without loathing at the facts, or one must say farewell to honest judgment. But no sooner do I ask for this fairness than I am forced to grant that it is hard to give. The details of that portion of one's life which has to do directly or indirectly with the function of reproduction are usually guarded either as something too sacred or too unpleasant, to be talked about. And the worst part of the business is that the persons whose interests are most at stake, namely, the neuropathic patients, must inevitably, in the present state of public opinion and public ignorance, pass through a period of severe self humiliation, if they consent to lift the veil from their own memories, or to study the psychological mysteries of their own childhood. Even within a few days I have had occasion to hear a sensitive and refined woman, fortunately recovering from the traces of a compulsion neurosis, torture herself with verses from the Bible, because of intrusive thoughts, common I suppose to nearly every one, which she felt herself obliged to interpret morally as acts. Another patient, within the same period, an able, intelligent young man, struggling in the network of subtle sexual temptations and led to adopt the pessimistic philosophy of Schopenhauer as the only one congenial to his present mood, denounced, this time not himself but the universe, as "disgraceful."

These false and dark views are held, largely because we all tacitly agree to draw a veil over one of the most important aspects of our emotional life, and yet try to cheat ourselves into the belief that we do not do so. But in the interest of whom or what is this veil drawn? Certainly not in the interest of science, for science tolerates no ignorance. Multitudes of men who have good claim to be designated as scientific in some sense would indeed say that Freud is wrong, or but half right; but only a small number of these men are scientific in the sense of having really studied deeply the problems of development, especially along the lines of sex.

The real agency that demands silence and secrecy for the psychology of the reproductive function is social prejudice; and society, in taking this attitude, is untrue to the philosophic principles of our Western civilization, which favor the facing out of temptations and dangers and learning to utilize them, instead of closing the eyes to them, as the Oriental philosophy has long advised, in obedience to the mistaken theory that the war between the spiritual and the carnal is an essential, and not merely, as we think, an incidental war. This silence compelling attitude of social prejudice should

not be tolerated, much less approved, by scientific men. It is not enough that society should base its laws on the *intention* to make men cultivate their higher traits, which on the whole tend toward inhibition and the restraint of passion and self indulgence; it must also help to enable them to do so by paying regard to all the needs of physiological and psychological development in the widest sense. The violent reactions of puritanism and quakerism have played, without question, a useful and necessary part, and our civilization should strive to keep all that was essential in their teaching; but the attempt permanently to banish music and painting from the church and from the home, was a blunder and an offence against the freedom of individual development, because it did injustice to deep demands of human nature, and confounded the needs of regulation with the needs of exclusion.

> Allow not Nature more than Nature needs,
> Man's life were cheap as beasts'.

And so, too, it is a blunder and an offence against the freedom of individual development, for society, still more for the medical profession, to draw the dense veil of silence and mystery over the history of the sexual life, as if there was something wrong, or essentially disgusting about the details of this great function on which so much depends. Self reproduction is the law of life, and biological self reproduction, whether of an individual or a cell, does but mirror, or is but a reexpression of the attempt at the more primal form of self reproduction which is seen when through every mental act, conscious or unconscious, we strive to make the external world a copy of ourselves, by bending it to serve our personal or corporate needs. It is another offence against freedom, and another well meant but injurious attempt to cast a slur of shame over what should be pure, for society to step into the home, and, in the name of continence, to attempt to impose the principle that sexual relations between man and wife are in themselves self indulgent and wrong, and something to be tolerated only in so far as they subserve the strict needs of race perpetuation.

Here, again, is a case where we should learn to recognize that men may agree as to their ideals and yet differ widely in their judgments as to principles of conduct. The wealth of beauty with which Nature surrounds and graces the reproductive functions of plants and animals; the voluminousness of preparation for reproduction in man and the length of time used therefor, which begins even with birth; the fact that a large share of everything that we most prize in life is related to the sex instinct; the fact also that men's needs and temperaments differ so widely in detail; all these considerations should impel to caution and liberality in laying down rules of personal observance. Those physicians who have had occasion to study carefully the widespread "anxiety neuroses," and to witness the severe suffering of those who are afflicted with them, are in a good position to realize the magnitude and complexity of these questions, even as regards the so called normal person. One may sympathize warmly with anyone and everyone who voluntarily makes the renunciations and sacrifices, be they what they may, that special reasons call for, and one may believe heartily in the noble principles of moderation and self restraint; but one person should be slow to interpret the needs of another, or to assert just what he should or should not do. The only universal needs are for more knowledge, more wisdom, better ideals, greater enthusiasm for progress, and also for broaders sympathy with those who in detail are different from ourselves. Much is nowadays being said of the desirability of the sexual enlightenment of children, and it is indeed important that this difficult question should be approached. But it is more important still that physicians should understand the sexual history of infancy, childhood, adolescence, and adult life, not only in the narrower sense, but with reference to the great penumbra of tendencies by which at each stage they are surrounded.

The best proof that it is extremely difficult to drop one's prejudices with regard to sex questions is furnished by the fact that the majority of physicians have not yet succeeded in doing so, and that in spite of the importance of the subject, the extensive literature embodying the views and observations even of investigators who preceded Freud, or who are now working independently of his movement, is little read and instinctively shunned. I shall not dwell upon this point at length; still less do I intend to do so in any spirit of hostile criticism. I am well aware that it has taken, not simply one moment of resolution, but months and even years, for some of those who are now deeply identified with this movement, to gain a position of real scientific openness, to such a degree, for example, that they could read without disgust the details of that remarkable and fundamentally important history of the "little Hans," in the first volume of the *Jahrbuch für Psychoanalyse*. Indeed, one of the best and most experienced workers in this field[1] admits, in his thoroughly scientific article on obscene terms and their practical connotations, that even to-day he cannot without an effort put himself into the attitude with regard to the subjects there at issue in which he knows that he himself was as a child, and that the patients with whom he is dealing were as children.

This being so, it is not remarkable that physicians at large should take a shy or distant stand. What I wish to bring out is, however, that they often fail to see the principle which is here at stake. Many of the most fair minded of them think that it is an extra amount of broad mindedness which leads them to say that "although there is a good deal of value in this movement, yet the importance of the sexual element is overrated, etc."; whereas, in my opinion, it is not broad mindedness, but a series of internal resistances that keeps them, and all of us, from looking squarely at this particular class of facts, and that the force of these resistances is a measure of the importance of the subject, and of the insistence with which thoughts and emotions of which they are unconscious are lording it over those of which they are conscious. In other words, the internal resistances on the part of physicians [and I class here believers and nonbelievers in the same category] point to still greater resistances on the part of patients, and inasmuch as it is the con-

[1] *Zentralblatt für Psychoanalyse, etc*, i. Ferenczi.

flicts which these resistances connote that keep up these illnesses, it is fair to say that the bitterness of the opposition to this movement confirms its importance, and constitutes a reason why those who believe in it should push forward with energy and courage.

The most important groups of facts to which Freud and his followers have called the attention of students of human development seem to me the following:

The first group relates to the psychology of infancy and early childhood. It is in this period that the traits are mainly laid down which are to prevail in adult life. Those who in their later years come out well, owe their success in part not only to their outgrowing the customs of their babyhood but also to their reacting against them, as if with an instinctive reprobation, even when not consciously aware that they are doing so, and then guiding their streams of vital energy into new and more social channels; while those who come out less well, or badly, do so either because they react overmuch against their infantile habits and pleasures, or else because they react imperfectly, remaining, in one or another respect "fixed" at some special stage of childhood. But it is dangerous to be forced, by some inward compulsion, to go on playing a child's part with the weapons of a man, and the person of whom this is true is incapacitated from giving himself with whole heart to the interests of progress and of freedom.

Finally, it is noteworthy that when any man's system of progression on sound, social lines breaks down under some special stress, he tends to retrograde, and to show afresh but in abnormal forms, some tendency of infantile or childish type, as representing a path of less resistance which remains still open.

Every individual each child, finds himself in other words confronted with two general alternatives of development, which, however, although mutually exclusive at certain points, are by no means mutually exclusive at every point, in the same case. These two alternatives, or the two lines of development to which they correspond, tend respectively in the direction of personal interests, on the one hand (the narrower or partial self expression of his personality), and, on the other hand, toward an increasing usefulness of the individual to the community (the more nearly complete self expression of his entire personality). The criminals, the perverts, the selfish, the introverted, the vain, the self indulgent, the too strongly homosexual persons, and those in whom the hidden grasp of their still parental influence is too great, are individuals who, in obedience to blind cravings of one or another special sort, have remained relatively infantile or childlike, or have reverted in some measure toward one or another special phase of childhood; while an analagous statement could be made with regard to those who are in the grip of early and excessive reactions from childhood tendencies, such as the morbidly conscientious, the sentimentalists, the penurious, the overnice, the prejudiced, and narrow.

But even if this roughly outlined scheme is true, it might be asked, is anything gained for scientific medicine by classifying all these manifold traits under the heading of sex cravings?

The main reasons for this classification are the following: Inasmuch as the traits of the adult hark back in great measure to the period of childhood, and still present features which students of the subject can interpret as characteristic of their infantile or childish form, it is desirable to range them under headings which are chosen with the purpose of indicating this history and parentage; and, also, other things being equal, the strongest, plainest, most distinctive designation is the best. For example, in the period of childhood a clear relationship is recognizable between the sex instincts and the craving to do violence or to cause pain, whether to others, or to one's self, as well as, also, between the former instincts and the craving to expose oneself to suffer pain, a relationship which stands out still more clearly in the case of certain perverts. When it proves possible, as often happens, to trace back to this same origin the far milder forms of these pain giving or pain suffering cravings, which show themselves among many adult persons, and to demonstrate a like partial origin even for the oversensitiveness which may arise by way of a too strong reaction from these infantile tendencies, it is important to have some term which shall cover the whole group, and shall indicate the nature of the transformations which have taken place.

The adults whose characters are defective in one of the foregoing respects, even if otherwise fine, must, if they would get well, learn to understand that their sadistic or masochistic tendencies, even though slight, are not to be taken at their face value, that is, are not to be taken as being so superficial as they seem, but that, on the contrary, they have a deep root which can be got rid of only through being followed to its ultimate radicles, which penetrate to infancy and childhood.

The benefit derivable from tracing out these tendencies usually lies, furthermore, not solely in their elimination, but also in the fact that through discovering their origin one may be able to discover also the origin of one or another far more important set of symptoms—perhaps a manic depressive syndrome, or a compulsion psychosis, with which they are genetically related.

It is so necessary, for securing anything like an adequate comprehension of the psychoanalytic doctrines, to have a fairly clear picture of the conditions obtaining during infancy and early childhood, that even in this short sketch something further must be said upon these points, even though I can do little more than to collate a few known facts.

In the period of life before clear thought begins, clear ideals are entertained and verbal language is habitually used, every child is necessarily occupied mainly with obtaining sense gratifications, either through concentrating his attention on the sensations which he can awaken by and through himself alone, or on those for which the aid of others, primarily his nurse or parents, is required as well. He makes, obviously, no adequate conscious classification of these sensations; but we, from watching him, know that they range themselves largely with reference to those among them which have the most insistent and the strongest vitality, and thus especially with

reference to those which have to do directly with the function of reproduction and race perpetuation; for the duty of preparing to play a possible part in the perpetuation of the race is foreshadowed even in the instincts of the new born infant. The relative intensity and supremacy of the sensations related to this function of race perpetuation constitutes the reason for our classification of many apparently nonsexual traits as sexual, just as it constitutes also the reason why the various toilet operations, especially urination and defecation, as well as nursing and its substitute thumb sucking, all of which give rise to sensations analogous to those derived from genital excitations, have such an intense fascination for some children, while for others they come very soon to be the starting point of reactions classifiable as shame, modesty, and perhaps disgust, or even horror. The infant takes his sensations, and every tangible object whatsoever which connects itself with them, even the sensations of pain and those related to the causing of pain in others, as so many blocks with which to build the universe which his intuitions are rapidly mapping out for him. Even very young children delight to supplement their experience and satisfy their cravings by living among the constructions of their vivid imaginations, and just as they can take rags, sticks, and stones, to represent gods, animals, and men, so they can and do use their excretions, and the feelings attending the excretory acts,[2] their massive sensations of warmth and broad contacts, their sense of smell; all forms of sensation, in fact, which have not been drafted to the service of some other very obvious purpose, as the basis of an imagined world to which they feel themselves in many ways related. To the young child, at first, the sensations connected, let us say, with toilet operations, are not loathsome, but are full of magic interest, vague but strong, and even the first creeping in of the loathing attitude does but intensify a portion of their charm. If we think it is worth while to know human nature deeply, we must have the imagination, courage, and intelligence to put ourselves honestly and fully into the spirit of this child world,[3] and must learn to interpret in its terms the dreams and uncensored acts and expressions through which the adult testifies that he is still a child.

Just as the child takes the mysterious operations of his nursery life, from which he derives a certain vague but powerful series of sense pleasures that lend themselves to a classification based on their relation to the most intense among them, and uses these gratifications as materials for building a world of fancy, so, also, there is good reason to believe, does sense gratification enter largely into the infant's relations to his parents and the other members of his family. We are prone to think, but truly without reason and from an ignorance of his point of view, that the social world in which the infant likes to revel in imagination is essentially similar to our own. We should like to assume that the child feels toward his parents just as they feel toward him. We should like to belive that the pleasant drawing room into which he is carried, the open fire, the companionship which is offered him, is not only made up of the same elements with the mental states of the adult, but that these elements are mixed in similar proportions; that the connotations are of the same sort. But this does not represent the facts. Even the parents' feelings toward their children are far more complex[4] than most of them can realize, and while the feelings of infants and young children toward their parents may contain many of the same elements that characterize the sentiments of the latter, these elements are very differently organized and emphasized. As every child must creep before he walks, and as creeping is a mode of locomotion not to be defined as an immature sort of walking but as something *sui generis*, so every infant must construct his conceived universe out of such materials as he has at hand. Even though he may be intuitively working toward ideals of a high sort, it is still his own sensations, and perhaps his vague sense of an ability to draw forever on resources of power that he does not exhaust, from which at each moment he must take his start. Every child surely begins his studies into human nature with himself, and the fact that he contains within himself tendencies which are to work out, not only into specialized sense cravings, but also into bisexual or ambisexual leanings, brings it to pass that his father and his mother must appeal to him at first (although later he will usually have forgotten the fact), not only as persons occupying a position of special privilege and power but also as offering special means of extending and gratifying these various and complex tendencies, which in the beginning he satisfies without feelings of reluctance or of self reproach. If then it is true that the traits of the adult are, in large measure, outgrowths or modifications of the traits of childhood, and if we classify them, as we should, partly with reference to their infantile origin, we must classify them as related to the infant's sense cravings; for his life of sensation is the main body of his life. And if it is on the basis of the infant's sense cravings that we are to make our classification, then it is only just to do so preeminently with reference to his sex cravings, and to recognize, in doing this, that these sex cravings are, primarily, of double nature.[5] For these sex cravings, as has been said, share with the feelings of food hunger the position of preeminence in the child's vaguely defined, but intensely absorbing, perpetual and conceptual world.

These sensations, and the emotions and mysterious concepts which connect themselves therewith, constitute, as no others do in like measure, the Rome toward which the many roads of sense craving tend to run; they form, of necessity, the principal "sacred flame" which all infantile pleasures unite in feeding, whatever other flame they may individually feed. But this classification is not the child's own. Neither does the pleasure and pain classification of the child coincide with that of the man; nor the fantasy

[2] It would be impossible to indicate here the evidence showing that these statements apply to normal as well as to abnormal children. Reference may be had to Freud's *Drei Abhandlungen* and to the *Jahrbücher für Psychoanalyse.*

[3] Most children, like most adults, reveal but little of their subconscious life, but use means of communication that they have in common with adults. The knowledge of the rest has been arrived at bit by bit.

[4] *I. e.*, more strongly "sexualized."

[5] I have in mind here the increasing and already extensive literature, due especially to the labors of Freud, Stekel, and Ferenczi, on the significance of [illegible], in paranoia, compulsion, psychoneuroses, etc.

world of the child with the fantasy world of the adult. Much more nearly does the fantasy world of the child correspond to the dream world of the adult. For in our dreams we are still children, and still ever occupied with fairly gross sense interests, in a large sense. If we were to classify these interests of the child from our standpoint, that is, as if in accordance with the assumption that his acts had for him the same meaning that similar acts would have for us, we might justly call him (besides other more attractive names) an egotist, a sensualist, even a criminal, or a pervert. But it is preferable to reverse this plan, and to classify, for scientific purposes at least, the tendencies which lead adults to become criminals and egotists, by designations which shall indicate their infantile origin and help to explain their biological and psychological tenacity, as well as their social significance. Such a classification makes it clearer how and why it is that the sense gratification tendencies of childhood, after undergoing an incomplete repression, which is again partly neutralized by their strength of imperative insistence, become the basis of the conflicts which emerge at last as psychoneurotic symptoms. One is shocked, when a refined woman on becoming mentally unbalanced, shows a remarkable acquaintance with the facts and language commonly called obscene; but the full significance of the symptom is overlooked. The friends of such a patient would usually reject the suggestion that thoughts corresponding to this delirious language[6] had played a part all through the patient's life from early childhood, never, perhaps, rising to full consciousness, but exerting their main influence through causing utterly misinterpreted symptoms of illness and vague feelings of excitement or depression, dimly reechoing experiences of infancy.

(*To be concluded.*)

SOME PHASES OF PROSTATIC DISEASE.*

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The following cases submitted for consideration are not infrequent; on the contrary, they are common, but they typify some of the phases of prostatic disease, and some of them "point a moral and adorn a tale."

Case I. A man, aged fifty-five years, married, of a vigorous and hearty constitution, never having had serious illness in his life; and of inherited wealth and of leisure, but without any occupation and without intellectual effort of any kind, he had all his adult life carried on a daily battle with an imaginary enemy which he called "gout." He had run the gamut of all kinds of diet and out of door sports. He had golfed, rowed, ridden horseback, and bicycled. He had traveled and made frequent visits to various springs and cure places. All this in search of health of which he seemed to have had and to have plenty. The only thing of which he had to complain, was that for fifteen years he had had what he described as "an irritation or itching in and about the anus," which he had controlled by ointments and the frequent use of Hunyadi water. For the three years previous to coming under my care, he had been a vigorous bicycle rider, taking long trips on his wheel, beside other gymnastic exercises which he daily practised. For the past two weeks he had suffered from a pain, or aching in the perineum and he noticed that whereas he could previously hold his urine (if he wished) for *fourteen* hours, he now had to void it two or three times a day, not so much to relieve a desire to micturate, as to get rid of a feeling of discomfort vaguely related to "way back somewhere." A week ago, accompanying a violent desire to defecate, following a dose of Hunyadi water, he suffered a sudden cutting pain in the perineum, which ceased as soon as the bowels were evacuated. For the past two months also he had noticed some diminution of sexual vigor, and he remembered that when recently abroad while walking through picture galleries he had suffered a bearing down sensation in the perineum. There was no history of venereal disease nor of any abnormities of the sexual act. His habits as to alcohol had been limited to Scotch whiskey and water twice daily; as to coffee, a small cup at breakfast, and as to tobacco, not more than six mild, small cigars a day. His urine voided in my presence contained flakes and threads, a slight mucoid cloud and a few urates.

The examination of his urethra was negative. The examination of his prostate *per rectum* showed the lobes to be normal as to size and contour, but they were exquisitely tender and incompressible. At the first examination he could not bear the least touch. About the anus were the evidences of pruritus and an internal hemorrhoid could be easily brought into view. Briefly, the treatment consisted in gentle massage of the prostate, and he was cautioned as to the necessity for moderation of his bicycling. He had already appreciated the relation of bicycling to his pain and had ceased riding. The relation to his symptoms of the internal hemorrhoid was considered, but it was not removed, as it did not seem to account for his malady; and, as there were no sexual irregularities to which his prostatic hyperemia could be attributed, the cause of his symptoms was, doubtless, his violent and excessive bicycling, accompanied by undue physical effort for a man of his age. The patient's robust and vigorous tissues responded promptly, and in a little over a week he was well, so far as the genitourinary symptoms were concerned.

Obviously this case is a simple one and would not be worthy of a place in this record were it not for the fact that such cases are often overtreated. It is not uncommon to find that the mistake has been made of giving too frequent and violent treatment, under the impression that the disease will yield more readily to heroic measures. In genitourinary patients a hypersensitiveness of the whole apparatus exists as a rule, and rough and frequent treatment, or instrumental procedures, will aggravate the original malady and may induce additional pathological states.

Numerous similar cases in bicyclists and horseback riders have come under my observation. In many, besides the prostatic lesion there are minor traumatisms of the bulbous urethra which intensify the effect upon the patient's nervous system, and prolong his malady. These urethral evidences should be sought for by ocular inspection, and treated topically, especially if there is a history of chronic urethritis following gonorrhea.

In the latter cases there is strong probability that the prostatic urethra is involved also. Even if there are no evidences in the urine or these evidences are slight or so slight as to escape notice, the prostatic urethra must be inspected and treated if necessary, not only through the urethroscope, but alternately, by means of an instrument which acts as a sound and syringe. This I devised some years ago to meet the indications in the deep urethra, and it has proved most efficient. It is of the same shape and size as a sound (with the Beniqué curve, which is less irritating to the deep urethra), and corresponds to the French scale in successive sizes from 16 to

[6] *Confer* Ferenczi: Ueber obscöne Worte. *Zentralblatt für Psychoanalyse*, i, Heft 9, 1911.

*Read at a meeting of the New York Clinical Society, October 27, 1911.

32. It has a narrow tube through its centre, the capacity of which, whatever the exterior circumference of the instrument may be, is always ten minims. The instrument dilates the urethra, opens out the folds of the mucous membrane, and, by means of the syringe fitted to the proximal end, the selected solution may be gently injected.

That there is a relation between a hyperemic prostate and hypersexuality of the brain will, I think, be conceded; at least I venture to maintain that long continued abuse or overexcitation of the sexual apparatus, especially during adolescence, produces a chronic hyperemia which, in turn, induces a sexual irritability of the presiding brain areas. If, as is frequently the case, in addition to the habit of masturbation (and even if the latter has been overcome), there is association with a person of the opposite sex who permits dallying, even if coitus is not indulged in, an excessive dilatation of the bloodvessels of the prostate takes place. As this indulgence is generally too frequently repeated, the bloodvessels remain continuously dilated and a condition of nerve exhaustion with mental depression, together with other abnormal symptoms, become manifest. Take this case in illustration:

Case II. The sexual history of this patient was as follows: Masturbation from ten years of age up to thirty, repeated every two or three days. Coitus before marriage had been infrequent, but on one of these occasions he contracted gonorrhea which lasted several weeks and was complicated with what he termed "inflammation of the bladder" which put him to bed for some days. He married at forty years of age and during his whole nine years of married life coitus had been unsatisfactory because of his precipitate and premature ejaculation. As this deprived his wife of the pleasure which he knew was her due, he had learned to induce the orgasm in her by digitally titillating her clitoris during the sexual act. This indulgence was frequently repeated for years, at first three times a week, and later once a week. Almost immediately after the death of his wife he began to have attacks of a burning in his urethra, accompanied by frequency and urgency of urination. These attacks increased in intensity and were accompanied by constant obscene suggestions and by inordinate sexual cravings which he scrupled to gratify and which he described as "dangerous," that is to say, he feared lest he should assault some female. The situation became tormenting. The struggle to restrain his desires was incessant and so severe as to interfere with his occupation, and he became depressed and melancholy. In this condition he sought my advice. He was anemic and exhausted; and his countenance showed the effect of this mental and moral struggle and of the loss of sleep which it entailed.

At his first examination, the urine voided in two graduates in my presence contained flakes and shreds, chiefly in the first urine voided. Examination by the rectum showed the lobes of the prostate to be broad, flat, pulpy, exquisitely sensitive, and caused an intolerable sense of burning along the mid line of the urethra. The patient winced and groaned and made resistance at the least touch to determine the outline and density of the prostate. After two weeks of treatment the abnormal sexual suggestions disappeared, or became so lessened in intensity that he could control them and he declared himself to be "normal" mentally. But the objective conditions remained about the same. Although the prostate was still sensitive, it was less so, and it became possible to administer more systematic massage. In addition to this I made applications, first of protargol and finally of nitrate of silver, directly to the chronically inflamed posterior urethra, using the writer's syringe sound just mentioned, and gradually increasing its calibre. After four weeks of this treatment massage could be administered without distress to the patient, and the normal contraction of the prostate could be distinctly felt. The sexual suggestions were now absolutely under control and there was no urgency or frequency of urination.

It is not necessary to detail minutely this man's history. From time to time his abnormal sexual condition recurred, and, in addition to the local treatment I had given, he received psychotherapy at the hands of an expert. This, according to his own story, always helped him, but the local treatment was still necessary in order to afford him relief, which the psychotherapy alone could not give. For several years, off and on, he was under my care, when a second marriage apparently restored his sexual equilibrium. He has not been near me professionally, but I have heard from him and have taken it for granted that his later experiences were an improvement on the earlier.

Several years ago I proposed massage of the prostate as a therapeutic measure, having had it suggested to me by an article by Doctor Vineberg on massage of the uterus and its annexa. It naturally occurred to me that if the female sexual organs can be thus benefited, why not apply the procedure to the prostate, an organ which is easily within our reach, and which is the seat of various congestions and inflammatory processes? Since then it has become an established method; but it is not, I fear, always used wisely or gently. Some seem to think that because access to the prostate is through the rectum, the abode of noxious excrementa, coarse handling will serve. On the contrary, rectal massage is no haphazard or violent procedure. It is an art to be thoroughly acquired and carefully employed; and is an admirable method of treatment, either by itself or in conjunction with other methods, and if the manipulation is not followed by a sense of well being, or "lightness" (as some patients describe it), it has not been properly done, or it was not indicated for the patient's condition at the time.

You will observe that in the case just reported the sexual act was never satisfactory because of the man's precipitate and premature ejaculation.

Many individuals have a history of masturbation accompanied or followed by prolonged sexual excitement, or dallying, a common practice. They will often be found incompetent for the sexual act, or incapable of performing it satisfactorily to the woman. The hypersensibility of the prostatic urethra, and indeed, of the whole sexual apparatus, is such that ejaculation takes place precipitately; or the erection may not be rigid enough for penetration, or it subsides rapidly. In thousands of cases sexual incompetency is the result. The wife never experiences the orgasm as Nature intended that she should; she remains unsatisfied and disappointed, and becomes miserable or disgusted, or both, according to her temperament. Even if she becomes impregnated and bears children, she has been defrauded of her rightful satisfaction; and she resents the husband's approaches, and tells him in plain words that the only result to her is "pregnancy." The man may be little aware of his incapacity, and ignorant of the normal physiological requirements of the sexual act, the physical climax of marital affection. But he learns in time that something is lacking and perhaps seeks advice. In these cases close inquiry and careful examination, even in those who have never lived dissolute or vicious lives, will reveal this condition of morbid sensitiveness. Judicious treatment will seldom fail to cure it, and connubial happiness will be the result.

This statement is not merely sentimental. The

opportunity of observing the results of treatment in so many cases has led me to the conclusion that many a marriage is unhappy, many a household childless, and many a divorce suit instituted because of functional incapacity on the part of the husband. The "search for an affinity" is often assigned in the newspaper accounts as the reason for a divorce, but a careful inquiry of a different kind would, in my opinion, reveal a physical inadequacy as the real cause of the search. Nature has endowed the female of all species with the instinct to attract and excite the male. This varies, of course, with the capacity of the female; but it is a law established by Nature in order to insure the propagation of the species. Involuntarily, even perhaps, unconsciously, it is exerted by the best of women. Hence, I doubt not, their willingness to adopt certain conventionalities of dress which involve exposure of the person. But the instinct is employed consciously by the harlot, both professional and clandestine, who uses it with a predatory skill which becomes enhanced by experience.

If, then, in married life the physical climax which Nature intends for the woman as well as the man, is not accomplished, Nature is defeated; marital infelicity results, and the woman *may* be tempted to seek another person more competent to fulfil the intentions of Nature. Conversely, the case of the normal, vigorous man driven to adultery by the selfishness, indifference, or hardness of his wife might be profitably discussed at this point did time permit. It may be noted that the most conscientious and high minded men are often the worst sufferers under this coercion.

In further illustration of the effect on the brain of chronic sexual hyperemia take the following case, one in which I admit it might be difficult to say, but for the results of treatment, which was cause and which effect.

Case III. A male, forty-seven years of age. For several years he had had a burning sensation in the urethra, especially after urinating. He had been the subject of periodical attacks of asthma and when an attack was approaching, urination became more troublesome. Usually, during the day, his urinary intervals were four or five hours; and at night he voided urine once. He had had gonorrhea twice; the first attack lasting two weeks and the second three months. During the first few years of married life coitus occurred three or four times a week, and since then twice a week; *coitus interruptus* for the past six years. He had been temperate as to alcohol and tobacco, but drank a great deal of coffee, having it brought to him early in the morning before rising, drinking it again at breakfast, and usually also at dinner. The examination of the prostate by the rectum showed it to be moderately enlarged both laterally and anteroposteriorly. The lobes were very tender and pulpy. Gentle pressure caused a sensation of fullness in the perineum and a dull aching in the penis. Pressure along the median line gave a peculiar sense of distress or aching at the head of the penis. This patient was seen from time to time over a period of about twelve years. There were intervals of months, and once there was one of two years, in which he would disappear from view; only to return for further treatment, which would modify this sense of burning. I learned that he was the subject of abnormal, immoderate, and irresistible sexual craving. He was college bred, a man of culture and refinement, fastidious in taste and dress, a member of a prominent mercantile firm, prominent in various benevolent enterprises in his community, and an officer of his church. The story of his private life, as it developed, was a shock. Some of his propensities were too abhorrent to be related even to this technical audience. Suffice it to say, that in proportion as he was relieved of the urethral irritation, which was effected by treating the hyperemia of the prostate, he acquired a measure of control of his sexual propensities. Finally he became infected with syphilis during some of his illicit relations, and then ensued for me a period of great anxiety to protect his family and help him maintain his position in the community. In some directions he was utterly uncontrollable. Though, as I have said, he was temperate as regards alcoholics, he would occasionally indulge at public dinners and private entertainments which his position required him to attend; and following these indulgences would be an outbreak of his immoderate and unnatural desires. Treatment would relieve him for a time, when he would disappear, but after the acquisition of syphilis he was more or less under my personal observation until his death, which took place in a distant place whither he had gone for rest and recuperation. The changes in his prostatic condition during these years were, briefly, a constant state of hyperemia, subsequently organic enlargement as manifested by an increase in the length of the urethra and by varying amounts of urine retained in the bladder after spontaneous urination, together with nocturnal and diurnal frequency of urination. At the end of an act of urination he had also a sudden hemorrhage, the exact cause of which I was never able to ascertain positively. He was out of the city at the time at his country home, under the care of another physician and the circumstances were such that cystoscopy could not be performed. But taking it for granted that the hemorrhage was due to a syphilitic lesion, I advised vigorous specific treatment with the result that he had no further hematuria. His local physician informed me that his death was due to some sudden effusion into the ventricles of the brain.

These cases are typical of many which vary in degree and character of symptoms, but which are similar (in my opinion) in that the stimulation of the brain centres, which preside over the sexual apparatus, is caused by the constant state of erythism of the prostate and associate organs to which they had been subjected from boyhood up and into adult life.

Another phase of prostatic disease which is worthy of consideration is that, when the organ enlarges it forms a dam, behind which urine is retained, thus forming, so to speak, a culture chamber, in which various forms of bacteria germinate. Even if the obstruction to the outflow of urine is of a very moderate or minor degree, relief of symptoms and restoration of the urine to a normal condition will be impossible without removing the obstruction. Let me illustrate by two cases, in each of which the colon bacillus persisted until after prostatectomy when, in each case, the infectious principle entirely disappeared.

Case IV. One was a patient aged sixty years, who for two years had had attacks of frequent urination following an attack of so called "dysentery." In the daytime when standing or walking the urination had been very frequent, as often as every half hour or hour, with sometimes involuntary escape of small quantities of urine. There was a constant feeling of pressure in the hypogastrium, together with a sense of burning reflected to the glans penis. There was also scalding and terminal pain with each act of urination. In addition to these symptoms there was nocturnal urination, which varied in frequency from three to six times between the hour of going to bed and of getting up in the morning. When examined, his urethral length was found to be 7.75 inches, and in his bladder was one ounce of hazy, turbid, residual urine which subsequently I found to be a pure culture of the colon bacillus. The patient was extremely sensitive and hyperesthetic. He had been the subject of infantile paralysis followed by muscular atrophies.

The amount of residual urine was small, and considering his feeble and neurotic constitution it seemed unadvisable to resort to radical operation. It was thought best therefore to employ simple measures first. Urinary

antiseptics were given internally, and the bladder was treated with various forms of irrigation. Cystoscopy was performed aided by local anesthesia. The lateral lobes of the prostate were slightly enlarged and there was also a slightly enlarged middle lobe, forming a shallow postprostatic pouch. The mucous membrane of the bladder was found thickened with numerous trabeculæ. Its color was a dull reddish yellow with patches of deep red hyperemia, especially marked in the postprostatic pouch and at the base of the bladder. On the right lateral segment of the base of the bladder was a shallow ulceration or loss of tissue, covered with a film of mucus. The ulcer was irregularly hexagonal. On the left lateral edge of the trigonum was another shallow irregular loss of tissue less marked than the one on the right side.

As regards the result of treatment, it may be said in brief, that he received a moderate amount of relief from the scalding and the frequency of urination was occasionally lessened; but all efforts to improve the condition of the urine failed. Then autogenous colon bacillus bacterins were tried. An initial dose of fifty millions (according to Doctor Sondern's computation) was administered and subsequently gradually increased at intervals of three days. After the third injection the peculiar and persistent odor disappeared and the urine became much clearer under the same irrigation which had previously been used without result. But his frequency of urination, scalding, and tenesmus persisted. Once only a slight local reaction took place after one of the bacterin injections, but it speedily disappeared without general symptoms. The colon bacillus bacterin was gradually increased until he received 250 millions; but, notwithstanding this, the bacillus continually reappeared in the urine. The patient's miserable condition persisting, I advised that the obstruction, small as it seemed to be, should be removed. To this he consented, and I performed what I term conservative suprapubic prostatectomy. The prostate was small, hard, and fibrous, firmly narrowing the internal urinary meatus. Its removal was extremely difficult, not only because of the strong, tough bands binding it to the interior of its capsule, but also because of its extreme movability. The removal was finally accomplished, leaving a perfectly smooth and free opening from the bladder into the urethra. This patient's bladder was purposely drained for four weeks, when the wound was allowed to heal. The urine became clear, the colon bacillus entirely disappeared, and has not reappeared. The patient now sleeps most of the night, sometimes under nervous stress, urinating once and rarely twice, and in the day time he holds his urine three hours, with none of the sense of pressure or tenesmus and with none of the intolerable burning.

Case V. Another patient, sixty-five years of age, with serious cardiac and circulatory lesions, came under my care first in 1907. For several years he had had great frequency and urgency of urination. Early in the history he had sought advice, and had been examined by means of a metal instrument, which pained him extremely and aggravated his conditions. After that his urination became as frequent as every ten or fifteen minutes in the day and sometimes oftener at night than in the day, with intense scalding and terminal pain. He consulted another physician who did no instrumentation, but prescribed an urethral suppository which gave him great relief by lessening the frequency of urination and moderating the burning and scalding in the urethra. Four years before coming under my observation he consulted another physician who massaged his prostate violently, giving him great pain, and irrigated his bladder daily, with no relief. An interval of rest in the summer seemed to give him a slight respite, but on returning in the autumn to the same physician and the same treatment he had a further aggravation of his symptoms. Acting then on the advice of his family physician, he came under my care. At this time the frequency, urgency, scalding when urinating, and terminal burning were intolerable. The nocturnal diuresis was frequently every half hour. He was obliged to wear a towel in his trousers, the urgency being so great that the urine would often escape before he could reach the toilet. His urine was turbid with abundant flakes and shreds. On examination of the urethra a stricture of large calibre was found at 3.25 inches from the meatus, and on inspection of the bulbous urethra, it was found to be in a state of granular degeneration, supersensitive, and bleeding freely on the slightest touch. Under topical treatment, together with mild irrigations of the bladder, the scalding and irritability in the urethra subsided, but the frequency of urination persisted. After this treatment, the urgency varied. Sometimes he was able to control his urination and at other times the involuntary enuresis would take place. Nevertheless, as he described it, "I am conscious of more control of my urine." In spite of all forms of treatment, there were continual relapses, but his improvement while under treatment was so marked that there was reason for hoping that perseverance would remedy the difficulty. Notwithstanding faithful and persistent treatment recurrence of the severer symptoms took place so frequently that it was deemed advisable, in spite of his cardiac condition, to administer an anesthetic and cystoscope him. This showed a slight median prostatic outgrowth which bled easily. The mucous membrane of the bladder had lost its glistening hue, it was white and thickened, and had the appearance of being divided into minute squares or parallelograms, with disseminated minute shining spots of deep purplish hue. The appearance of the bladder was so suggestive of a severe form of infection that cultures were made which revealed the presence of colon bacillus. He improved somewhat under treatment, but there were continual relapses. The colon bacillus would disappear and again reappear. Absence in the country or in traveling would improve his condition temporarily, and he was content to remain under my care, but evidently a change was taking place in his prostatic condition. Whereas for nearly a year the residual urine had been from half an ounce to one ounce, it had now increased to three and four ounces, and the appearance of evidences suggestive of pyelitis made it evident that something more radical must be done. His family physician, Dr. Samuel Lambert, agreed with me that nothwithstanding his cardiac and arterial lesions, it seemed advisable to take some risk and give him radical relief.

Accordingly, I performed conservative suprapubic prostatectomy in November, 1910. The enlargement of the prostate consisted of two lateral lobes, the right one extending posteriorly and slightly across the mid line of the left. It was easily removed. I intended to drain the bladder, but in the third week of convalescence spontaneous urination began, and the suprapubic wound closed faster than at first seemed desirable. The patient left the hospital at the end of the fourth week in excellent condition, urinating spontaneously, the suprapubic wound having closed in spite of probing and tamponing. The urine was now absolutely clear, its turbidity had disappeared, and there were no evidences of colon bacilli. During his convalescence he had an intercurrent attack of gallstones. Since then, with the exception of some evidences of nerve failure, the patient has been in good condition. He empties his bladder entirely, has absolute urinary control with no frequency; and, so far as his urinary apparatus is concerned, is in ideal condition, with no evidence of reappearance of the colon bacillus infection.

40 East Forty-first Street.

THE COMBINED USE OF THYROPARATHYROID, PITUITARY, OVARIAN, AND TESTICULAR EXTRACTS.*

With Report of Cases.

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In view of the pessimistic declarations of such distinguished observers as Osler, Bampton, Billings, and many others, and the well known skepticism of the medical profession toward new developments in therapeutic agents, it is with great diffidence that I present this paper. Well do I know the extreme conservatism of the medical profession with regard

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to new remedies. Precision in diagnosis is uppermost in their mind to-day, and by the aid of our numerous splendidly equipped laboratories, and many mechanical devices, diagnosis is rapidly becoming an exact science. It is but fitting, therefore, that we should develop our methods of treatment along similar lines of exactness, so as to keep abreast of the diagnostician. For after all, what does it avail to make an exact diagnosis only to be forced to admit our inability to give relief or cure? While minutia of precision in diagnosis is always to be desired, I believe with Dr. Hobart A. Hare, that the ultimate aim of the medical profession is to bring about a cure, or give the utmost amount of relief to the suffering patient.

Much of the medical nihilism of to-day must be ascribed to the unreliability of our medicines, the uncertainty of their action no doubt depending largely upon changes which take place after they enter the gastrointestinal tract. For, while our knowledge of the physiology and physiological chemistry of the stomach and intestines has advanced within the past few years, the changes that take place in a medicine in the presence of unknown stomach contents, bacteria, etc., before absorption are unknown and unknowable.

Again, it is one thing to study the action of the normal gastric juice on a substance by laboratory methods and quite another to ascertain this action when administered to the living patient. With the advent of the isolation of the alkaloids and glucosides a great step forward was taken in therapeutics. It was found that these agents could be hypodermically administered with almost uniform results and great rapidity of action; by intramuscular administration the action was still more rapid; by intravenous injection the remedial agent being introduced directly into the circulating blood the action became almost instantaneous and very uniform.

One of the modern and most remarkable developments in therapeutics is undoubtedly along the line of organotherapy, for these agents are truly physiological remedies and we, with them, can control metabolism, cellular activity, and vital functions almost at will. It is with some of these agents that we are especially concerned in this paper.

To Gull, Ord, Schäfer, Sajous, Rénon, and others we are indebted for much of our present knowledge on this subject, but it was Brown-Séquard who first gave it its impetus by showing the vast importance of the ductless glands and the great activity of these various organs as therapeutic agents. The thyroid, adrenals, parathyroids, testes, ovaries, kidneys, spleen, liver, chorioids, retina, hemoglobin, brain substance, bone marrow, and practically every organ in the body, and also various enzymes and hormones have been used with greater or less success. A perusal of the literature shows plainly, however, that but few of these organic agents, including those referred to in the present connection, are of real therapeutical value.

My studies deal with derivatives of the thyroid and parathyroids, pituitary, ovaries, and testicles. They were begun in 1900 with the thyroid preparations available commercially. I used thyroid in the treatment of the obesity which showed marked evidences of suboxidation, such as pallor of the skin, flabby muscles, sluggish circulation, constipation, and intestinal atony. My results at first were eminently satisfactory. When thyroid was prescribed, together with careful regulation of diet and exercise, it was frequently possible to reduce the weight at the rate of one pound a day for upward of fifty days, always with great improvement in muscular tone and general health, but in certain cases, after fifty or sixty days' treatment, nervous symptoms developed, such as restlessness, insomnia, palpitation, and excitability. The cause of these untoward effects was made clear by Sajous, when he showed the direct connection between the thyroid secretion and tissue metabolism. All my patients did well as long as the cellular interchanges were kept within normal bounds; tissue oxidation was improved while all functions were stimulated. As soon, however, as this limit was exceeded and excessive catabolism, especially of tissue nucleins, occurred, the effects of overdosing showed themselves.

Physiological experimentation clearly sustains this view of the action of the thyroid. The vital importance of this organ to the organism is shown by the fact that its removal (including the parathyroids) in dogs, causes convulsions and death within a short time (Schoff). Its rôle in metabolism is self evident, since atrophy of the thyroids in the young is responsible for the lack of development, both mental and physical, known as cretinism, and in adults as myxedema, which diseases are characterized by mental deterioration, cutaneous edema, loss of hair, muscular weakness, etc. Administration of thyroid extract counteracts these symptoms and the patient recovers. Intraperitoneal implantation of thyroid glands has the same effect. The physiological secretion of the thyroid we know stimulates mental, muscular, and cellular activity which are themselves expressions of augmented metabolism. This marked influence over tissue interchanges explains also why thyroid is useful in many diseases. As will be shown below, wherever impaired metabolism occurs, it shows itself capable of restoring its equilibrium when given in appropriate doses. This means, in many disorders, a return to health.

While thyroid is our most efficient remedy in conditions in which hypothyroidism and suboxidation are clearly defined, it is also useful, as we shall also see below, in disorders due to toxines or toxic substances in the blood. This is explained by another property of the thyroparathyroid secretion which modern research has revealed, namely, that of destroying toxic wastes and toxines. As to the toxic wastes, Schiff showed, in 1856, that extirpation of thyroids (and parathyroids) in dogs produced in about four weeks muscular weakness, apathy, tremor, tetany, and death. After the removal of the thyroid for goitre, convulsions or chronic malnutrition also occurs. Now, more recent investigations have shown that the tetany which follows thyroidectomy is due to a general toxemia. Not only are the phenomena arrested by the administration of thyroid extract, or by grafting, but the beneficial effects last only as long as the physiological action of the remedial agents lasts.

The fact that the thyroid afforded protection against infection has been shown by many investigators, Charrin, Roger and Garnier, Kashimura, Vincent, Jolly, and others. How it did so was explained by Sajous, who showed, in 1907, that the thyroparathyroid glands were the source of opsonins, a view confirmed since, in Europe by Fassin, Stépanoff, Marbé, and others.

Thyroid preparations are not always desirable in the treatment of disease because of their tendency to bring on untoward effects. Rénon and Delille and others having found that the combined use of organic preparations often proved advantageous, it occurred to me, in order to obviate this drawback, to combine the thyroid product with those of other glands.

Pituitary, ovarian, and testicular products were selected because they all seemed to harmonize in their physiological action, which is practically that of the adrenal secretion. This may be shown by a few illustrations from the literature of the subject. Thus, extirpation of the entire pituitary in animals causes great depression, apathy, weakness, tremor, dyspnea, emaciation, and fatal cachexia. Removal of the anterior lobes arrests development and leads to infantilism in the young. It is thought that the anterior lobe of the pars intermedia, as well as the posterior lobe, produces an internal secretion necessary to life. The extract of the anterior lobe, however, seems to be inert, but extract of the posterior lobe acts as a stimulant to muscular tissue especially to unstriped fibres,—a peculiarity of the adrenal product. Again, as shown by Rénon and Delille, pituitary gland raises the depressed arterial tension and corrects purely functional disorders of rhythm. It is of advantage in mitral disorders when there is hyposystole and in chronic myocarditis particularly that due to alcoholism. It is also useful in tachycardia of certain neuroses and during menopause. These results have been confirmed by Terrotoli, Parisot, and others. Pituitary gland was preferred to adrenal preparations and particularly to adrenalin in my combination owing to the fact that its action is longer sustained.

The ovaries are quite as intimately related to general metabolism. While removal gives rise to symptoms, especially mental, nervous temperamental, and muscular, we also witness apathy with spells of excitability, irritability, flashes of heat, loss of flesh, or on the contrary obesity, muscular weakness, and all symptoms of the climacteric or sexual arrest. The injection of ovarian extract relieves all of these symptoms and produces remarkable stimulation in both men and women of mental, nervous, and muscular power, and promptly relieves constipation by stimulating peristalsis. The oxygen consumed by castrated dogs was shown by Richter to be less to the kilo body weight than in intact dogs. By the administration of ovarian extract, oxygen consumption was increased, even beyond the normal, in both males and females. The ovary appears, according to Offergeld, to preside in some way over the metabolism of inorganic matter and hence aids in maintaining the composition of the blood.

This applies also to the testes. Although these organs have an excretory duct and cannot by any means be considered ductless glands, they produce an internal secretion of enormous importance to the stability of the organism of both man and beast. Castration causes remarkable changes in all animals. It produces compensative hypertrophy of the pituitary body, lessens the activity of the thyroid, and changes mental and physical conditions completely. The increased development and improvement of flesh in animals castrated for food purposes is well known, as is the change in disposition of the horse for instance from the fiery stallion to the tractable gelding and the bellicose bull to the slothful ox, but in no animal is the change more marked than in the domestic cock, which loses its great virility and pompous strut, and becomes as indolent as a hen. Brown-Séquard showed that extract of fresh testicle injected under the skin has a remarkable influence on the nervous system. Mental and physical vigor and activity of the spinal centre are greatly improved, in all cases of general prostration and neurasthenia in young and old. Pearce reported a series of more than 600 cases which were treated by Weir Mitchell, J. K. Mitchell, and himself with Brown-Séquard testicular extract. Owing to the great variety of diseases in which they used it, their results varied in many ways, but they agreed absolutely in one particular, namely, that the extract produced in all cases a remarkable stimulation of mental, nervous, and muscular activity as well as of the spinal centres. Zoth and Prege obtained positive proof by means of ergometric records of the stimulating action of testicular extract upon the neuromuscular apparatus in man. Zoth found that injections of testicular extract lessened mental and muscular fatigue resulting from prolonged exertion. Sajous, who saw Brown-Séquard before and after he had submitted himself to a course of testicular extract injection and noted that he looked literally twenty years younger after the treatment, has long held that metabolism and cellular activity, and also our defensive resources depended for their efficiency upon the harmonious action of the ductless glands and their internal secretion. My experimental and clinical observations, based on a very large number of cases, tend fully to sustain this view.

These examples, a few out of many available, must suffice to show the stimulating influence of the four sets of organs represented. Since they act conjointly in the body in carrying on their functions, it has seemed to me that the therapeutic value of a single one of these organs, thyroid gland for instance, must tend to disturb the general harmony of the whole. We are imitating Nature, therefore, when we introduce into the body the several organic products which—as far as present knowledge suggests—sustain the activity of its metabolism—its very life. The truth of this was made evident by the following set of personal experiments:

In 1908, I conducted a series of studies with fifty volunteer subjects, twenty-five men and twenty-five women, ranging in age from twenty to thirty-five years. They were all friends of mine and above the average in education and intelligence. They were teachers, salesmen, clerks, and students. I did not tell them what I was going to do, nor

what results to expect but simply assured them that no harm would come to them. I requested them not to ask questions or compare notes or discuss the subject among themselves, and thus eliminated so far as possible the psychological element. These subjects were all in good health, mental and physical. They were weighed, their red and white blood count and hemoglobin estimated, and their blood pressure was taken. For one week they were placed on a weighed diet, the value of which was figured from König's table. The urine and feces were collected, the total nitrogen, chloride, and phosphates recorded, and metabolism was estimated.

After this week of probation the same experimental subjects received a daily injection of fifteen minims of combined extract of thyroid, pituitary body, ovary, and testis. Their diet being controlled, urine and feces were collected, and the nitrogenous output was ascertained as before. The blood pressure was also taken every evening. This was continued for two weeks. The results were increased appetite, and muscular and mental efficiency, and the sexual vigor was greatly augmented. They were able to stand more mental and physical exertion. They increased in weight, on an average, eight pounds during the two weeks, and declared that they felt unusually well and strong. The blood pressure in all cases was increased as were also the erythrocytes and the hemoglobin. The nitrogenous coefficient was raised from 92 to 96.

This experimental medication clearly showed then, that the activity of the vital processes could be directly controlled by those organic products which, as Sajous had pointed out, supply the blood with substances which take up oxygen from the pulmonary air and carry it as a constituent to the tissues—the organic products of the thyroid, pituitary, ovary, and testis being rich, from his viewpoint (and as shown by the chromaffin and physiological tests) in adrenal active principle. But would this prove true in disease? Would the principle he formulated in 1903 that "the power of the organism to antagonize the constitutional effects of pathogenic germs, their toxines, and other poisons is directly proportionate, all else being equal, to the functional efficiency of the adrenal system"—the thyroid, pituitary, and adrenals, the latter being represented in my polyglandular extract, mainly by the pituitary, ovarian and testicular products?

During the last four years I have used this combination—obtained from the pituitaries of intact sheep and ovaries from the same animal, four years old, and from testicles of cocks one and a half year old. It was prepared by first taking out the glands under the strictest aseptic precautions and removing therefrom all fibrous tissue as far as possible, using only the parenchymatous substance. The proportions of each organ thus treated were: Pituitary body, one part; thyroid (including parathyroid), two parts; ovary, ten parts; testis, ten parts. This aggregate was reduced to a fine paste, placed in equal weight of chemically pure glycerin, allowed to macerate forty-eight hours, and then filtered. In view of the decided influence of castration on the ductless glands care was taken in the preparation of my polyglandular substance to use only glands derived from unspayed animals.

I have now used this polyglandular extract in 480 cases by intramuscular injection and in not a single case have I had an unpleasant reaction, not even local irritation. These 480 cases were divided into two general classes, acute and chronic, each class having a definite object in view:

Acute diseases. These included as shown below, typhoid fever, pneumonia, influenza, scarlet fever, and tuberculosis. The purpose here was not only to increase oxidation, and thus to counteract the adynamia which often ends in death, but also to raise the defensive functions to a high degree of efficiency and thus facilitate the destruction of specific pathogenic organisms in each disease. Nor was the polyglandular extract used as a "cure all," but only to place the body in a better position to assist, through stronger vitality and defensive activity, whatever treatment was employed.

It is impossible, of course, to describe each of the 480 cases within the scope of this paper. All that can be done is to give a brief summary of a few illustrative cases of each disease treated.

Cases.

Typhoid fever, six cases. M. C., female, aged eighteen years, marked typhoid state, temperature 105° F., pulse 140, weak, and easily compressible. First injection 15 m., 10 a. m. In fifteen minutes her pulse was improved and beats were reduced to 120. Second injection, 10 p. m., mental condition same, pulse reduced in thirty minutes to 110, and mental condition brighter. Next day, 10 a. m., pulse 100, temperature 102° F., mental condition markedly improved. This patient received in all ten injections which were always followed by decided beneficial effect on the pulse and on the nervous symptoms. The case went on to uneventful recovery.

R. C., male, aged thirty years, typhoid fever. Patient in state of coma, temperature 106° F., pulse 160; showed marked signs of suboxidation, injection 15 m., 10 p. m., pulse reduced to 140 within an hour. Another injection at 1 a. m., pulse became much stronger, blood pressure increased. Third injection at 9 a. m., mental and nervous condition improved and state of coma less defined. Pulse 130, temperature 108° F. Fourth injection at 10 p. m., pulse at this time 120 and of good volume. Mental condition much improved. Recovered under ordinary treatment without another injection.

J. C., male, aged twenty-five years, lawyer, typhoid fever; profound typhoid state. Pulse 140, temperature 105° F., marked suboxidation. Injection given at 10 a. m. In one hour, pulse reduced to 130, volume increased. Second injection 10 p. m. This time pulse 130, and fairly good volume. Third injection at midnight. Condition improved, pulse 120, and fair tone, mental condition excellent. Recovery.

Pneumonia, 8 cases. W. B., female, aged ten years, marked cyanosis, temperature 106° F., pulse imperceptible, breathing shallow, widely dilated pupil, injection 9 a. m., 5 m. In one hour pulse became perceptible but weak and thready, cyanosis somewhat lessened, breathing not so shallow. Second injection, 3 p. m., pulse improved, respiration improved, cyanosis less; third injection, 10 p. m., pulse 150, weak and thready, temperature 105° F. Fourth injection, 10 a. m., the following day, cyanosis gone, pulse 150 of good volume, mental condition much improved. Went on to recovery.

Influenza, 32 cases. F. G., male, temperature 104.6° F., pulse 140. Evidences of cardiac dilatation. Received injections twice daily for six days, and made complete recovery.

H. B., male, aged fifty-two years, temperature 104° F., pulse 140, irregular, thready; asthenia, anorexia, suboxidation. Injection 15 m. at 8 p. m.; in thirty minutes the pulse was 110, good volume. At 10 a. m. second injection was made; the pulse at this time was 100 and regular, temperature 101° F., with signs of suboxidation gone. The

patient received injections once daily for four days at which time he was able to sit up. He recovered without further injections on ordinary treatment.

J. J., male, aged forty years, temperature 105° F., pulse 150, weak, thready, and irregular; heart dilated, cyanosis marked, urine scanty and very cloudy. Injection 12 m.; in one hour pulse reduced to 120 and became stronger, with distinct improvement in the general condition. At 10 a. m., temperature 102° F., pulse 130, fair volume and regular. Patient brighter. Second injection. In thirty minutes pulse 100; patient expressed himself as feeling better. Received injections once daily for seven days, at which time the pulse was 98 and the temperature normal. He felt so strong that he left his bed and went to work next day against my orders. He was taken with fainting spells upon return from office and I found the heart had become somewhat dilated again, pulse weak, thready, and irregular. Condition alarming. Injection of 15 m. caused return of normal rhythm of heart and increased volume of pulse. Injections were given daily for three days, then twice weekly for four weeks, with complete recovery, heart and pulse normal, the patient returning to work and experiencing no further difficulty.

Scarlet fever, 4 cases. M. L., aged twelve years, temperature 104° F., pulse 150, weak, compressible, marked evidence of suboxidation, injection 10 a. m., 5 m. Within one hour pulse reduced to 130, mental condition better. Another injection 10 p. m., with lowering of pulse to 120. Following day, 10 a. m., pulse 120, temperature 103° F., general condition improved. Fourth injection 10 p. m., temperature 103° F., pulse 130, fairly good volume. This patient went to recovery.

Tuberculosis, 12 cases. S. M., female, pronounced emaciation, temperature 99° F., asthenia, sputum teeming with tubercle bacilli, hemoptysis, poor appetite, constipation, unable to take milk or eggs, received injection every second day for two weeks, appetite improved, bowels became regular, was much stronger, recovered under ordinary tuberculosis treatment.

I wish simply to call attention here to the effect of the polyglandular extract as a cardiac and muscular stimulant and its effect on the nervous and mental condition in certain acute diseases.

Chronic Diseases. These were divided into three classes. The first class included those cases in which adynamia was the essential feature, and manifesting itself in the nervous system as neurasthenia and depressive melancholia; in the muscular system as locomotor ataxia (as secondary phenomenon to the spinal lesion); in the alimentary canal as atonic and spastic constipation; in the genital system as impotence and the sexual neuroses of the unmarried; in the functional and progressive debility of old age.

Neurasthenia and melancholia, 69 cases. R. F., male, aged thirty years, banker, insomnia, lack of power to concentrate attention, inability to add long columns of figures, anorexia, constipation. Received two injections a week for one month, at the end of which time his mental condition was improved. He was able to concentrate his attention and do his work in a normal way, appetite and bowels normal.

A. C., female, aged thirty-nine years, anemia, neurasthenia, constipation, anorexia, headache, insomnia, suicidal tendencies, hemoglobin seventy per cent., reds 3,400,000, whites 7,500. Injections given twice weekly for six weeks. Appetite and bowels normal, hemoglobin 95 per cent, reds 4,960,000, slept well and had marked sense of well being.

L. S., single, aged fifty-five years, pale skin, face deeply lined, cheeks hung in pouches. Constipation, anemia, anorexia. Received injections twice weekly for four weeks, then once weekly for three months. Distinct improvement in nervous and digestive symptoms, eyes brightened, cheeks plumped out, looked twenty years younger and expressed herself as feeling as well as when a girl.

A. B., aged forty-five years, due to excessive social indulgence. A great society woman, pallor of skin, face lined with wrinkles, dark lines under eyes, cheeks sunken and flabby, anorexia, constipation, restlessness, inability to concentrate mental processes. Injections once daily for four weeks; entire recovery. She had formerly been in the habit of taking a rest cure of several weeks every spring.

M. L., female, aged forty years, amenorrhea, melancholia, suicidal tendency. This patient was very obese—240 pounds. Constipation and anorexia, prominent symptoms. Injections twice weekly for two months showed great improvement. Lost forty pounds in weight, appetite good, pulse normal, slept well, menses regular, nervous condition very much improved.

Locomotor ataxia, 4 cases. B. C., female, aged forty years. This patient was referred to me for attacks of acute indigestion. Complained of stabbing pains in stomach and pressure around the waist. Had occasional attacks of vomiting. Stomach contents found to be normal. Digestion good. Examination showed Argyll Robertson pupil, lost knee jerk; loss of station (Romberg sign) present. No ataxia in gait. Received injections weekly for four months, and symptoms entirely disappeared, but reflexes were not restored.

Male, aged thirty-eight years, Argyll Robertson pupil, lost knee jerk, lost station, ataxia of both hands and legs. Injections weekly for three months, distinct improvement in symptoms, able to walk steady, and had a feeling of well being. Stopped treatment at this point.

Constipation, 73 cases. A. S., female, aged forty years, obese, pendulous abdomen. Intestinal atony; had not had a normal bowel movement for over twenty years. Received injections once weekly for three weeks, bowels became regular.

B. S., male, aged twenty-seven years, highly neurotic, headache, insomnia, spastic constipation, feces passed in small hard masses. Received two injections weekly for one month, bowel movements became normal in consistence and formation, slept well, appetite good.

These cases of chronic constipation showed remarkable equilibrating effect of the solution.

Impotence, 39 cases. M. M., male, aged thirty-eight years. Married ten years, no children, erectile power entirely gone, which was a source of great annoyance and humiliation to him, and cause of domestic unhappiness. Had been attached to legations in Moscow, St. Petersburg, Vienna, Berlin, Paris, and London, in all of which places he had sought relief without avail. Spermatozoa showed cystic degenerations, heads showing vacuoles. Semen yellowish white about consistence of thick cream with some more fluid material. Received injections daily for eight days, then twice weekly for four weeks, then once weekly for nine months. After first ten injections he expressed distinct improvement in sexual powers, increased in mental and physical vigor, and a feeling of well being, causing much pride and satisfaction. Now has a child eight months old which resembles him. Treatment started but two years ago.

W. T., aged seventy-six years, recently married. Impotence, very feeble, both mentally and physically, had absolutely no sexual power for twenty years. Injections once daily for four weeks, then once weekly for six months. After first twelve injections felt a distinct improvement in mental and physical power. After twenty injections his sexual power was greatly augmented; in fact it became troublesome in his case owing to persistence of erections.

Sexual neuroses of celibacy, 21 cases. T. L., male, aged 27 years. Constant state of sexual excitement which was very much aggravated by riding on street cars; cause of much anxiety and mental distress. He was troubled with nocturnal seminal emissions. Phosphaturia. Muscles soft; easily fatigued. Injections of 15 m. were given twice weekly for two weeks with aggravation of symptoms. The treatment was discontinued for two weeks; then injected 5 m. weekly, increasing to 10 m. in four weeks and to 16 m. in six weeks. Relief was experienced from constant state of excitement; he gained strength, and emissions occurred only about once in four weeks, while they happened nightly before the phosphaturia disappeared.

Old age, 24 cases. A. M., female, aged eighty-five years, pale, thin, slow cerebration, mental dullness, very feeble. Received injections once daily for five days, then once weekly for six months, with marked improvement in mental condition, decided gain in strength and sense of well being.

G. R., male, aged seventy years, asthenia, constipation, anorexia, tremor, unable to go about alone. Received injections twice weekly for four weeks, then once weekly for six months, with great improvement in mental and physical condition.

The second class of chronic diseases was made up of disorders in which besides a certain degree of adynamia, there existed a toxemia of some kind as underlying cause, thus bringing into play the antitoxic action of the polyglandular extract. It included epilepsy, rheumatism, arthritis deformans, paralysis agitans, and chorea:

Epilepsy, 11 cases. M. V., female, aged sixty years. Suffered attacks of grand mal as often as twice daily; was syphilitic, had chorea and religious mania. Had suffered since childhood. Injections were made once weekly for one year. After first eight injections she showed marked general improvement, epileptic attacks occurring only about once in three weeks and choreic movements very much reduced. The mental condition was much brighter. After four months' treatment she suffered epileptic attacks only once in seven or eight weeks; all other symptoms were much improved. Fell, breaking leg, tibia, and fibula, and suffered considerable shock. Union took place but hypostatic pneumonia developed and patient died at American Hospital for Diseases of Stomach. Had not had convulsions for three months prior to death.

P. B., male, aged thirty-three years, general nutrition above average but suffered from profuse perspiration on slightest exertion. Had epileptic attacks lasting from five to thirty minutes almost daily, also suffered from cardiac palpitation. Injections were given twice weekly for four weeks, then once weekly for six months. The attacks disappeared entirely; cardiac disturbance disappeared, and profuse perspiration ceased. No other treatment was used in this case.

Rheumatism, 21 cases. N. G., male, aged twenty-nine years, chronic articular rheumatism, pains and swelling in right knee, some crepitation; he was unable to walk without a cane. Condition lasted four years. Injections twice weekly for three weeks, then once weekly for two months. Complete restoration of function and cessation of pain.

J. G., aged sixty years, acute rheumatism in right shoulder, great swelling, redness, and tenderness, unable to sleep, appetite poor, injections once daily for four days, then once weekly for three weeks; symptoms entirely removed.

Arthritis deformans, 16 cases. J. C., male, aged sixty years, marked loss of flesh, deformity of both hands, unable to sleep, fixation of arms and legs, rigidity of spine, unable to feed himself. Injections twice weekly for three weeks, then once weekly for five months. Decided improvement in all symptoms, able to feed himself and walk about the house.

L. H., female, aged forty-five years, deformity of hands, rigidity of all joints, unable to walk or feed herself. Injections once daily for six days, then twice weekly for four weeks, then once weekly for nine months. This patient is able to feed herself and walk out of doors. There is distinct diminution in deformity of hand.

Paralysis agitans, 3 cases. M. H., aged sixty-two years, melancholia, decided tremor of hands and forearm, constipation, masklike stare, festination. Unable to attend to business for two years. Received injections once weekly for six months, showed distinct improvement in carriage, facial expression, mental attitude and slight diminution in tremor, bowels normal, slept well. This patient is still under treatment but has returned to business.

S. J., male, aged sixty years, has suffered from this condition for four years. Tremor marked, festination very perceptible. Asthenia, mental depression, constipation, anorexia. Received injections once weekly for three months, with perceptible improvement in general physical condition, appetite, and strength. Passed out of my hands with no perceptible effect on festination or tremor.

E. W., male, aged fifty years, slight tremor of hand, but none of arms. Pill rolling motion, appetite good, bowels regular, strength fair. Injections weekly for six months, and expressed himself as feeling unusually well. Improvement in all symptoms.

Chorea, 4 cases. L. K., aged nine years. History of diphtheria one year ago. Choreic movements of face, arms, and hands; anemic; constipated. Received two injections weekly for twelve weeks, gained twelve pounds, pallor disappeared, choreic movements entirely gone. Bowels regular, sleeps well.

C. C., male, aged nine years; marked distortion of face and movement of arms, legs, and entire body. Unable to sleep, appetite good, bowels regular. Received two injections weekly for three weeks, then once a week for three weeks, at the end of this time movements were gone, gained five pounds and was able to return to school.

The third class of chronic cases included disorders of menstruation, amenorrhea and dysmenorrhea due to anemia and general debility; menorrhagia and metrorrhagia, due partly to these conditions and partly to uterine disorders, and hysteria associated with functional exhaustion and irritability of the nerve centres:

Amenorrhea, 17 cases. M. C., aged eighteen years, anemia, hemoglobin 60 per cent., reds 2,300,000, whites 7,200, anorexia, insomnia, constipation, asthenia. Injections twice weekly for three months, menstruation returned; injections continued for three months longer, menses regular, hemoglobin 100 per cent., reds 5,200,000, whites 8,000, appetite good, pulse regular, gained twenty pounds.

Dysmenorrhea, 23 cases. F. L., aged thirty-two years; had to go to bed for first four days of menstruation for the last six years. Had been in habit of taking opiates; constipation. Injections once weekly for six months, was relieved after first month, and after third month symptoms entirely disappeared, appetite normal, bowels regular.

Menorrhagia, 21 cases. R. S., aged thirty years. This patient had been curetted three years since, at which time she had been menstruating from ten to twelve days. Received two injections weekly for three weeks, then once weekly for three months, flow became normal, lasting four days.

Metrorrhagia, 5 cases. G. L., aged thirty-seven years. This patient had fibroid, was flowing almost constantly, very anemic and weak from loss of blood. Received injections once daily for ten days, then once weekly for three months. Symptoms disappeared, she refused her consent to operation.

Hysteria, 6 cases. E. G., female, aged thirty years; convulsion with chill but without loss of consciousness, sense of fear, anorexia, constipation, excitability worse at menstrual periods which were profuse, lasting eight days. Was in the habit of taking large doses of bromides. Injections of 15 m. were given daily for three days, then once weekly for three months. After the first three injections the patient began to gain self control and lose sense of fear. After the first month nervous condition was much improved and menstrual flow became normal, only lasting four days. This patient received fifteen injections and now after two years, general health, including the nervous condition, is normal. She expresses herself as being entirely well.

J. M., female, aged fifty-five years, extremely excitable; in the habit of using morphine hypodermically. I was called in to attend her son who met with an accident and found her in a violent state, threatening to shoot me if I did not cure her boy. She received morphine sulphate, one half grain, hypodermically, to quiet her extreme excitement, then 15 m. solution injected daily for eight days, then twice weekly for three weeks, and once weekly for eight weeks. At the end of which time she was calm and reasonable, able to attend to household duties, and care for her children.

Careful blood pressure records have been made in all of the foregoing cases and will be submitted in a further communication in the near future.

CONCLUSION.

In conclusion, I think we may safely say that the polyglandular substance described herein has a marked stimulating effect, and that in acute asthenic conditions with low blood pressure and suboxidation it activates the vital process and thus

tides the patient over the most critical stages of the disease, while increasing the efficiency of his autoprotective resources. This is fully sustained by Sajous's views.

The same polyglandular solution seems also to be almost a specific for neurasthenia. It has a marked stimulating effect on mental, nervous, and muscular activity as well as general metabolism and oxidation in general. It augments powerfully the contractile power of the cardiovascular system, and is, therefore, contraindicated in cases of high blood pressure. Finally, it increases the action of other drugs, arsenic, mercury, iodides, and salicylates in particular, and their curative efficiency.

445 South Forty-fourth Street.

TWO CASES OF LARGE OVARIAN CYSTOMA.*

One in a Woman of Advanced Years, the Other Followed by Cancer of the Remaining Ovary, One Year after Operation.

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This first case is reported because it presents several unusual features.

Case I. Mrs. M. T., a young Polish woman, was first seen by me in consultation with Dr. J. D. Groves, on October 23, 1910. She had been under the care of a midwife and was expecting to be confined. The expected period of confinement being delayed she consulted Doctor Groves as to the cause of the delay, who after an examination told her that she was not pregnant at all, but had a large ovarian cyst. I saw her in consultation and, confirming the diagnosis, advised immediate operation.

Her history at that time was as follows: White, aged twenty-four years; married five years; one child after a normal labor two years ago. No abortions. Puberty at thirteen years menstrual function normal. Past medical and surgical history without interest.

Present history: Five months ago she noticed that her abdomen was enlarging and thinking herself pregnant, engaged a midwife to attend her in confinement. During all this period she menstruated. For the previous three months her periods had been appearing every two weeks but had been very scant. The abdomen enlarged very rapidly and at this date measured forty-eight inches in circumference.

She was admitted to St. Agnes Hospital, October 24, 1910. Examination showed the following: Weight, 168 pounds. Face, chest, and upper extremities emaciated. Abdomen greatly distended symmetrically by a large fluctuating tumor. Lower extremities edematous. The uterus and vagina were completely prolapsed. Functional murmur at base of the heart.

It was decided to remove the cyst and then, if her condition warranted it, to cure the prolapse. She was operated upon on October 25, 1910. A median abdominal incision was made, and the cyst punctured with a large trocar. Sixteen quarts of a brownish fluid were collected, many quarts being spilled over the floor of the operating room during the change of buckets. After the contents of the cyst were partly removed, it was found that the cyst was tightly adherent to the anterior abdominal wall. The adhesions were broken up without much difficulty, but free bleeding resulted from the points of adhesion. The patient was in a desperate condition in spite of an intravenous injection of salt solution, and it was decided to end the operation without making any attempt to cure the prolapse. The remaining ovary appeared entirely normal and, as she was a young woman desirous of more children, a ventral fixation, which was the only operation which could have been done without delaying the operation, was decided against.

She made a good recovery and was discharged from the hospital in three weeks. During her convalescence she was placed on forced feeding and apparently gained in weight. At the time of her discharge she weighed eighty-two pounds, so that the weight of the tumor was approximately eighty-four pounds. She was told that she would have to return later for an operation to cure the prolapse.

On September 1, 1911, I was asked by Doctor Groves again to see the patient, as she had made up her mind to be operated upon. On examination I found that she had a tumor occupying the lower left half of the abdomen, about the size of an adult head, with some free fluid in the abdominal cavity. She was not cognizant of any new growth herself, as her abdomen remained more or less distended after her first operation. She was readmitted to St. Agnes Hospital on September 3d, and operated upon the following day.

The necessary plastic work was first done to cure the vaginal prolapse. The abdomen was then opened and a large quantity of straw colored fluid evacuated from the abdominal cavity. A large tumor of the left ovary the size of an adult head was then removed. The tumor was apparently semisolid and its surface was covered with warty growths the size of walnuts. Several of these growths were adherent to the intestines. These were removed without difficulty. An intramural fixation of the uterus was then done and the abdomen closed. The patient was discharged from the hospital October 1, 1911.

I have seen the patient recently and there is no sign of any recurrence of the growth. The uterus is in good position and the vaginal prolapse is cured.

The pathological report of the first tumor showed it to be a large multilocular cyst of the ovary with no signs of papillomatous degeneration or of malignancy. The report of this second tumor is as follows:

Specimen is a mass of tissue, seventeen by eight by six cm. One surface is formed by a thick, grayish capsule, the other is torn and shows the specimen to be partly cystic. Through the capsule at various points are projecting masses of reddish gray tissue from one to three cm. long, and of the same type as that within, having evidently grown through from the interior. In the specimen are spaces of various sizes up to seven cm. in diameter; some have a lining of dark tissue as though they had contained blood. Others show numerous projecting, papillary masses of grayish tissue that is rather soft.

Sections show a capsule of fibrous tissue from which irregular bands extend into, and through the tumor. Some of these are the boundaries of spaces, thus forming cysts of various size; others project into the spaces as papillary masses, which in many instances divide a number of times. The spaces are lined by tall columnar epithelial cells, mostly one layer deep, and the papillary masses are covered by similar cells. At points the arrangement of the cells and the small spaces, hardly more than tubules, are very similar to those of carcinomas, leading to the inference that the tumor has developed malignant changes.

Diagnosis: Papillary cystadenoma of ovary, that probably has undergone carcinomatous transformation

A. G. Ellis.

A second case of interest, on account of the advanced age of the patient, was operated in a few weeks after the first case.

Case II. Mrs. E. L. consulted me on account of a complete prolapse of the uterus and vagina. The prolapse was the largest I have ever seen and prevented the woman absolutely from walking. She gave the following history:

Age seventy-four years. She had been active up until two years ago, when she noticed that she had a mass protruding from the vagina. This became progressively larger. At the same time she noticed that her abdomen was enlarging, but paid no attention to this as she thought

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it was simply a relaxation of the abdominal wall due to her advanced years. Her general condition was not good, and operation was not urged. The chances of success and the dangers of the operation were presented to her and to her family, and they elected to take the chances of operation. She was operated upon at St. Agnes Hospital, September 18, 1911. A median abdominal incision was made and the cyst punctured with a trocar. The contents of the cyst were thick and gelatinous and would not run through the trocar. An incision was then made in the cyst, but the contained cysts were so numerous and small that the large cyst could not be evacuated except by prolonging the operation unduly. A large incision was then made in the abdominal wall and the entire cyst lifted out of the abdomen. The pedicle was tied and the tumor removed. It weighed sixty pounds. An intramural fixation of the uterus was then made, high enough on the abdominal wall to take all the slack out of the vagina. The abdomen was then closed in the usual manner.

This second patient made a good recovery and, except for a slight cystocele, is entirely well. No plastic work was done on the vagina, as I did not consider the condition of the patient good enough to warrant the prolonged anesthesia.

113 Twentieth Street.

SOME OF THE NEWER USES OF CALCIUM.*

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During the past few years much has been learned with regard to the rôle played by the calcium salts in health and disease, and while the subject is not as yet on an altogether sure footing, some of the facts discovered have been utilized practically in the domain of therapeutics with very satisfactory results. It may, therefore, be of some interest to review the advances made along this line.

The functions of any given chemical constituent of the body are so intimately associated with other substances and other functions that an exhaustive study of any one of them might well lead the investigator through the whole subject of physiology. The following sketch of the functions of calcium will necessarily touch the subject only here and there.

Disregarding the rôle played by the insoluble lime salts in the bones and teeth, let us consider the activities of the soluble salts found in the body fluids. As long ago as 1884, Ringer (1) noted the fact that an excised heart which was perfused with a saline solution made up with distilled water soon ceased to beat, while if the solution were made with tap water it could be made to continue beating for hours. On analysis of the water he found that it was the presence of calcium salts which made the difference. Since then considerable work has been done on the relation of the inorganic salts to the heart's beat by Loeb, Howell, and others, and while they differ on the exact significance of the various metals, all agree that a proper balance between the calcium, potassium, and sodium salts is necessary in order to maintain the rhythm. It is supposed that the chemical interchange between certain of these ions, which are in combination with the heart proteids or lipoids, results in variations in the chemical stability of these substances, the unstable ones being rhythmically dissociated with the liberation of kinetic energy, rhythmic contractions thus resulting.

There is good reason to believe that a deficiency of calcium in the serum causes a hyperexcitability of the nervous and muscular systems. Sabbatani (2) applied calcium solutions directly to the brain and found that much greater stimuli were necessary to produce contraction of the muscles. On the other hand, the application of solutions which would precipitate calcium, greatly increased the excitability. The two phenomena could be shown at the same time by utilizing both sides of the brain of the experimental animal. Jacques Loeb (3) found that the immersion of a nerve muscle preparation in any sodium solution which is capable of precipitating calcium will produce twitching of the muscle and that this twitching will cease on the addition of an excess of calcium. The work on tetany and allied conditions, which will be referred to later, offers additional evidence of the inhibitory action of calcium on overexcitable nerves or muscles.

It has been known for over twenty years that the presence of calcium is necessary for the formation of fibrin ferment, which brings about the process of coagulation of the blood, or of exudates. Calcium is necessary also for the action of certain other ferments, notably lab ferment or rennin.

Hamburger (4) has shown that small doses of calcium stimulate the phagocytic activity of the leucocytes. This has been demonstrated not only *in vitro,* but through experiments on living animals. Capillary tubes, partially filled with broth cultures of bacteria, were placed beneath the skin, and calcium was added directly to the tubes, or administered to the animal *per rectum.* In both of these experiments the columns of leucocytes which gathered in the capillary tubes were augmented by the action of the calcium.

Finally calcium appears to play an important part in fat metabolism (5, 6). Normally this metal is combined with the neutral fats in the liver, to form soluble lipoids, which are readily taken up by the blood and conveyed to the points where they are needed. A diversion of this calcium, with the appearance of an excess of free fat in the blood (liphemia) is seen in states of acidosis, in which the calcium is utilized to neutralize the acids, just as ammonia is diverted at the expense of the urea.

So much for the physiological considerations. All of these facts have been utilized clinically with varying degrees of success. The most brilliant results in calcium therapy are probably those obtained in tetany of parathyroid origin. The accidentally induced tetany which sometimes followed thyroidectomy was the clue upon which this subject has been worked out. Gley (7) was the first to point out that this form of tetany was caused by the removal of the parathyroid glands. His work has been amply substantiated by a number of other observers. The attempt to show that all forms of tetany are dependent upon the same cause has so far been inconclusive. Autopsies on children show changes in the parathyroid glands about as fre-

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quently in those subjects who have suffered from tetanoid conditions as in those who have not (8) (9). The tetany in parathyroidectomized dogs was shown by MacCallum and Voegtlin (5) to be constantly associated with a disturbance in calcium metabolism, manifesting itself in an increased calcium excretion, with a diminished calcium content of the blood and brain. They further showed that the tetany could be absolutely controlled, not only by the administration of parathyroid preparations, but by the use of calcium as well. This fact has been utilized clinically with brilliant results in tetany following thyroidectomy by a number of observers (5). Whether the calcium disturbance is primary ("calcium diabetes," MacCallum) or is dependent upon other abnormities of metabolism is still undecided (11), as there are also found profound changes in the nitrogen metabolism.

In tetany of other origin good results have also sometimes been obtained by the use of calcium, as in cases reported by Stone (11), Kinicutt (12), and Moffitt (13). In infantile tetany reports vary considerably, the consensus perhaps being against the value of the use of calcium. Rosenstern (14), however, maintains that he has obtained temporarily results in a fair proportion of cases by the use of large doses. So far as careful metabolic studies go, at least two cases have seemed to show an increased calcium retention with the clinical improvement of the tetany (15, 16). Other spasmodic affections, as blepharospasm and other tics, are frequently improved by calcium or parathyroid preparations, and Berkely (17) reports that eighteen of twenty-six patients suffering from paralysis agitans were improved by prolonged treatment with parathyroid, which suggests that calcium might here be of benefit also.

The tetany of pregnancy and lactation have been ascribed by MacCallum to abstraction of calcium from the maternal tissues by the fetus, and this theory has been carried further by Drennan (19), who also ascribes the tendency to dental caries and osteomalacia under these circumstances to the same cause. He also believes that the resulting insufficiency of calcium to combine with the neutral fats in the liver is the cause of the fatty changes in that organ and the consequent metabolic disturbances that end in eclampsia. Mitchell (18) goes further and attributes the motor phenomena themselves, including the convulsions, to calcium insufficiency. The chalk hunger of some pregnant women he believes is Nature's demand for more lime. He reports some very striking results from the use of large doses of calcium in eclampsia, which he says is unusually common in Fort Worth, where the city water supply is almost lacking in these salts.

Various hemorrhagic conditions, particularly when associated with delayed coagulability, have long been successfully treated with calcium. It should be remembered, however, that an excess of calcium itself tends to interfere with coagulation, and so predisposes to hemorrhage. Wright was the first to suggest that in conditions of delayed coagulability we sometimes have what he termed "serous hemorrhages," which manifest themselves as urticaria, chilblains, edema of the hands and feet without other known cause, and certain types of headache, and that these conditions might be controlled by the administration of calcium. His observation has been confirmed by many clinicians, for instance by Luff (20), who puts his experience into figures. Of 121 patients suffering from such ailments, he cured seventy-eight per cent. with calcium, and improved nine per cent., thirteen per cent. showing no improvement.

In diabetes we know that there is an increased calcium excretion due to the acidosis, the calcium being diverted from the lipoids to neutralize the acid, and excreted in the urine, leaving the neutral fat free to circulate in the blood as such—the liphemia of diabetes. Drennan (6), therefore, advises the use of calcium to save the calcium of the lipoids and to help neutralize any prevailing acidosis. Dr. John Kepke, of Brooklyn, has for several years been giving large doses of calcium salts in diabetes with most astonishing effects upon the glycosuria and clinical course of the disease. It is to be hoped that he will publish his experience.

Sir Lauder Brunton (21), on the basis of Ringer's classical experiment, has recommended the use of calcium salts in heart disease when the ventricular wall seems to be failing. Others have failed to note any influence of calcium upon the heart (22), and theoretically, at least, it would seem that unless a calcium deficiency existed there could be little advantage in adding calcium to the blood. Brunton also mentions the good effect of calcium upon the heart in pneumonia. Sir James Barr (23) has for years been using calcium in pneumonia with this idea in view, and also for its effect upon coagulability and the permeability of the vessels. He recalls the well known fact that pneumonia patients whose sputum is fluid and hemorrhagic, present a much less favorable prognosis than those in whom it is viscid, the former tending to drown in their own secretions. He states that the character of the sputum can be controlled by the administration of calcium, the outcome being thus favorably influenced. Mitchell (24) very well summarizes the arguments that tend to prove that in pneumonia there is a heavy drain upon the calcium of the blood. He states that (a) the pneumococci themselves extract calcium, as shown by their cultural characteristics; (b) that the leucocytes, which are enormously increased in pneumonia, demand calcium; (c) that there is a deficiency in the urinary chlorides and a hyperacid gastric secretion, which he explains as a compensatory phenomenon calculated to fix and utilize all the available calcium in the diet; (d) that the coagulation of the exudate extracts calcium; (e) that the final fatty changes in the exudate, with their conversion into the soluble lipoids at the time of resolution and absorption, require calcium; and, finally (f), that the blood in moribund cases shows a delayed coagulability. He further states, as does Sir James Barr, that in his experience, calcium has proved the most valuable remedy at his disposal in pneumonia.

In conclusion, it may be remarked that there seems to be theoretical evidence of the value of calcium in a number of varied conditions in which calcium is supposed to be deficient in the body fluids, but that with the exception of tetany of parathyroid origin the supposed deficiency remains to be dem-

onstrated. In the meantime we are warranted, by the results so far obtained, in feeling encouraged to follow up the subject from the clinical standpoint.

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383 Clinton Street.

THE CONSERVATION OF VISION.

By Aaron Brav, M. D.,
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Of all the senses with which the human family has been endowed, the sense of sight is the most important. The appreciation of light, the recognition of form, the perception of depth, the differentiation of color, the entire conception of the Mosaic order in space, elements psychic in their nature, depend entirely upon the sense of sight perceived through and stimulated by the various structural elements of the visual apparatus. The external world becomes intelligible to us only through the visual function. In the transmission of thought from person to person, the visual function is the chief medium. What wonderful transmission of thought in this modern world takes place through the act of reading! This act depends upon a visual phenomenon. Through this means we are set in communication, in a few hours, with the whole civilized world. Savage as well as civilized man for subsistence must rely upon his visual power. Vision is a complex phenomenon and the visual apparatus is a wonderful structure from Nature's own workship, so constructed as to suit all conditions and environments. To the savage hunter it gives the necessary distance range; to the civilized bookman the essential near range of vision. Up to a certain age it is a self regulated piece of optical mechanism, adjusting itself as occasion may require for various distances and sizes in response only to the stimulus of necessity. The psychologist speaks of the visual function as an "elementary mental process," but this mental process is brought about by a physical stimulation. In fact every psychic process is the direct result of some physical stimulation which reflexly reaches the psychic centres situated in the brain, producing that phenomenon which in psychological nomenclature is termed a mental process. Vision is not an independent mental or psychic process, arising spontaneously in the psychic centre, but is rather the culmination of a physical and physiological act that is finally metamorphosed into a psychic process. Without the previous physical stimulation and the physiological excitation, no psychic process of vision is conceivable, except perhaps through the aid of the imagination a psychic process which can be set into motion by means of the effort and aid of the other senses. The physical conditions for a complete cycle of the visual function may be stated to be the following:

1. Luminous objects.
2. A luminous medium to allow the transmission of rays of light from a given object.
3. A collecting apparatus to collect the various parallel, converging, and diverging rays so as to produce an image at a given point.
4. A diaphragm to control the number of rays and the amount of light to be admitted.
5. A fixation apparatus supplied with a motor function.
6. A regulator for various distances and sizes.
7. A sensitive plate for the formation of an image, a biochemical process.
8. An image carrier or transmitter to carry the image produced on the sentient plate to the psychic centre for interpretation.
9. A psychic centre for the reception and interpretation of the image.
10. A visual memory centre (picture gallery or store house).
11. An association centre.
12. A living body free from toxic elements.

The human eye is provided with all these anatomical elements and every individual structure has to perform its respective physical and physiological function in order to produce that complex psychic phenomenon or mental process termed vision. A disturbance in any part of the structures at once interferes with the proper and normal visual function and may even totally destroy it. A normal eye, therefore, can be conceived only when all the elements are in perfect harmony.

In the performance of the visual function and its adaptation to various conditions such as distance and size, the ciliary muscles acting as an automatic regulator play an important part. These muscles are independent of will power and are reflexly stimulated by distance and size. These muscles are constantly at work. Even in the normal eye the action of the muscles differs greatly when the eye is fixed for near objects and when fixed for distant objects. The nearer an object is brought the more these muscles contract, and in prolonged near fixation there is actually a continuous tonic contraction. In the ametropic eye the work of this important pair of intraocular muscles is still increased. These little muscles enter simultaneously into a direct relationship with the external ocular muscles to bring about a harmonious relation between the acts of accommodation and convergence. The ciliary muscles are practically at work all day and their task becomes more arduous when we must look at objects near to us. It follows then that distant vision in a normal eye is accomplished with much less work than near vision. The emmetropic eye receives parallel rays upon the sentient sheet of the retina at infinite distance, while the accommodation is at perfect rest so that

there is no accommodative or muscular effort necessary, except for the slight effort of the external ocular muscles to hold the eye in proper fixation. The very same normal eye, however, requires an accommodative muscular aid of the ciliary muscles to collect the diverging rays coming from near points. The nearer the object, the size being the same, the more muscular effort is necessary for both external and internal ocular muscles. It follows, therefore, that the eye in the savage state of society had much less work to perform than it is called upon to do in our modern state of social and economic advancement. Modern life has added to the burden of the visual apparatus and has even somewhat endangered its integrity; but has it increased the number of the blind? Has it made proper vision more arduous? Was the human eye evolved for the savage state only? Was Nature herself so myopic as not to provide for a coming state of civilization?

Here we must pause, and after careful and intelligent investigation, we are forced to conclusions that are not in harmony with the present popular belief. There is a tendency to believe that the ancients had better sight than we have to-day; that modern conditions, modern civilization, have greatly affected our visual apparatus, and we are often confronted with the fact that modern life necessitates the calling into aid optical adjustments which the ancients did not need. Often the blame is placed upon our educational system for the large number of myopes. All these contentions are based on erroneous premises. The people see only the surface of facts, but cannot reason on cause and effects; neither can they investigate matters that require more profound thinking. The fact that we wear glasses to-day merely indicates that we have learned how to preserve vision in abnormal eyes and prevent them from going blind. It is a labor saving device, comparable to the introduction of machinery in the industrial world. Humanity must learn to progress with less expenditure of force. When in the industrial world, machinery has displaced human effort, the popular cry of the superficial mind was, that men are displaced by machinery and there is consequently less work for those willing to work. An intelligent and careful investigation, however, convinces us that this is not the case. Linotype machines, for instance, have displaced thousands of men in one particular line of work, yet the number of men employed to-day in printing establishments has multiplied manifold. There are many more men employed to-day in the printing field, including the newspapers, than there were fifty years ago. The equalization of this interchange of forces, human and mechanical, has been adjusted by the creation of a larger demand on the part of society for printing matter, which demand is directly attributable to the invention of machinery. Consider the amount of printing material in circulation a century ago, and the vast amount in circulation to-day, the number of men employed in this line of industry a century ago, and the number of men employed to-day, and the conclusion forces itself upon us that after all civilization did not decrease, but rather increased the demand for labor. This holds good in all industries. Nature in her wisdom is working out her salvation without interfering with human agencies. Nature has made the same provision with our visual apparatus. The human eye did not evolve merely to serve a savage state of society but Nature has made provisions for the needs of a coming civilization by so constructing the eye as to be able slowly to adapt itself to various changes and complicated conditions. This adaptability is associated with a great deal of extra effort, but the normal eye is fully able to cope with the situation. The abnormal eye could not have coped with the demands of our complex civilization; but human inventive genius has come to its rescue through the development of optical aid to minimize and save the arduous task of the visual apparatus. Glasses, therefore, are not an indication of deterioration, but rather a labor saving device to prevent undue strain upon the eye. Our forefathers did not wear glasses; not because they did not need them, for indeed the presbyopes could never see well near by, even in the savage period of human history; not because they had better eyes, but for the same reason that they did not use telephones or wireless telegraphy—they did not have these aids and did not know how to get them. The ancients suffered more from eye diseases; the blind were more numerous and vision to some—with abnormal anatomical formations—was more difficult than it is to-day. Every step in our life shows signs of conservation of vision. The demand upon the eye is greater to-day, but there is a compensatory effort in the surroundings under which our eyes labor. If our children have a more arduous task in school, we provide them with better illumination both natural and artificial, provide them with better ventilated and more capacious rooms, and those whose optical apparatus has some physical defect, have it remedied as far as possible by optical aid. Modern illumination, whatever may be said against it, is a great conserver of vision. It comes much nearer to natural light than the ancient oil lamp, under which humanity had to work for years. In the prevention of myopia and the physical deterioration of the human eye optical aid plays a very important rôle and must be considered as one of the great factors in the conservation of vision. It should be remembered that in all stages of society, savage or semisavage, the optical apparatus of mankind was subject to various anatomical and physiological abnormities. The fact that mankind knew it not is no evidence of its nonexistence. We find sufficient evidence in ancient writings that visual deficiencies were known to humanity, but the latter were too ignorant of the physical laws of Nature to provide any remedy. Not knowing Nature, they sought relief in the supernatural, but without any good result. The anatomically defective eye that gave rise to visual difficulties, not finding any physical aid, struggled along under the heavy burden until it produced organic deteriorations in the visual organs, and simultaneously left an impress upon the constitution at large. The inventive genius of Helmholtz and Donders has produced human artifices that are to-day used intelligently to minimize the bad effect of Nature's imperfection. The hyperope, the myope, the astigmatic, no longer have to labor under the difficulties

of natural defects. Optical defects are to-day scientifically corrected so as to reduce any undue taxation upon our nerve force. The astigmatic had more difficulty in distant vision than he has to-day in near vision. The most complicated and intricate near work of the astigmatic is performed by means of optical aid in our present day civilization much more easily than was the simple distant vision of the savage. Optical aid is a labor saving device of the visual apparatus, lessening the expenditure of nerve force and producing a clearer image of the object sighted. Optical aid is a great factor in the conservation of vision.

General hygiene and the advancement in preventive medicine must also be considered as great conservators of vision. We will mention only the loss of vision caused by ophthalmia in newly born babies up to the days of Crede. This preventable disease was responsible for a very large percentage of the blind. The simple prophylactic measure in the care of the newly born has reduced the number of blind resulting from this disease considerably. In fact, under our present knowledge of this disease and its prevention, it may be stated as a dogma that no child in our present state of medical science ought to be allowed to become blind from this disease. Even if preventive measures have not been employed, and if a physician is summoned in time, all cases practically yield to our method of treatment. Only the neglected cases, where either the family or the midwife, or, as occasionally may be the case, a careless physician has been guilty of neglect, do these cases result in total blindness. Trachoma is another disease which produced a number of blind, but our present knowledge of the disease and its proper treatment has minimized the danger. General information on various subjects to-day in the hands of the people is a great aid in the conservation of vision. The public has been educated to consult a physician or a specialist in the early stages of disease, rather than wait as in olden times until it is too late. In a general way we may conclude that the human family is in no danger of visual deterioration, that modern conditions make the visual act easier and less arduous, that even the constant application of our visual apparatus to close work, such as is required of students, is under modern conditions less harmful, and that modern life is not a deteriorator but a conservator of vision.

917 Spruce Street.

THE EFFECT OF INFUNDIBULIN ON MAMMARY SECRETION.

By John C. Scott, M. D.,
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In the laboratory study of the effect of infundibulin, posterior lobe of pituitary body, and other extracts upon the mammary secretion, the marked galactagogue action of infundibulin on the goat was noted by Ott and Scott (1). This effect was confirmed by Shäfer and Mackenzie (2) of Edinburgh on cats and dogs.

To show that infundibulin has a similar galactagogue effect on the human subject, the following cases are cited.

Mackenzie (3) reports a case of a woman in the tenth month of lactation suffering from a mammary abscess. Sixty c. c. of milk were aspirated from the healthy breast. One hour after the subcutaneous injection of infundibulin, 100 c. c. of milk were aspirated, showing an apparent increase in the amount of milk secreted.

In the clinical cases observed and cited below, the agent was administered for it powerful contractile effect upon the uterine muscle to control hemorrhage.

Case I. Mrs. C., aged twenty-eight years, primipara, well nourished, with well developed mammæ, delivered at six months of a macerated fetus, its death being due to endometritis. After extraction and curettage, a profuse hemorrhage ensuing, one c. c. of twenty per cent. extract of infundibulin was administered subcutaneously. The uterus contracted hard, like a billiard ball, controlling the hemorrhage. The pulse also was markedly improved. My laboratory experience with the strong galactagogue action of infundibulin was recalled and efforts were taken at once to restrain the milk secretion. Tight binders were placed immediately and salines given, but in twelve hours the breasts were so engorged that the patient complained bitterly of the pain and difficulty in breathing.

With continued tight binding, copious saline purges, dry diet, hot camphorated oil, and glycerinated atropine applications, the engorged condition was brought under control on the eighth day. A serous secretion persisted for about four months after delivery

Since this experience I have been careful not to use infundibulin as an oxytoxic in those premature cases in which it is desirable to restrain the milk secretion.

The facts to be considered are: A well nourished young woman, well developed glands, possible hormones from the fetal tissues, administration of infundibulin, difficulty experienced in restraining the abundant milk secretion. In view of my laboratory experience, I feel confident that this case was due to infundibulin and not to well developed glands or possible hormones from the fetus.

Case II. Mrs. T., aged thirty-five years, IV para, difficult breach delivery due to stenosis of the cervix due to old cicatrices. Delivered under chloroform. Puerperium uneventful until fifth day, when the patient sat up to use the commode, bringing on a furious post partum hemorrhage. I found the patient almost pulseless, with waxy pallor, and bleeding profusely. I gave one c. c. of twenty per cent. extract of infundibulin subcutaneously, also a saline subcutaneously; hemorrhage was controlled nicely, and the pulse improved. When I called later in the day, the patient informed me that she was "feeling fine" and could nurse her baby nicely, her breasts being fairly well filled, in fact more so than on the previous day.

About four days later the patient voluntarily informed me that her milk was not as rich or as plentiful as it was the day she had her hemorrhage.

The facts in this case are that severe labor was followed in five days by a severe post partum hemorrhage, the milk secretion improving within three or four hours after the hemorrhage, at which time infundibulin was administered. The marked improvement in the quantity and quality of the milk could hardly be credited to any other factor but infundibulin.

These cases lead me to believe that infundibulin will act as well upon the human milk secretion as upon the lower animals. The fact that it was given

subcutaneously in these cases rendered its action less prompt but more lasting, but just as efficient as when given intravenously, as practised in the laboratory.

REFERENCES:

1 (a). Preliminary Note, *Ott's Internal Secretions*, October 28, 1910. (b) *Proceedings of the Society for Experimental Biology of New York*, December, 1910. 2. *Proceedings of the Royal Society*, lxxxiv, No. B. 568, p. 16, July 3, 1911. 3. *Quarterly Journal of Experimental Physiology*, iv, No. 4, p. 314, December, 1911.

614 WEST ALLEGHENY AVENUE.

INSTRUCTION OF COLLEGE STUDENTS IN REGARD TO REPRODUCTION AND MATERNITY.*

BY ELIZABETH B. THELBERG, M. D.,
Poughkeepsie, N. Y.

Fifty years ago college education for women was a new and startling question; thirty years ago it was still a question; twenty years since the question was answered. To-day it is a fact assured. Girls are going to college, and in increasing proportion, not the extraordinary or unusual girl, but the ordinary high school girl from nearly every city on the continent. The old tremors are ceasing to agitate society. The world has come to the clear and simple view of Matthew Vassar, expressed in one of his earliest communications to his board of trustees: "It occurred to me," said Mr. Vassar, "that woman, having received from her Creator the same intellectual constitution as man, has the same right as man to intellectual culture and development." Wellesley, Smith, Bryn Mawr, Barnard, the coeducational colleges and universities have justified his prescience. Cavilers have largely ceased from caviling and the occasional denunciations of the ill effects of the higher education of women come chiefly from specialists whose opportunities of observation have been chiefly among invalid women.

Leaving this almost threadbare subject, and taking the fact for granted that our American girls are going to college "not as single spies, but in battalions" how shall there be introduced into the college curriculum that instruction concerning their lives as women, as potential mothers without which they cannot rank as educated women?

All are not agreed as to the wisdom and necessity of such instruction. One eminent woman educator is quoted as saying that knowledge of these subjects and of hygiene in general is no more part of liberal college education than is dentistry. Now, though I bow in admiration before many of the decisions of this wise and lovely lady, here I take issue with her absolutely.

Indeed the matter to my mind does not need discussion, so obvious is it that the attitude is a mistaken one.

Are we to neglect so vital a matter—one of universal interest? Are we to miss so great an opportunity for putting this matter, so perverted often by the drama, the novel, the newspaper, even also by the pulpit, in its true light, scientifically and socially? A free and upright womanhood is not a blindfold womanhood.

Women should know the truth and the truth will make them free!

Furthermore, as in the case of children, if not taught these matters aright adolescence will teach them wrong, teach them with a blight over them, or with the veil of sentimentality and false emotion hindering all clear vision.

Who shall teach them? To my mind a physician, one in whom they have that confidence engendered by successful practice. I believe that in the majority of cases the subject can be put with greatest moral earnestness by the physician in charge of the health of the college community.

Mr. Vassar, in this matter as in many others, was far ahead of his time in making his first appointments that of a resident physician who was at the same time professor of physiology and hygiene. Nevertheless, while the subject upon which I have been asked to speak this evening is one of great general public interest, that interest is for most people one of comparatively recent date. The period of my interest in it and of active teaching of the subject registers back for twenty-five years. It would not be profitable to take up the few minutes which are assigned to me in tracing the development, the gradual increase of subject matter covered in my own teaching. I will, therefore, give you a brief résumé of its present status, premising only that more and more explicitness and frankness have been possible as the years have gone on and as the minds of parents as well as children have broadened toward the subject.

Outside my own department of physiology and hygiene, for the position includes still that of professor, as well as resident physician, a very large percentage of our young women enjoying admirable teaching in biology and zoology which obviously prepares the minds of such students for a much better grasp of the subject of advanced human physiology. The majority of these students elect the latter after having had the former, but the election is not limited to such students. In teaching human physiology I begin with the lowest forms of life and devote a lecture or two to the subject of evolution of the higher from the lower, teaching them in short to regard man, not as a fallen angel, but as a risen ameba. I then begin the demonstration by models, and by microscopic study of slides, with the reproductive organs of the female, trace the origin, growth, fertilization, and development of the ovum to the point of classification of tissues, then go on to the usual study of the various systems of the body. This gives a very desirable background to later lectures upon maternity.

In addition to the elective courses in physiology which run through the year, I also offer a course in public hygiene which is very largely elected. In this course I classify all the communicable diseases, teaching the essentials in relation to their history, transmission, and prophylaxis. In this classification I include gonorrhea and syphilis, and treat them precisely as I have treated the others. That is, I

*Prepared at the request of and read before the Public Health Education Committee of the Medical Society of the County of New York, at the New York Academy of Medicine, March 6, 1912.

give a brief outline of the history of each disease, its prevalence, usual and unusual modes of communication, its chief symptoms, its possible complications and results. I give the history of our knowledge of the germ of each and its diagnostic importance. I lay great stress upon the hereditability of syphilis, and also upon the ultimate results of gonorrhea as a cause of sterility, of miscarriage, and of subsequent surgical procedures.

I tell my students plainly that no man leading a promiscuously licentious life ever escapes gonorrhea and rarely syphilis; that, however much of repentance he may bring to his marriage, he brings, as a rule, after such a life an infected body, and furthermore in the case of one of these diseases an infection which may transmit itself not only to an innocent wife, but to children as well.

It seems to me exceedingly important that the venereal diseases should be classified quite as a matter of course along with the other communicable diseases, and that the lectures upon them should be absolutely free from sensationalism and, above all, from any tinge of emotionalism or of sentimentalism, that lowest deep of all.

At the same time I think it very important that young girls should receive no exaggerated nor alarmist view in relation to the subject. I avoid figures and percentages, in short, pessimism.

Besides the two courses in physiology and sanitation which run throughout the year, I give a course of six lectures upon personal hygiene each Autumn to all new students. These numbers vary from 350 to 325.

In these lectures, in addition to the general subjects comprised in personal hygiene, I give one lecture upon the subjects of constipation and menstruation.

But my chief work in relation to our subject tonight is given toward the close of the senior year, when I offer to the graduating class a course of four lectures upon reproduction, maternity, and the care and feeding of young children. These lectures are usually attended, I think I may say, by every member of the senior class and I have had earnest assurances for many years that they have been of real service in the lives of many women.

Since some students may perhaps not have elected my other classes, I recapitulate briefly in these lectures the information in regard to the venereal diseases, dwelling especially in relation to them upon sterility and abortion.

I also speak very plainly upon the subject of criminal abortion, placing it where it belongs as a State prison offence, but giving the information necessary to an understanding of what a justifiable, i. e., a legal abortion, miscarriage, or premature birth is, stating that it should never be performed on the word of any one physician, but only after consultation with the best adviser possible to obtain.

I also devote considerable time to the consideration of heredity and eugenics, explain to them Mendel's law, show them several pedigree charts, and explain fully the disastrous results of combining bad, and especially similar bad strains of inheritance.

In these lectures I use models of the uterus and its appendages, of the ovary, and of the developing ovum up to about three months. I explain and show them carefully the development and the use of the afterbirth, and dwell upon the danger attending infection of the placental wound.

I also instruct them in regard to muscle tone of the uterine wall, and explain that the tone of that muscle corresponds to the muscle tone of the body as a whole and shares with the body muscles vigor and vitality, as well as laxness and flabbiness.

I endeavor to show how with the carriage of the child to full term Nature is with the mother every step of the way, and that inconvenience, discomfort, and pain can be, by proper living, reduced far below the average apprehension; that even if not reduced they are not worthy of mention in comparison with the glorious privilege of being a mother. I instruct them briefly as to the cutting of the cord, the appearance of the afterbirth, and the immediately subsequent needs of the mother and the child, not forgetting the treatment of the child's eyes, etc.

In relation to the feeding of the child, I adjure them never to let mother-in-law or sister or female friend or trained nurse or physician debar them from the duty, pleasure and privilege of nursing their own babies should they be fortunate enough to have any.

Someone has asked me if I ever mention prenatal influence. I do. I warn against silly tales, both spoken and printed, in relation to the subject, but at the same time I tell them that there is such a thing for both parents and that it begins with the first conscious choice of the individual between right and wrong, physical and moral.

These lectures are not easy to give. I feel as if they were at once the most important and hardest part of my year's work. A slight error in taste and judgment would nullify much of the good that one fain would do.

In my opinion no amount of information can compensate for a loss of the sense of decency. Above all things such lectures must not be touched with the taint of sentimentality. Neither should they be made purely, coldly, inhumanly scientific. The human touch, now and again a touch of humor, should lighten up the profound seriousness with which youth is so prone to take all its problems.

An exact and wide knowledge of the subject should be, obviously, the first essential in teaching. I have sometimes felt of late that with the growing demand for instruction upon these subjects this last essential was not always met in would be instructors, that sometimes "a little more—and how much it is"—than was necessary or wise was given.

Is it not possible that the pendulum may swing too far away from the old and harmful reticence, and the fastidious and critical mind of adolescence be offended by undue detail, and the few prurient minded be stimulated to unclean curiosity? It is the golden mean we are all seeking. How high and difficult of attainment it is, only those who try unceasingly to reach it know.

337 Mill Street.

Our Readers' Discussions.

Questions for discussion in this department are announced at frequent intervals. So far as they have been decided upon, the further questions are as follows:

CXXII.—What medicines, dressings, etc., if any, would you recommend to equip a family medicine cabinet? Give details as to quantities, labeling, and arrangement. (Closed May 15th.)

CXXIII.—Under what circumstances do you find it advisable to prescribe the continuous use of alcohol? (Closed June 15th.)

CXXIV.—How do you treat streptococcic sore throat, in view of the possible sequelæ? (Answers due not later than July 15th.)

Whoever answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but not REQUIRED*) that the answers be short, if practicable no one answer to contain more than six hundred words; and our friends are urged to write on one side of the paper only.*

All persons will be entitled to compete for the prize whether subscribers or not. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish. All papers contributed become the property of the JOURNAL. OUR READERS ARE ASKED TO SUGGEST TOPICS FOR DISCUSSION.

The prize of $25 for the best essay submitted in answer to Question CXXI was awarded to Dr. J. W. Miller, of Cincinnati, Ohio, whose article appeared on page 1096.

PRIZE QUESTION CXXI.

HEMATURIA.

(*Concluded from page 1207.*)

Dr. Alfred Costales, of Brooklyn, states that

Hematuria, or blood in the urine, signifies to me that there is a morbid condition of the system and of the urinary tract and we must by exclusion discover or ascertain the probable source of the bleeding and direct the proper treatment to the condition that is present. The quantity of blood discharged in the urine varies greatly and the color ranges from a dark, almost black, to a smoky, or somewhat pinkish hue. Albumin is always present and blood corpuscles can be seen under the microscope, though they will appear swollen and shrunken. There are a few sources of fallacy, however, and we must be sure that the urine really contains blood, for substances such as beet root, logwood, rhubarb, strawberries, and bile are capable of imparting a color similar to blood. In women it would be advisable to draw the urine by catheterization. By applying a very simple test the presence of blood is at once apparent. When simple tincture of guaiacum and oil of turpentine, equal parts, are shaken together to make an emulsion, and the urine is carefully added, an intense blue color is produced. The same reaction is seen if patient is taking potassium iodide. The causes are local inflammation, scurvy, or rupture of vessels, calculus, the eruptive diseases at times, tuberculous trouble, and in Egypt and other places as a result of a parasite, *Bilharzia hæmatobia*,—not forgetting Bright's disease; also from overdoses of some medicaments like oil of turpentine, chlorate of potassium, cantharides. It may be vicarious and is seen sometimes in purpura and in rupture of the kidneys. The cystoscope and all the recent apparatus for bladder diseases may help in locating the origin or source of the hematuria. The treatment must vary with the lesion to which the hemorrhage is due. Complete rest is an excellent treatment. Give gallic acid, grains ten to twenty, with or without dilute sulphuric acid every three hours, and administer ergot hypodermically; ice in the rectum; ice bags over the seat of the hemorrhage. If clots are retained and decomposed, wash the bladder out with simple hot water, and if this is not sufficient, we may have to expel the clots by incision through the perineum. Urotropin in 7.5 grain doses three times a day will prevent decomposition.

Dr. John Palmer Matthews, of Carlinville, Ill., writes:

What does hematuria signify to you and how do you treat it? "A passage of urine mingled with blood" is Webster's definition of this symptom. It is of grave import, and when found in this region where malaria is endemic we at once ascribe it to malarial infection of the more chronic type due to the autumnal malarial plasmodium.

The consequent congestion of the kidneys and hematuria are only one of many manifestations of this ever present malady, and point at once to the need of quinine in a liquid form to be absorbed most readily into the blood. The best formula is:

℞ Quinine disulphatis, ...ℨss;
Acidi sulphurici diluti, ...ℨss;
Tincturæ cinchonæ compositæ, ...ℨii;
Spiritus frumenti, q. s. ad .....ℨviii.

M. ft. mistura. Sig.: Teaspoonful every two hours till the ears ring, indicating that the blood is saturated; then two teaspoonfuls each morning for twenty-eight days.

The quinine will check the segmentation of the malarial parasite in the red blood corpuscles, and, after a month of expectation and suspense, the specific germs will be destroyed and the dread congestive chill will not recur spasmodically to contract the bloodvessels of the kidneys, with rupture of the Malpighian corpuscles and loops of Henle, causing the symptom, a passage of urine mingled with blood.

Other rarer causes are infections of the genito-urinary canal with the specific germs of gonorrhea. Tubercle bacilli and pus producing cocci may form abscesses, which extend to the hilum of the kidney, producing surgical kidney, the only treatment of which is removal.

Dr. Melville Silverberg, of San Francisco, remarks:

The occurrence of blood in the urine, even when discernible only by the microscope, signifies a definite organic lesion of the urinary tract or the genital organs immediately adjacent. As a single symptom it is of the utmost importance to diagnosis, but practically never is conclusive in itself. Consideration of correlated phenomena is essential, yet much information may be gained by close observation of this symptom.

Marked quantities of blood occur after trauma and in cases of tumor. Occasionally the enlarged prostate may be the seat of alarming hemorrhage. Moderate and microscopical quantities of blood are associated with urinary tuberculosis and stone.

Hyperacute inflammations, nephritis, pyelitis, cystitis, spermatocystitis, urethritis, all cause some blood to appear in the urine. In a woman, blood reaching the vestibule from whatever source mingles with the urine.

Apparently unchanged blood results from large hemorrhages. Clots are of no special significance, though formerly held to be so.

Hematuria may appear intermittently. In the intervals the urine may become perfectly clear. This is the case in tumors and in essential renal hematuria.

Blood may appear uniformly mixed with urine, or in larger part at the beginning or end of micturition. Renal blood is always uniformly mixed. If from the bladder, it may or may not be, in the latter case appearing at the end of micturition. Blood appearing only in the first portion of urine leaves no doubt as to its origin in the urethra.

The significance of hematuria can be ultimately defined only by reference to other symptoms, the history of the case, and those signs, physical findings and additional data gathered by special procedures, all of which make up the clinical picture. In itself it does not make the diagnosis. It does not tell the nature of the lesion. But the discovery of its source leads to concentration of the attention upon the part thus obviously involved.

The treatment of the milder forms of hematuria is that of the underlying condition. But when hemorrhage becomes so great as to alarm the patient and the loss of blood is significant, attention to this symptom is demanded. With the knowledge that most hematurias of consequence tend to cease spontaneously, rest in bed with hypodermics of morphine, if required, seem to be the only treatment necessary. If more is desired, the ice bag may be placed over the part affected. Internally ergot has been recommended, but it is doubtful whether there is any drug so administered which can control bleeding from the urinary tract. If hemorrhage is from the bladder or prostate, the instillation of one c.c. of adrenalin solution may be helpful, or at least worth trying. Further steps consist of measures to combat the anemia, such as saline infusions or even transfusion, if there is sharp loss of blood, and iron and arsenic, if the loss is more gradual. Occasionally large clots may obstruct the free passage of urine from the bladder, in which case it may be necessary to employ an evacuator. Fortunately it is rare that on account of bleeding recourse must be had to immediate operation.

Dr. B. G. R. Williams, of Paris, Illinois, points out that

Hematuria usually signifies the presence of some lesion of the urethra, bladder, ureter, or kidney. I am certain, however, that blood may sometimes be found in the urine without ulcerations or excoriations of the mucosa of the urinary tract, the so called "renal epistaxis."

Pain and frequent micturition are almost invariably observed when pathological processes are present, but these symptoms taken alone do not usually locate the trouble. I usually pursue the following plan when attempting a differential diagnosis:

1. If the patient is a woman, I make certain that menstruation is not only absent, but not yet due. Not only may the urine be contaminated with vaginal blood, but we may be dealing with a vicarious menstruation from the kidneys.

2. Then I instruct the patient to pass the urine successively into three glass tumblers. If the first contains much blood, the second less blood, and the third little or no blood, I conclude that the trouble must be in the urethra, i. e., rupture or ulcerations of its mucosa. Such instances I have rarely met. I find that the hematuria usually ceases after the use of astringent urethral injections.

3. In case the cause is not found so easily, I pass a sterilized flexible catheter into the empty bladder and inject a drachm of sterilized, concentrated, aqueous solution of potassium iodide, and instruct the patient to retain it if possible. I then begin to test the saliva for iodine at intervals of ten minutes, by means of chlorine water and carbon bisulphide. If iodine is found within forty-five minutes, I conclude that the lesion is probably in the bladder. In such a case, I search for a stone by means of a sound. If none is present, I examine the urine for gravel and finally for gonococci. If these examinations are negative and symptoms of cystitis continue, or the iodides are invariably absorbed from the vesical mucosa when injected, I advise that a perineal cystotomy be done in order that the bladder be perfectly and permanently drained. There are several contraindications for this operation. If possibility of papilloma or carcinoma exists—and such may sometimes be demonstrated by the cystoscope—the suprapubic route is preferable. I do not usually advise cystotomy until I am certain that the hematuria has not as its origin a renal or ureteral lesion.

4. Proceeding to the ureter and kidney, I have occasionally located a very peculiar and not generally recognized cause of hematuria. Even where macroscopic gravel was absent, I have found large numbers of sharp crystals of calcium oxalate. Withdrawal of acid and vegetable foods has caused both crystals and blood to disappear.

5. Failing here to determine the cause, I next advise an x ray picture. Provided the operator is skilled, negative evidence is as valuable as positive. The latter indicates operation.

6. I then inject into a guineapig's thigh thirty drops of the urine, massaging upward and pinching the inguinal glands. These I remove in two weeks and examine for tubercle formation. If not too far advanced, I advise removal of the diseased kidney.

Excellent preservation of the red blood cells argues for a bladder or urethral lesion.

Where no pathological cause seems to be present, there may be a congestion of the kidneys. Here I have used ergot with success, but would caution the physican against its use for indefinite periods, as it is likely to cause gangrene or other bad results.

Dr. S. J. Essenson, of New York, remarks:

Blood in the urine may result from affection of any part of the genitourinary tract and a solution of continuity attended with hemorrhage.

The organs from which bleeding may come are the kidneys, including the pelves, the ureters, the prostate, the bladder, and the urethra.

Renal hematuria is met in repletion of the renal vessels. Overflowing of the vessels may arise in the form of active hyperemia, like that produced by irritant substances, as cantharides or oil of turpentine. Passive hyperemia or venous congestion can take place, the blood corpuscles migrating through the walls of the capillaries into the renal tubercles. This is the case when the obstruction to the outflow of the blood is situated either in the renal vein itself or in the vena cava ascendens, as when a thrombosis forms in either of the vessels, while the arterial blood supply to the kidneys remains uninterrupted. Another source of bleeding may be renal calculi, wounds, or contusions of the kidneys. Tumors of the kidneys may cause bleeding.

In malignant types of acute infectious diseases, as scarlet fever, malaria, smallpox, hemorrhage from the kidneys may take place.

Leuchemia, hemophilia, purpura, and scurvy are causes of renal hematuria. Bleeding from the kidneys has been observed in cancer, tuberculosis, and abscess of the kidneys. Ruptures of the kidney always cause hemorrhage, but aneurysm of the renal artery and infarction of renal vein is rare, but such a condition may cause hemorrhage.

Bleeding from the ureter is usually due to calculi passing the ureter or the presence of calculi, causing ulceration and consequently bleeding.

Bleeding from the bladder is due to papilloma, presence of stone, cancer, diphtheritic cystitis, ulceration, injury, rupture of bladder or rupture of a vein, and the presence of parasites.

Bleeding from the prostate may be due to trauma, or, if nontraumatic, is a result of tuberculous or carcinomatous ulceration.

Bleeding from the urethra may be due to impacted stone, to gonorrhea, or to instrumentation. Blood may also appear in the urine without apparent cause, as in neurasthenic or hysterical individuals, where no lesion is found to account for it.

Treatment. The treatment of hematuria can only be thorough after the cause is ascertained. A careful exploration of the bladder, rectum, and urethra should be made, and a thorough analysis of the urine, chemical and microscopical, must be performed. The cystoscope plays here the first importance, also catheterization of the ureters is to be considered.

Morbid constitutional conditions, as purpura, etc., must be treated accordingly. In a general way, inflammation of the kidneys, bladder, or prostate requires hot baths, the application of leeches, hot fomentation, and the administration of cathartic and alkaline diuretics. The diet must be regulated and the patient must lie perfectly quiet in bed. Catheterization, as a rule, is to be avoided, especially where urethra, bladder, or vesical neck is the source of bleeding. Ergot, gallic acid, and turpentine are the drugs principally used. If the bladder is filled with clots and becomes obstructed, or if bleeding occurs in a case where there is a fetid and ammoniacal urine already, it will be necessary to wash out the clots and irrigate the bladder with antiseptic and hemostatic solutions. Boric acid solutions should be injected and drawn out again by suction. After the bladder is free from clots, silver nitrate solution from one to 10,000 to one to 500 may be carefully used with advantage. In severe, uncontrollable hemorrhage a suprapubic or perineal cystotomy is indicated. In a majority of cases removing the cause, as by excising a tumor, curetting of bladder, etc., will stop the hemorrhage.

Correspondence.

LETTER FROM LONDON.

Papers on School Medical Inspection.—Evidence before the Select Committee on Proprietary Medicines.—Opening of the Royal Society of Medicine by the King and Queen.

LONDON, ENGLAND, *June 1, 1912.*

At a meeting of the Association of Registered Medical Women papers were read dealing with School Medical Inspection; Dr. Dickinson Berry was in the chair. Doctor Seekings, assistant medical officer to the Tottenham Education Committee, gave an account of the routine duties of a school doctor. Mornings were usually devoted to the systematic examination of children entering and leaving school in accordance with the statutory requirements of the board of education. Afternoons were occupied by such varied duties as the examination of special children sent up by attendance officers, the visitation of schools to investigate sanitary conditions or outbreaks of epidemic disease. School dinner centres had also to be inspected and classes on infant care, hygiene, and mother craft to be supervised. At Tottenham one whole day a week was devoted to the eye clinic. Increased interest in the welfare of their pupils had been aroused among teachers generally. Routine inspection entailed the examination of many normal and healthy children, but the conditions frequently revealed were of the greatest interest and afforded material for research work in various directions.

Doctor Wilson, assistant medical officer of health, of Acton, speaking of some of the difficulties encountered in school work, said that first among these was that of obtaining the active cooperation of parents. Industrial conditions in the district where a great amount of female married labor prevailed were largely responsible. Other factors which militated against the aims of inspection were short hours of sleep among many of the children and work out of school hours to augment the family income. Endeavors to combat these defects consisted in the provision of school dinners, of country holidays, etc. The speaker deplored the lamentable ignorance displayed by many parents as to the value of eye examination, the work of the oculist being often frustrated by very trivial excuses. Unsuitable clothing was another difficulty. By far the commonest mistake was to overclothe the children, the garments in some cases reaching an almost incredible number. Defective carriage and postures were not infrequently due to tight or ill fitting clothes.

Doctor Gaffikin, school medical officer at Enfield, dealt with some of the side issues of the work the interest of which was greatly enhanced if some special subject were taken up for investigation. As examples were mentioned problems in connection

with the economic side of child life, the influence of the period of lactation, or of the quality and quantity of food supplied. Investigations such as these robbed statistics of their proverbial dullness.

Some interesting evidence on proprietary medicines was given at the inquiry into the subject by the Select Committee of the House of Commons. Sir Nathaniel Highmore, solicitor to H. M. Customs and Excise, was the first witness. He was asked by the chairman (Sir Henry Norman) as to his view of the law generally, and said he regarded the present law as very much out of date. The exemptions were very wide and some were entirely obsolete. He regarded it as possible to place on the statute book a fairly simple act of parliament which would do away with any question of concession and make it clear what was intended to be covered and what exempted.

Sir Philip Magnus asked whether any trader in obtaining a license had to make a declaration as to the composition of the medicines; the reply was in the negative.

Doctor Lynch asked whether the proprietor of a patent medicine could sufficiently advertise it, boom it, so to speak, and so make it a well known medicine and thus evade the duty from which well known medicines were exempt. The witness answered that that would be the case only if there were no proprietary rights attached to the article. The chairman asked: To which government department should a person apply for information with regard to the sale and advertisement of patent medicines apart from matters connected with payment of duty? The witness replied, to the home office, perhaps, or to the local government board. He thought both those departments might be concerned. There was nothing in law to prevent any person making any mixture containing anything except obvious poisons, advertising it as a cure for any disease, and selling it broadcast to the public on payment of stamp duty. The police were not entitled to take action on the ground that offering a certain mixture for the cure of a certain disease was a fraud. It was not the business of any government department, or any office whatever, to concern itself with the growth of the use of pernicious drugs and to do something to protect the public. There was no check of any kind which would prevent a man having no qualifications whatever from putting worthless drugs together, bolstering them up by advertisement, selling them at prices absurdly out of proportion to their real value; he would not come within the purview of the law, except as regards stamp duty.

The king, accompanied by the queen, opened the new buildings of the Royal Society of Medicine recently, at the corner of Wampole Street. Owing to the court mourning the function was of an extremely quiet nature and the visitors arrived without escort. At the entrance to the new building a guard of honor with band, furnished by the medical unit of the University of London Officers' Training Corps, was drawn up and gave the "royal salute." The king and queen were received by Sir Henry Morris, president of the society, and the honorary secretaries. An address was presented, and in reply the king said it gave him great pleasure to open the fine building which would henceforth be the home of the society and would provide adequately for the increase of their membership and for the extension of their duties since a new and enlarged charter was granted to them by his father, King Edward. The importance of the society's work was now universally appreciated, and it was a matter of satisfaction that their needs had been so generously provided for. Having inspected the building, the king and queen remained to tea, to which many other distinguished people had been invited.

Therapeutical Notes.

Postoperative Treatment of Prostatectomy.—L. W. Bremerman, in the *Therapeutic Gazette* for April, 1912, describes an apparatus for drainage of the bladder after prostatectomy which carries out all of its function automatically and with precision. A long rubber tube connected with the drainage tube from the bladder leads into a receptacle placed on the floor. In its course, just above the receptacle, is a glass Y tube, with the third limb of which is connected another tube leading from a funnel attached, several feet above the floor, to a stand. Above the funnel is fastened a cup which pivots on a horizontal axis, so that when filled with water from a reservoir situated over it, it tilts and empties itself into the funnel. The water running down from the funnel toward the receptacle on the floor, in passing through the Y tube, forms behind it a suction, as in a filter pump, which causes a siphonage of the fluid in the patient's bladder. This siphonage may be regulated to occur at any given interval of time by arranging the flow of water from the reservoir into the cup, by means of a stop cock.

With regard to placing the drainage tube in the bladder, the author emphasizes the fact that care must be taken not to have the end of the tube in contact with the floor of the bladder, otherwise a reflex anuria may occur.

During the first twenty-four hours the drainage apparatus is so set that it will empty the bladder completely every five minutes, on the second day every ten minutes, and thereafter every fifteen minutes for five or six days, when the tube is withdrawn. The apparatus will operate no matter what the position of the patient, whether in bed or sitting up in a chair. By virtue of the perfect drainage it affords, the patient is rendered comfortable, the bladder does not become distended, clots cannot form, the bladder cannot fill up, and the urine cannot wet the dressings, irritating the wound and preventing healing, nor trickle into the tissue of the prevesical space, engendering sepsis. The amount of urine excreted can, moreover, be measured by subtracting the volume of fluid that has left the reservoir from that found in the receptacle on the floor.

Another measure carried out by the author daily for three weeks after the operation is the passage of a 28 F. metal catheter through the urethra into the bladder, followed by irrigation of the latter with one to 4,000 formaldehyde solution, or injection through the catheter of a solution of one of the silver salts.

Treatment of Urticaria.—Sabatié, in *Progrès médical* for March 9, 1912, advises in urticaria the administration of lukewarm shower baths, particularly over the spinal region. Some patients do well with brief, tepid baths containing starch or gelatin —200 grammes being added to the bath—though very often the relief is but temporary and followed by increased discomfort. Locally, lotions consisting of hot water to which acetic acid, vinegar (1:3 parts), phenol (one per cent.), or chloral hydrate (one per cent.) have been added, should be used over the itching areas, either at the time of paroxysms, or if the latter are observed to appear at definite hours of the day, just before the time they are expected. After applying these washes, the skin may be lightly sponged off, without drying, and a powder of starch, talcum, or zinc oxide containing one or two per cent. of camphor or menthol applied. Slices of lemon may also be rubbed over the skin, but in very intense paroxysms of itching, some such preparation as the following will be required:

℞ Menthol, ...10 grammes;
Camphorated alcohol,
Chloroform,
Ether, ...of each 30 grammes.
M. fiat aspergo.

This is to be used as a spray. Ointments of zinc oxide with two per cent. camphor or menthol, of one to five per cent. phenol, or of ten per cent. naphtholated petrolatum, may also be used, but they are less effective than lotions and are applicable only for limited areas of involvement. Swathing the part in cotton may also be tried.

As to the general treatment, acute urticaria *ab ingestis* usually requires only purgation, a light diet, and diuretic drinks. Chronic urticaria, essentially a vasomotor disturbance due to some form of intoxication, is to be combated from two directions: 1. Removal of the toxic factor, by means of quinine in malarial cases, sodium salicylate and alkalies in rheumatism or gout, diet and intestinal antiseptics with betanaphthol or some lactic acid preparation in cases of enterogenous autointoxication. 2. Treatment of the vasomotor element, by means of ergotin, 0.5 to 1.0 gramme a day; calcium chloride, one to 3 grammes; atropine sulphate, two or three granules of 0.00025 gramme each, or valerian preparations. Avoidance of overexertion, mental quiet, and moderate outdoor exercise are also to be recommended.

Treatment of Severed Finger.—M. C. S. Lawrance, in *Practitioner* for March, 1912, states that in the case of accidents where the tip of a digit has been completely severed, it is well worth while to suture it on to the raw stump. If it lives, as it did in a case which he reports, the cosmetic effect is good and often a limited amount of movement is possible, though the latter is not of great importance provided there is good movement in the phalanx next to it, as both flexor and extensor tendons find fresh attachments to that bone. A point to be kept in mind is to avoid using antiseptics that are too strong. The use of a freshly made solution of iodine is recommended by the author. After the dressing, the part should be kept warm and not disturbed, if comfortable, for ten days. In the successful case reported, silk sutures were used, two lateral and one palmar, to hold the severed tip of a thumb to the stump. The first dressings were removed in ten days and the part thereafter dressed once a week for three weeks, when the sutures were taken out and zinc oxide ointment was applied. The extreme tip of the thumb became gangrenous and separated, but the remainder grew on firmly, with motion in the distal phalangeal joint preserved.

Treatment of Neuralgic Pains.—Hirtz, in *Paris médical* for February 24, 1912, gives a number of formulas of preparations for external use in neuralgia.

1. Bourget's ointment:

℞ Salicylic acid,
Oil of turpentine,
Hydrated wool fat, ...of each 10 grammes.
M. ft. unguentum.

2. Where the condition is suspected to be of gonococcal origin, the following liniment may be applied twice daily:

℞ Guaiacol, ... 5 grammes;
Methyl salicylate, ...15 grammes;
Oil of hyoscyamus (one part leaves to two of oil), ...30 grammes.
M. ft. linimentum.

3. The following should be well shaken before use:

℞ Guaiacol, ... 2 grammes;
Tincture of belladonna, ...10 grammes;
Oil of hyoscyamus, ...30 grammes.
M. ft. lotio.

4. Another combination is:

℞ Guaiacol, ... 2 grammes;
Methyl salicylate, ...10 grammes;
Liquid petrolatum, ...40 grammes.
M. ft. unguentum.

Internally, the following preparation may be used:

℞ Citrated caffeine, ...0.10 gramme;
Quinine valerianate, ...0.15 gramme;
Acetphenetidin, ...0.20 gramme;
Antipyrin, ...0.30 gramme.
M. ft. pulvis unus.

This should be enclosed in a cachet. One or two such cachets may be taken daily.

Treatment of Metrorrhagia.—R. H. Alcorta, in *Clinica y Laboratorio* (*Revue de thérapeutique médico-chirurgicale*, March 1, 1912) makes a strong plea for tamponade of the uterine cavity with iodoform gauze in the treatment of persistent metrorrhagia following abortion. After attempting without success, in such a case, to remove the remnants of membrane from the uterus by the digital method, he left the patient with a strip of the gauze in the uterine cavity, intending to perform an instrumental curettage the next day. When the time came, however, to remove the gauze, remnants of placental tissue were found attached to it. He therefore limited himself to a renewal of the gauze, with the result that two days later the uterus was entirely empty. There was no fever in this case either before or after the intervention. Similar good results were obtained later in other cases. Alcorta asserts that by employing this method the necessity of curettage with the attendant danger of bacterial contamination is often done away with in cases of retention of membranes without infection.

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MEETING OF THE AMERICAL MEDICAL ASSOCIATION.

Reference to our account of the sixty-third annual meeting of the American Medical Association, concluded in this issue, will show that with the possible exception of numerical strength no more successful professional gathering has ever been assembled in this country. In number and importance the papers read were noteworthy, the social features were all that could be desired, and the weather itself contributed to the success of the meeting. If any premonitions of storm were felt, they were soon dissipated and all discussions terminated harmoniously and to the best interests of the organization. The relations of the medical profession to the public were dwelt upon, with the happy result that henceforward still more systematic and persistent efforts will be made to instruct the laity in all aspects of medicine that can be made clear to nonprofessional minds, especially such as regard personal hygiene and the prevention of disease. Only such instruction can rid the public mind of the bogy of a tyrannical medical government, and put a stop to the attacks of ignorance and prejudice on the practice of experimental physiology and pathology and the use of vaccines.

Meetings of this kind are immensely fruitful to the individual, as well as to the association; the personal contact, the immediate exchange of views, the discussions ensuing upon the spoken word all have a value not to be duplicated by any amount of mere perusal of the printed page.

THE SCIENTIFIC EXHIBIT AT ATLANTIC CITY.

Of prime interest and value to all members of the American Medical Association was the scientific exhibit at Atlantic City, open throughout the week. Here were displayed remarkable x ray work from the Mayo clinic and contributed by the American Proctological Society; beautifully prepared bone lesions exhibited by Dr. Lewis Gregory Cole and Dr. Clarence B. Moore; superb pathological viscera from the United States Bureau of Animal Industry; wounded skulls from the Army Medical Museum, at Washington; photographs of novel and intense interest of the effects of disease on the savages of West Africa from the Harvard Medical School. We note the names at random; there were many others worthy of all praise.

This exhibit was hard to find, and poorly advertised, being reached by a narrow stairway in one corner of the exhibition and headquarters building, and occupying a gallery by no means overlighted. Considerable criticism from high sources was made to the effect that the scientific exhibit was designedly overshadowed by the commercial, which occupied the main floor and was admirably displayed. This was quite possibly, however, due to accident, and a certain animus against the manufacturers seemed to be evident in certain quarters. It looks as if some doctors, nobly doing their work with insufficient remuneration, and no profit in the usual sense of the word, were disposed to deny to business men pure and simple the right to realize a profit on their goods. But, until we physicians are prepared to manufacture and furnish at cost all the apparatus, books, and paraphernalia used in the practice of medicine and surgery, we must necessarily permit the stimulus of reasonable commercial profit to govern the production of such things. Furthermore, it should be remembered that into the production of high class books and apparatus—optical especially—there enters the factor of artistic pride. The commercial exhibit was indeed a beautiful thing in its way and well worth the earnest attention of every visitor. Much of what he saw was absolutely indispensable to his work and presented in many cases real triumphs of artistic skill. Part of the main floor, too, was occupied by proofs of the very vigorous campaign carried on by the association

against frauds of all kinds. Until our social methods are fundamentally altered, manufacturers of medical apparatus and publishers of medical books must live as other manufacturers and merchants do, and sneers at their methods, which are universal among civilized peoples, seem to be out of place.

Nevertheless, the plea made by its sponsors that the scientific exhibit should be made a more prominent feature of future meetings, and should receive a liberal appropriation to that end, is worthy of respectful hearing, for tangible evidence of medical progress, as embodied in such an exhibit, is stimulating as well as interesting, and dwells in the memory when recollections of papers read may have faded. It forms also a suitable testimonial to one of our best classes of scientific workers.

PROFESSIONAL PRIDE.

The average man as he steps into the barber's chair harbors, not altogether without satisfaction, and unconsciously, perhaps, a sense of some superiority. The barber is a servant created to trim the hair and attend to certain other personal wants; but he, on the other hand, is quite unaware of any sense of inferiority. His skill confers upon him that pride of craft that enables him to overlook the curious notions of outsiders. So each trade feels its own prestige. The cooks, with good reason, know their superiority, in spite of the scorn of the unknowing. Their art requires before all rare culinary accomplishments, the skill to prepare and harmonize a dozen dishes. The actor, no matter what his name or fame, in certain social circles is still looked on as but a player and therefore scarcely fit to be accepted as an equal, and yet the actor who has made himself the master of his art can well afford to overlook such narrow views. This relic of the feudal days still lingers, that all who serve—and who works without serving?—are looked down upon by those who are served.

The medical profession, from the days of its origin as an offshoot from the priesthood, has been held in high respect by the general public. Particularly in rural districts, where none was more learned or of greater authority than the physician, has this been true, yet always have there been those who, by reason of the accident of birth, have been exempt from all service, and are inclined to assume an air of superiority. This class finds its representatives to-day among the *nouveaux riches,* children of wealth with no occupation other than to amuse themselves. True, the layman often does present some novel point of view or even contribute some material advance, but the activities of the meddler are more often pernicious.

The remedy for this state of affairs lies in the education of the public along rational lines, demonstrating whenever possible the reasonableness and reality of modern medical achievements. The profession has too long sought to keep the public in the dark and has relied on mystery and empiricism because to the profession itself medicine was largely a matter of mystery and empiricism. In recent times, however, we have begun to see the importance of taking the public into our confidence. With the growing knowledge of the public has come a further loss of prestige in certain ways. This has been counterbalanced perhaps by the acknowledgment of the more discerning, but it is in almost constant evidence. The physician many times must fall back on his sustaining pride in the profession, and if he seeks happiness must look to find it in the work itself rather than in public recognition. Surely no profession has a more inspiring past; loud talk about it ill becomes us, and those who strut and brag are usually those who have added least to it. Among ourselves, at this period of change, it may be well to recall the traditions and ideals which have guided us in the past, and in the realization of the accomplishments in the science of medicine, which give us place among the searchers after truth, and of the fundamental helpfulness of the work, find satisfaction and inspiration.

POLYGLANDULAR THERAPY.

Five years ago Rénon and Delille, of Paris, (*Comptes-rendus de la Société de thérapeutique,* June 12, 1907), not only termed "polyglandular syndrome" one of the many aggregates of symptoms which several internal secretion glands can awaken when their functions are sufficiently compromised by local or general disorders, but they also introduced the systematic joint use and administration of several glandular products. The word "systematic" is used here advisedly because the ancients had already resorted to polyglandular therapy extensively while modern clinicians had, in a somewhat empirical fashion, employed various combinations. Thus when certain signs suggested that two or more organs, the thyroid, adrenals, ovaries, testicles, pituitary, etc., were insufficient, the corresponding glandular products were given with more or less success. An example of polyglandular therapy of this kind was recorded recently by Sicard Roussy and Berkowitch, who, having sought in thyro-ovarian insufficiency an explanation of Dercum's disease, administered ovary and thyroid gland. Conditions in which the typical symptoms of a familiar disease are supplemented by more or less deficiency of some ductless gland also yield to this

form of therapy. Thus Gougerot (*Paris médical*, June 24, 1911) reported a case of tuberculosis in which, beside the Mikulicz lacrymoparotid syndrome, there was evident deficiency of ovarian, thyroid, and adrenal activity; judiciously combined and adjusted organotherapy here procured excellent results. Cases of this class, which are steadily accumulating, show clearly that a vast field lies before us, sown with difficulties for the time being, but of immense promise for the future.

We present among the original communications in this issue of the Journal one by Dr. F. R. Starkey, which represents a systematic and painstaking effort in this direction. Here oxidation—a function of various ductless glands and particularly of the adrenals, made known in this country several years ago—is taken as the basis of polyglandular therapy in four hundred and eighty cases, forty of which he describes in outline. Its far reaching meaning can hardly be overestimated, not only owing to the additional evidence it contributes in favor of the intimate relationship between various ductless glands and the vital process, i. e., of oxidation and metabolism throughout the whole gamut of pathology, but also as an indication of the power of organic preparations when, in their therapeutical application, empiricism is replaced by rationalism.

THE INTRAMUSCULAR USE OF ETHER.

Walther, in *Bulletin médical* for May 29, 1912, gives details of three cases in which he induced anesthesia by ether injected intramuscularly. One was that of a woman, thirty-seven years of age, suffering from a sarcoma of the jaw. Forty-five hundredths c. c. of ether were injected into the buttock. The immediate results were slight convulsions and thirst, with a pulse rate of 120. A few whiffs of ethyl chloride induced complete unconsciousness which lasted for fifty-six minutes and was followed by some palpitation and, later, ecchymoses on the buttocks.

Walther's second patient was a woman of forty years, from whom he removed a few tuberculous glands. He used 0.8 c. c. of ether, and a few drops of chloroform were required to overcome a slight agitation, and induce an anesthesia which completely masked the pain of the operation. The same ecchymoses as in the former case appeared on the buttocks, together with some pain, and the patient vomited slightly during the night after the operation.

The third patient, a woman twenty-nine years of age, had a suppurative arthritis, received 0.8 c. c. of ether, and, on account of unusual disturbance, seven grammes of chloroform were required to complete anesthesia. The sequelæ were as in the other cases. These results greatly encouraged Walther, and he considers this intramuscular method to have completely justified itself as an important addition to our anesthetic resources.

DIAGNOSTICATING TYPHOID FEVER IN CHILDREN.

Depasse, in *Journal de médecine de Paris* for June 1, 1912, points out that the peculiar stepladder temperature record, the "ascending oscillation" of Jaccoud, is frequently absent in children, thus misleading the physician who awaits this pathognomonic sign. Furthermore this observer has noted that typhoid in the young is often characterized by an abrupt onset with complaint of sore throat or pain in the knee. Almost certain, according to him, as a sign of a typhoid attack is a sudden rise in temperature accompanied by a slow pulse, or one bearing no apparent relation to the fever, a combination peculiar to this malady, as in all other diseases of children both pulse rate and temperature rise together. An early serodiagnosis should be made in all febrile cases in children, and typhoid fever would be found oftener than the average physician is prepared to believe.

SPECIFIC THERAPEUTICS IN LEPROSY.

Dr. D. H. Curry, Dr. M. T. Clegg, and Dr. H. T. Hollmann give a very interesting report on their investigations referring to specific therapeutics in leprosy, which appears as *Public Health Bulletin* No. 47. The authors find that vaccine, that is, ordinary, suspended, killed, cultures of *Bacillus lepræ*, cannot be advantageously employed in the treatment of leprosy, unless very small doses are used, owing to the slow absorption of the material and its tendency to cause abscesses. Live cultures of the bacillus, while so far they have produced no beneficial results, are deserving of further trial; but here, also, small doses should be used to avoid abscess formation. Toxines prepared from the bacillus after the method of Koch's old tuberculin and his bouillon emulsion appear to be of little or no value. The same can be said of horse serum, but here it may be stated that as the horse serum strongly agglutinates *Bacillus lepræ* cultures, there is a possibility of increasing the potency of the serum to a point where it may be of benefit in this disease.

AN IMPORTANT STEP IN THE STUDY OF MALARIA.

At the meeting of the American Society of Tropical Medicine in Atlantic City on June 3d, Dr. F. Creighton Wellman, dean of the Tulane School of Tropical Medicine, made the interesting an-

nouncement that Dr. C. C. Bass had succeeded in isolating the parasite of malaria, first growing it for seven weeks in artificial media in New Orleans, and subsequently, in the Canal Zone, being enabled to watch the entire cycle of development, the process of schizogony, etc. The studies of this society are attracting increased and deserved attention and are fraught with importance in their bearing on life in our Southern States as well as in our newly acquired tropical possessions.

Medical Law.

I. THE RIGHT TO PRACTISE MEDICINE.

In the case of State ex rel. Stanley v. Witter, 123 Pac. Rep. 471, an osteopath instituted a proceeding in mandamus against the State Board of Medical Examiners of the State of Washington, to compel them to act upon an application made by him for a license to practise osteopathy in the State of Washington and to make and file a decision on such application and to notify him thereof. The board denied that they had neglected or refused to pass on the application or to notify the applicant of the action thereon; that on the contrary, they had considered and denied the application, and filed a decision in writing which stated that the application was refused because applicant had failed to file a diploma from any legally chartered college of osteopathy showing applicant's graduation therefrom, and had also endorsed on the back of the application the fact that it had been rejected and the reason therefor, and that the application with the notice endorsed thereon had, at all times, been filed in the office of the secretary of the board. The court, at the conclusion of the hearing, refused to grant the writ of mandamus, from which decision an appeal was taken to the supreme court.

Under the statute, in case of the refusal of a license, the board is required to file a brief and concise statement of the grounds and reason for such refusal in the office of its secretary, "which statement, together with the decision of said board in writing, shall remain of record in said office." The records of the medical board failed to show any formal decision of the board other than the endorsement on the back of the application. From this fact, the applicant urged that his application had never been acted upon by the board, and that he was entitled to have such a decision filed.

The supreme court was of the opinion from the evidence brought out at the hearing, that a decision had been prepared and filed, but had been subsequently lost or misplaced; but this fact, said the court, does not entitle the relator to have the board act upon his application as if in the first instance. If his rights are in any way jeopardized by the destruction of the paper, he possibly could, by proper procedure have the same restored; but the destruction of the paper does not entitle him to have the board act anew upon his application.

VIII. CIVIL MALPRACTICE.

The removal of the patient from the operating table to a bed heated with hot water bottles, in such a way as to leave him, while still unconscious from anesthetics, in contact with a bottle of blistering temperature, is not unique.

A case of this sort is represented in Fawcett v. Ryder, 135 Northwestern Rep. 800. In this case, the defendant was a surgeon, conducting a hospital for profit in connection with his practice, with one trained nurse and two assistant nurses in his employ. Plaintiff had employed defendant to perform an operation upon him for appendicitis and was a patient for hire at defendant's hospital. The evidence showed that after the operation plaintiff was taken from the operating table by defendant personally and placed in a bed which had been prepared by a trained nurse under defendant's general instructions. After plaintiff recovered consciousness, he complained that his back was burning, whereupon the nurse took out from under him a hot water bag which was found to be leaking, and his whole back was found to be burned from the shoulders to the hips. Plaintiff brought suit for $25,000 and recovered a verdict for $1,800, the jury expressly finding that the injury was caused by the negligence of defendant. The defendant appealed from the judgment to the supreme court which affirmed the judgment.

In considering the question whether or not defendant was liable for an accident of the sort occurring in his hospital Mr. Justice Goss, speaking for the court, said:

As the testimony stood at the close of plaintiff's case, reasonable men might conclude the water bottle to have been dangerous to contact with the body, and that it was negligence to leave the same in such a position in the bed that it could come in contact with the insensible patient to his injury. And as defendant personally placed plaintiff in bed, the jury has evidence upon which to have found the negligence to have been defendant's in not removing the bottle or in suffering it to remain where contact could be had by plaintiff therewith. If it needs adjudicated precedent to warrant a conclusion that under these facts defendant was negligent, such a case of burning by a hot water bag under identical circumstances, is reported in Ward v. Hospital, 23 Misc. Rep. 91, wherein the court's opinion states: "It seems from the nature of the act here complained of, that the veriest tyro in nursing would have known better than to have been so grossly negligent as was the nurse in charge of the plaintiff's patient, and the hospital was absolved from liability, because the act so grossly negligent did not evince any want of training or knowledge, but, instead, was a single act of thoughtlessness not covered by the hospital duty to furnish competent nurses. In other words, the act was so grossly negligent as to excuse liability, which theory was disaffirmed by the reversal of the case in Ward v. Hospital, 39 App. Div. 624, on appeal, where it was held a matter for the jury to determine whether a single act of negligence of a nurse established her incompetency and rendered the hospital liable for employing incompetent servants in nursing." Had the act of negligence in the case at bar been that of Mrs. Foster (the nurse) instead of defendant, under this holding defendant could be held liable. On the other hand, from the doctor's viewpoint, with the successful termination on his mind of a dangerous operation, a matter of life or death to this patient, in the mere trusting others with such minor details, matters of secondary importance only, all things considered, reasonable men might conclude no proof of negligence was made out. But as to whether defendant's acts constitute negligence, the law would compel the submission of the question of negligence under the facts in evidence to the jury for its determination. . . .

If defendant personally placed plaintiff in contact with the hot water bottle, or in such near proximity thereto that plaintiff came in contact therewith to the injury complained of, no question of master and servant is involved, and defendant is responsible for his own negligent act, if

such act be negligence, and the jury has found it was. If, on the other hand, the negligence was that of the nurse who prepared the bed, the authorities then hold defendant liable. We quote from 21 Cyc. 1111: "A private hospital which is in its nature a charitable institution is not liable in damages to patients for the negligence or misconduct of its officers as employees, but the rule is otherwise where the hospital is not a charitable institution."

XI. PRIVILEGED COMMUNICATIONS.

In the case of San Francisco Credit Clearing House v. MacDonald, 122 Pac. Rep. 964, an action was brought by an assignee on a promissory note given in compromise and adjustment of a claim of an insane man. Upon the trial of the case the maker of the note showed that the compromise and adjustment were conducted by one Mills as attorney in fact of the insane man, and attempted to show that the payee was wholly without understanding at the time of the compromise, which would terminate the authority of the agent. In rebuttal of this effort, the plaintiff introduced the testimony of Doctor Gardner, the physician who had attended Gage, the payee of the note, and who testified over the objection of defendant that while under his care and observance, Gage was undoubtedly insane, but that at no time was he so far mentally deranged as to be entirely incapable of knowing the nature and the purpose of the transaction in question; and that when discharged in September, 1907, he was completely cured and fully restored to the possession of his mental faculties.

Mr. Justice Lennon, in commenting upon the admissibility of this testimony said:

The defendant objected to the testimony of Doctor Gardner upon the ground that the knowledge of the witness was acquired in the capacity of a physician in attendance upon a patient; and it is now insisted that the trial court's action in overruling the objection was error. The ruling, under the facts and circumstances of this case, was free from error. The general rule of law found in subdivision 4 of section 1881 of the Code of Civil Procedure, which, in effect, declares that a physician may not give in evidence any information concerning the ailment of his patient which was acquired in the course of his employment and necessary to the performance of his professional duties, was created for the protection of the patient. It operates upon the physician alone, and confers a personal privilege on the patient, which may be expressly or impliedly waived by him in person or by an attorney or agent acting in his behalf. . . . If Gage, in person had sued upon the note in controversy, he would undoubtedly have waived the privilege which the law gives him of sealing the mouth of his physician by calling the latter to testify. The assignment of the note to plaintiff for the purpose of collection certainly made the plaintiff the agent of Gage and carried with it the implied consent to use such means and introduce such evidence upon the trial of the case as might be necessary to recover on the note, and therefore the act of the plaintiff in calling and examining Doctor Gardner as a witness must be held to be Gage's act and Gage's waiver of the confidence reposed by him in his physician.

It was contended in the recent case of Cohodes v. Menominee and Marinette Light and Traction Co., 135 Northwestern Rep. 879, that because the plaintiff in an action to recover for personal injuries testified concerning her condition and the nature and extent of her injuries, she thereby waived her right under the statute and that her physician could be compelled to testify to the condition he found. The Supreme Court of Wisconsin, in reviewing the case, rejected this doctrine.

News Items.

Change of Address.—Dr. H. A. Schatz, to 1331 North Franklin Street, Philadelphia.

Medical Club of Harrisburg.—At the annual meeting of the Medical Club of Harrisburg, Pa., Dr. Samuel Z. Shope was elected president, Dr. J. Harvey Miller, secretary, and Dr. John A. Sherger, treasurer, to serve for the ensuing year.

New Departments Opened at Lebanon Hospital Dispensary.—Dr. Charles Herrmann, medical director of Lebanon Hospital Dispensary, Cauldwell and Westchester Avenues, the Bronx, announces that departments in orthopedics, genitourinary diseases, and infant welfare, have been opened at the dispensary. Physicians are cordially invited to send patients who are deserving of this charity.

South Dakota Medical Society.—At the annual meeting of the State Medical Society of South Dakota, held recently in Mitchell, Dr. C. E. McCauley, of Aberdeen, was elected president; Dr. F. A. Spafford, of Flaudreau, first vice-president; Dr. Fred Treon, of Chamberlain, second vice-president, and Doctor Allway, of Aberdeen, secretary and treasurer. Next year's meeting will be held in Vermillion.

A Dinner to Doctor Rongy.—On the evening of May 25th the medical staff of the Jewish Maternity Hospital gave a dinner to Dr. A. J. Rongy, in honor of his appointment as attending gynecologist to Lebanon Hospital. Dr. W. O. Ratnoff was toastmaster, and among those who spoke were Dr. A. M. Hulkowich, Dr. Ralph Waldo, Dr. Abraham Mayer, Dr. G. Seeligman, Dr. S. J. Kopetsky, and Dr. I. S. Hirsch.

The Cartwright Lectures.—Professor Ludwig Pick, of the University of Berlin, will deliver these lectures at the New York Academy of Medicine during the second week in November. The subjects are as follows: 1. Some Pathological Anatomical Findings of Diseases of the Hypophysis and Their Practical Value. 2. Modern Views of Tumors of the Nervous Tissue. 3. Pathological Anatomy of True and False Hermaphroditism in Man.

The American Dermatological Association.—At the thirty-sixth annual meeting of the American Dermatological Association, held in St. Louis, Mo., May 23d, 24th, and 25th, the following officers were elected for the ensuing year: President, Dr. Isadore Dyer, of New Orleans; vice-president, Dr. Howard Montgomery, of San Francisco; secretary and treasurer, Dr. James MacFarlane Winfield, of Brooklyn. The next meeting of the association will be held in Washington, D. C.

Canadian Association for the Prevention of Tuberculosis.—The twelfth annual meeting of this association was held in Toronto on May 20th and 21st, under the presidency of Dr. J. George Adami, of Montreal. The report of the secretary, Dr. George D. Porter, of Toronto, showed that the campaign against tuberculosis was progressing in all parts of the Dominion, and that the best results were obtained in those districts in which there had been cooperation between the Government, the municipality, and local societies. The Hon. Adam Beck, of London, Ontario, was elected president for the ensuing year.

Dinner in Honor of Officers of the American Medical Association.—Dr. S. Lewis Ziegler, president of the Medical Club of Philadelphia, on June 7th gave a dinner of twenty covers at the Union League in honor of Dr. Abraham Jacobi, president of the American Medical Association, and Dr. J. A. Witherspoon, president elect. Among the guests were Dr. James Tyson, president of the Pennsylvania State Medical Society; Dr. Dan Strock, president of the New Jersey State Medical Society; Dr. L. J. Hammond, president of the Philadelphia County Medical Society; Dr. James W. Barrett, of Melbourne; Dr. Francis X. Dercum, Dr. E. E. Montgomery, Dr. James M. Anders, Dr. Charles E. de M. Sajous, Dr. Judson Daland, and Dr. L. Webster Fox, of Philadelphia; and Dr. W. Blair Steward, Dr. Philip Marvel, and Dr. Emory Marvel, of Atlantic City. The dinner was followed by a reception at the Bellevue-Stratford Hotel in honor of the president and president elect of the American Medical Association, of its secretary, Dr. Alexander R. Craig, and Dr. James Tyson.

Cornell University Medical College.—The first class to graduate from Cornell University Medical College since the bachelor's degree was made a prerequisite to the M. D. degree, had its commencement on Friday, June 7, 1912, in the council room at Twenty-eighth Street and First Avenue. Owing to the smallness of the class the commencement was quite informal. The list of students obtaining prizes is as follows:

John Metcalfe Polk Memorial Prizes: Chester Hill Waters, student having the highest standing, first prize, $300; Robert D. Schrock, second prize, $125; Edwin Stanley Ingersoll, third prize, $75.

For Efficiency in Otology, presented by Professor Whiting: David Nye Barrows, first prize, $50; Robert D. Schrock, second prize, $25.

The list of the class and their hospital appointments, previous degrees, etc., is as follows: David Nye Barrows, A. B., Bellevue Hospital; Stearns Samuel Bullon, A. B., Rochester General Hospital; G. M. Nathanael Fedde, B. S., Methodist Episcopal, Brooklyn, N. Y.; Edwin Stanley Ingersoll, A. B., Rochester General Hospital; Helena Lechman, A. B., Erie County Hospital, Buffalo, N. Y.; Theodore Fletcher Mead, A. B., Bellevue Hospital; George Calvin Payne, A. B., Bellevue Hospital; John Edwin Ray, Jr., A. B., Bellevue Hospital; Robert D. Schrock, A. B., New York Hospital; Chester Hill Waters, B. S., New York Hospital; Mabel Agnes Martin, A. B.

Personal.—Sir Victor Horsley, F. R. S., has been elected successor to the late Lord Lister as a member of the Royal Society of Science, Upsala, Sweden.

Dr. Rudolf von Jaksch recently celebrated the completion of twenty-five years' service as professor of internal medicine at the University of Prague. The *Prager medizinische Wochenschrift* issued a special number in his honor, and a *Festschrift* was presented to him.

Sir David Bruce, C. B., F. R. S., head of the Sleeping Sickness Commission, has been promoted to the rank of surgeon general in the British Army, in consideration of his eminent services to the cause of science.

Dr. Ludwig Hektoen, of Chicago, delivered the Harrington lectures at the University of Buffalo. May 28th to 31st. His subject was Immunity.

Dr. Philip F. O'Hanlon, for fifteen years a coroner's physician, has been appointed police surgeon, to take the place of Dr. Henry P. De Forest, recently appointed medical examiner to the Civil Service Commission.

Dr. Charles A. Powers, of Denver, was elected president of the American Surgical Association, at the annual meeting of the association held recently in Denver.

Governor Wilson has appointed the following physicians to represent the State of New Jersey at the Fifteenth International Congress on Hygiene and Demography, to be held in Washington next September: Dr. Richard Cole Newton, of Montclair; Dr. Henry A Cotton, of Trenton; Dr. George A. McLaughlin, of Jersey City; Dr. Stewart Paton, of Princeton, and Dr. A. C. Hunt, of Metuchen.

Association of American Physicians.—The twenty-seventh annual meeting of this association was held in Atlantic City, N. J., on May 14th and 15th, under the presidency of Dr. J. George Adami, of Montreal. In his address Doctor Adami suggested that the association take the initiative in a plan to have the government provide a building in Washington in which national and international societies might hold their meetings, and in which their archives might be kept. He also suggested that the association provide a medal to be bestowed as occasion arose upon those who, in the opinion of the association, had made some important advance in medicine, and for the same object, an annual lectureship could be founded as a means of honoring those who make notable advance in science. Three of the oldest members of the association, Sir William Osler, Dr. S. Weir Mitchell, and Dr. Abraham Jacobi, were elected to honorary membership. Officers for the ensuing year were elected as follows: President, Dr. Llewellys F. Barker, of Baltimore; vice-president, Dr. Simon Flexner, of New York; secretary, Dr. George M. Kober, of Washington, D. C.; recorder, Dr. S. Solis-Cohen, of Philadelphia; treasurer, Dr. J. P. Crozer Griffith, of Philadelphia; councillor, Dr. A. McPhedran, of Toronto.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

May 30, 1912.

1. CECIL KENT AUSTIN: Medical Impressions of America.
2. H. W. MARSHALL: Causes for Failures in Treatments of Chronic Joint Diseases (*Continued*).
3. Fourth Massachusetts Conference on Tuberculosis. JOSEPH LEE: Introductory Remarks on Open Air Rooms. RALPH B. OBER: Open Air Rooms in Springfield. HENRY D. CHADWICK: Open Air Rooms. WILLIAM C. HANSON: Maintenance of Isolation Hospitals. ADAM S. MACKNIGHT: What Happens to Patients Released from State Sanatoria? FRANCIS [illegible]: Relation between State and Local Health Authorities. ARTHUR T. CABOT: Work Treatment for Consumptives.
4. WM. PEARCE COUES: Fracture of Greater Tuberosity of Humerus by Muscular Action in a Child.

3. **Fourth Massachusetts Conference on Tuberculosis.**—Lee, Ober, and Chadwick deal with the same subject, open air school rooms. Lee contends that the great use of an open air room is to serve as an object lesson as to the effect of open air upon school children. He states that in a room where the windows are kept open the attendance has increased from 94.33 to 96.5 per cent., and that no colds have been met with in an open air room in two years. The important point is to keep the children well and not allow them to become sick.—Ober favors an outdoor school rather than an open window school and describes the one recently established at Springfield, too short a time ago to permit much to be said as to results.—Chadwick's idea of a school building in which the required conditions will be met is one in which every room is open on at least two sides, the upper sash of each window to have muslin instead of glass, and the heat maintained at about 60° F. by radiation so that teacher and children would be comfortable without being burdened with heavy clothing. He does not believe that schools should be conducted out of doors in winter although fresh air is requisite. Cool air is refreshing, cold air is stimulating, but extreme cold is debilitating and dulls the mental perceptions.—Hanson suggests that the public should recognize that the provision of isolation hospitals and the maintenance of the same is but one step toward the solution of the difficulties that arise in the attempt to control the spread of infectious and contagious diseases. What is most essential is the careful and immediate investigation of each person stricken with a communicable disease by the local board of health and subsequent careful supervision.—MacKnight investigated twenty-seven patients who had been released from sanatoria at Lakeville and Rutland, found nine to be still living, ten dead, and eight to be at large without their addresses being known. Each patient returned with an arrested case was found to be in either an advanced, or a moderately advanced stage of tuberculosis. When discharged these patients go where they wish and no person or organization is responsible for their care and conduct. Most of those investigated on leaving the sanatoria were found to be careless in their personal habits, especially with regard to the spread of the disease.—Cabot asserts that both exercise and rest are valuable factors in the treatment of tuberculosis.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

June 1, 1912.

1. LAWRENCE W. LITTLE: Practitioner, Profession, and Medical Organization.
2. JOHN B. MURPHY: Surgery of Bones, Joints, and Tendons (*Concluded*).

3. L. Pierce Clark: Myoclonia Occurring Only after Rest or Sleep.
4. Nathaniel Ginsburg: Surgical Importance of Parathyroid Glands and Closely Allied Lymph Nodes.
5. F. F. Simpson: Device for Moving Patients.
6. Augustus Maverick: Typhoid Vaccination and Widal Reaction
7. Malcolm S. Woodbury: Outlining Thyroid Gland.
8. Effa V. Davis: Toxemia and Eclampsia in Newly Born Infant.
9. Lawrason Brown: Recent Advances in Treatment of Pulmonary Tuberculosis by Air, Food, and Rest.
10. Cyrus W. Field: Positive Wassermann Reaction in Lead Poisoning.
11. Ruth Tunnicliff: Simple Stain for *Spirochæta pallida*.
12. Peyton Rous, James B. Murphy, and W. H. Tytler: Transplantable Tumors of Fowl, Neglected Material for Cancer Research.
13. George P. Marquis: Another Tonsil Forceps.
14. Herman E. Pearse and Edwin L. Miller: Hematuria from Tuberculosis of Patent Urachus.
15. A. W. Tucker: Gunshot Wound of Gravid Uterus.

6. Typhoid Vaccination and Widal Reaction.—Maverick observes that the growing popularity of typhoid vaccination makes it important for the physician to know whether his vaccinated patients have been rendered immune to typhoid or not; vaccine kept too long in stock or a faulty thermostat in the manufacturer's laboratory may render his vaccine valueless. Typhoid, being mainly a bacteriemia, the results of vaccination are to be found in the blood and no opinion can be formed from the local and general symptoms of the subject after inoculation, as the majority suffer practically no general reaction and the local skin area may appear quite normal. There is, however, an increase in the bactericidal elements of the serum. Although bacteriolysis is well marked, the bacteriolytic tests are unsatisfactory. The serum also contains an antibody which gives the usual complement fixation test, as seen in typhoid. There is also a decided increase in the opsonins. To decide on the efficacy of the vaccination the Widal reaction is the blood test used, the power of the serum to agglutinate the bacillus of Eberth. The agglutinins are equally abundant whether the vaccine has been given subcutaneously, intramuscularly, or by high intestinal injection. The Widal reaction becomes noticeable in five to ten days after the first dose of vaccine and grows stronger with the second and third doses, reaching its height in ten to thirty days following the last inoculation. The reaction gradually weakens, but in some cases has persisted for one and two years, which is greater than after an attack of typhoid. A Widal reaction which is persistently, not temporarily absent or weak in typhoid is a bad prognostic sign and is usually seen in fatal cases. From this we infer that an absent or weak Widal reaction after typhoid vaccination is suggestive of slight resistance to typhoid infection and an unusually severe attack if infection should occur, which is contrary to our experience in smallpox vaccination where absence of reaction would augur immunity, if our technique was correct and the vaccine reliable, showing that the fundamental principles in these diseases differ. Subjects that have had an attack of typhoid usually show marked symptoms after vaccination. This is paradoxical as one attack of typhoid usually confers lifelong immunity against reinfection. The writer puts this question: "Is the patient immune or hypersensitive to typhoid infection?"

10. Positive Wassermann Reaction in Lead Poisoning.—Field, in making routine Wassermann examinations in his hospital wards, has discovered a number of cases of lead poisoning giving a positive reaction. Of twelve cases of lead poisoning in which the Wassermann test was applied, eight were positive and four negative. Of the positive cases only one gave a specific history of an initial lesion acquired thirty years before, with no secondary or tertiary lesions. Another had a very suggestive specific history and was hypersensitive to lead poison. In a third case no history was obtainable, the patient being semicomatose when admitted and dying shortly after from cerebral hemorrhage. He was a solder caster by trade. In the other five cases there was nothing suggestive of specific nature, all being typical cases of lead poisoning. All denied venereal disease but all showed a positive Wassermann reaction. Improvement in all followed the use of iodides, strychnine, and catharsis. The four negative cases were of chronic plumbism occurring in painters. The writer concludes that a positive Wassermann reaction in a case of lead poisoning does not prove a specific infection, but its presence, however, must not be ignored.

MEDICAL RECORD.

June 1, 1912.

1. Joseph Collins: Vertigo as Symptom of Disease of Nervous System.
2. Lewis A. Coffin: Surgical Management of Nasal Accessory Sinus Disease.
3. Eugene G. Kessler: Treatment of Carcinoma by Selenium.
4. Barton L. Wright: Treatment of Diseases of Vegetable Parasitic Origin by Deep Muscular Injections of Mercuric Succinimide.
5. Samuel Lloyd: Results of Renal Decapsulation for Chronic Nephritis.
6. Gerhard H. Cocks: Tonsillar Hemorrhage.
7. N. E. Brill: Identity of Typhus Fever and Brill's Disease.
8. Eugene H. Eising: Diagnostic Use of Gonococcus Vaccine.
9. Douglas H. Stewart: Abuse of Edge.
10. George W. Kosmak: Use of Medicated Suppositories for Vaginal Application.

1. Vertigo as a Symptom.—Collins has found that aside from tumor and abscess of the brain, disseminated sclerosis and basilar arteriosclerosis, vertigo rarely occurs as a prominent or diagnostic symptom of disease of the brain. Of 425 patients only twenty-two complained of vertigo. Vertigo, although frequently encountered by the neurologist, is for the most part a symptom of disease of the middle ear, the labyrinth, the sinuses in connection with the nasal passages, or of the digestive and blood elaborating organs, and because of this manifold causation it is of little diagnostic value until thorough investigation has been made to determine its dependency. The diagnosis of any disease cannot be made from a consideration of the vertigo alone. Concurrent symptoms must determine its diagnostic value, and it will be necessary to examine the ears, eyes, and the bloodvessels, and to use the ophthalmoscope. Brain tumors are accompanied with vertigo in from thirty to fifty per cent. of the cases, chiefly with tumors of the two poles of the brain. Tumors and abscesses of the brain cause vertigo by interference with the auditory nerve or by causing ocular palsies. In disseminated sclerosis vertiginous manifestations, but not true vertigo, is a constant and early symptom. Unless the vertigo is associated with distinctive phenomena as it is in Menière's disease, in every case of vertigo occurring in patients over forty years of age, the bloodvessels, heart, and kidneys should be carefully examined, as vertigo is the most common prodromal

symptom of cerebral arteriosclerosis, while in generalized arteriosclerosis with involved basilar arteries a vertiginous state is present. In epilepsy it is a common thing for vertigo to precede, accompany, or replace the attacks of convulsions, but if we limit the application of the term to instances in which there is true rotation of the individual or of objects surrounding him, then vertigo is a rare occurrence in epilepsy. If, on the contrary, the slight disturbance of equilibrium, of confusion, and of darkness ushering in an attack of unconsciousness are grouped under that head, then vertigo occurs in nearly every case of epilepsy. In fifteen to twenty-five per cent. of the cases of epilepsy, vertigo manifests itself either as the aura or as the chief feature of the attack. The writer denies the existence of the so called reflex vertigo, although he admits the possible existence of vertiginous states and transitory disturbance of consciousness and equilibrium caused from irritation of any highly sensitory organ. The author concludes that searching examination of the patient can alone determine the necessary treatment.

3. **Treatment of Carcinoma by Selenium.**—Kessler calls our attention to the fact that combinations of selenium have, contrary to those of sulphur, the tendency to impart their oxygen to organic combinations and to be transformed into metallic selenium, that is, they are powerful oxidizing agents. Selenium compounds are given with the idea of removing the sulphur, fully oxidized in the urine, to increase the body weight, and to prevent further diversion of the cutaneous secretion to the kidneys. For practical use those selenium compounds which are easily soluble, nontoxic, and can be effectively carried by the blood stream to the carcinomatous tissues, are alone to be considered. A peculiarity of the selenium preparations is that they do not easily lose their effectiveness as oxidizing agents. In the body they constantly move between the higher and lower degrees of oxidation, between selenic acid and seleniureted hydrogen, or at least selenious acid. Their oxidizing power is constantly regenerated in this way. The writer has used selenium dioxide, sodium seleniocyanate, potassium seleniocyanate, and potassium selenioeosin. The selenium cyanates and other preparations are about seventy times as poisonous as the selenioeosin used by Wassermann. The latter in amount suitable for a therapeutic dose in man, was given to a mouse without causing death. Small doses, often repeated and long continued, seem to be the best method of administration.

BRITISH MEDICAL JOURNAL.

May 25, 1912.

1. J. Bland-Sutton: Fertilization in Relation to Pathology.
2. W. Billington: Influence of Age and Type of Patient on Course and Treatment of Appendicitis.
3. J. G. Andrew: Operation for Acute Appendicitis.
4. J. H. Dauber: Early Diagnosis and Operation in Appendicitis.
5. R. L. Spittel: Perforations of Stomach and Duodenum.
6. A. G. Stewart: Rupture of Abdominal Wall.
7. R. Parker: Strangulated Omental Hernia.

1. **Fertilization in Relation to Pathology.**—Bland-Sutton considers some of the newer observations in relation to the phenomena of fertilization and remarks that the old idea of the shedding of a ripe ovum by a woman once a month is unfounded in fact and that such ova are shed frequently, so that probably the Fallopian tubes of a healthy woman are seldom free from a ripe ovum. He believes that there is a strong positive chemotactic attraction on the part of the ovum for the spermatozoa. This latter observation is founded upon actual observation in the lower orders of life. He regards the ovarian dermoid as distinct from the dermoids arising at the sites of the fetal clefts. He would explain the presence of these ovarian dermoids by their arising from the abnormal development of the sex cell or ovum. They are rather in the nature of the products of development of an ovum which has not been fertilized, but which, through some irritative stimulus, has become the subject of parthenogenesis. While the ovarian dermoid is one of the most benign of tumors of the abdominal cavity, it is frequently found to have ruptured and liberated some of its contents with the result that there may be found a number of implantation growths of epithelial cells upon the peritoneum. Bland-Sutton has evidence to show that a similar implantation of cancer from one area to even widely distant ones is possible and does occur as a result of the escape of cancer cells into the peritoneal cavity. This he believes is the origin of the malignancy of the so called malignant teratomata, through the influence upon the ovarian cells of microparasites which are able to provoke segmentation in a mature ovarian ovum.

2. **Age and Type of Patient in Appendicitis.**—Billington is of the opinion that appendicitis has a higher mortality in children below twelve and adults over forty years of age than is the average of all the cases. Below the age of twelve years the diagnosis is made usually only in the more severe cases, the several stages of the disease are traversed more rapidly, and there is far less resistance offered to the advance of the disease. Above forty years there is far less likelihood of the disease passing into a quiescent stage and a much greater tendency to the development of complications, together with a reduced power of resistance and recuperation. In both these classes the earlier the operation the better the ultimate results. In the class falling between these two, palliation may be not only justifiable, but may even be the better procedure in many cases.

6. **Rupture of the Abdominal Wall.**—Stewart calls attention to the fact that postoperative rupture of the abdominal wall usually occurs in the second week after the operation and not early as would be expected. It is most frequent after suppuration and in cases in which the omentum has not been drawn down so as to lie behind the wound. Other than this it may be caused by too early removal of the stitches, and too great a hurry in getting the patient up after the operation. He reports one remarkable case of spontaneous rupture of the abdominal wall at the site of an old ventral hernia. The rupture was the result of a severe coughing spell. The small intestine was found, together with the omentum, extruded beneath the underclothing. The intestine was washed with warm saline and replaced, a portion of the omentum was ligated and the rest also replaced. The rent was closed up and the patient made an uneventful recovery.

LANCET.

May 25, 1912.

1. J. Bland-Sutton: Fertilization in Relation to Pathology.
2. T. W. Eden: Clinical Diagnosis of Malignant Disease of Body of Uterus.
3. H. G. Barling: Surgical Treatment of Aneurysm.
4. E. F. Buzzard: Early Diagnosis and Treatment of Epilepsy.
5. J. C. F. D. Vaughan: Lineæ Atrophicæ, Achloriduria, and Typhoid.
6. S. Delépine: Effect of Control of Milk Supply on Mortality from Tuberculosis in Children.

2. Malignant Disease of the Body of the Uterus.—Eden regards this as a clinical entity entirely separated from cancer of the cervix in the matters of infrequency, attacking women of less fertility and of a more advanced age, and in showing no special relation to poverty and unsanitary conditions. The disease is seen in women at or past the climacteric age and in those who have been sterile or relatively so. Probably the earliest symptom to appear is that of hemorrhage, which may be so slight that no notice is taken of it. At times it is accompanied or preceded by a thin, watery discharge. In many cases there are no other symptoms until the disease has spread to tissues outside of the uterus. The symptoms bear no relation whatever to the extent of the disease. Pain is an exceptionally late symptom and probably corresponds to a far advanced stage of the disease in which there is involvement of the Fallopian tubes, the peritoneal coat, or glands in the pelvis. The discharge in this form of cancer may be present for a very long time and not become offensive, owing probably to the protected location of the disease in which it is not badly infected even after sloughing. Upon physical examination the findings are of so indefinite a nature as to be frequently overlooked. In spite of this they are of great diagnostic value. The uterus is found to be enlarged, seldom to a size greater than that of a three months' gravidity, and it is soft. This, occurring after the menopause, at once arouses suspicion. If the enlargement is symmetrical, the uterus softer than normal, and there is a hemorrhagic discharge the condition is almost certainly cancer of the body of the uterus. There may be some degree of fixation, but this is not a necessary accompaniment and is seldom very marked. Cervical dilatation and exploration of the cavity of the uterus by the curette or finger is a valuable means of diagnosis, but it is not to be advised except in very doubtful cases. The treatment is operative and it is fortunate that the prognosis as regards recurrence is rather favorable after a radical removal, even if there is some degree of glandular involvement, for the glands are frequently enlarged as a result of infection and inflammation of the ulcerating surface and are not malignant.

5. Lineæ Atrophicæ, Achloriduria.—Vaughan reports the details of a remarkable case of a young man in whom developed many lineæ atrophicæ on the lower portion of his back, his thighs, and even his calves and about the axillæ. He was not obese and did not have general anasarca. He showed in addition a marked tendency to urticarial wheals on slight irritation. His urine was very abundant, eighty to ninety ounces per diem, and contained a low percentage of chlorides. There was no sugar or albumin, in fact no other abnormity in the urine. Pneumonia subsequently developed in this patient and later typhoid fever, from which he died as the result of a perforation. No autopsy was obtained.

6. Milk Supply and Tuberculosis in Children.—Delépine finds that since the control of the milk supply of Manchester there has been a greater reduction in infant mortality from tuberculosis than in the case of other diseases, hence the reduction is attributable directly to the influence of the bettered milk supply in the reduction of infantile tuberculosis.

AUSTRALASIAN MEDICAL GAZETTE.

April 20, 1912.

1. Rowland B. Harrold: Modern Treatment of Syphilis.
2. C. T. de Crespigny: Remarks on Syphilis.
3. Temple Smith: Ophthalmic Aspect of School Inspection.

April 27, 1912.

4. J. S. C. Elkington: Quarantine in Queensland.
5. J. B. Cleland: Etiology of Bovine Onchocerciasis.
6. Gerald S. Samuelson: Surgical Equipment of Country Practitioner.

May 4, 1912.

7. J. Kynaston Couch: Gonorrhea and Salpingitis.
8. Cyril E. Corlette: Torsion of the Great Omentum.
9. A. G. Salter: Esophageal Stricture.
10. J. W. B. Bean: More Systematic Teaching of Anesthetic Administration.

8. Torsion of the Great Omentum.—Corlette reports two cases of this rather rare condition, both of which were operated in. One patient recovered, the other died, apparently as the result of intestinal obstruction due to a kinking of the ileum caused by adhesions.

BULLETIN DE L'ACADÉMIE DE MÉDECINE.

May 7, 1912.

1. Julius Gnezda, Armand Gautier, A. Brault, and Maurice Letulle: Treatment of Carcinoma in Man with New Drug.
2. Netter: Requests for Privilege of Preparing Therapeutic Sera and Injectable Products of Organic Origin.

1. New Drug for Carcinoma.—Letulle presents a report concerning a compound of arsenic and phosphorus with albumin prepared by Gnezda and designated as arphoalin. It is a brown, tasteless, insoluble powder, and contains 6.3 milligrammes of arsenic and about 6 milligrammes of phosphorus to every gramme of albumin. Applied locally to ulcerated or suppurating tumors it promptly arrests hemorrhage and pus formation and removes odor. Microscopically, Gnezda found that epitheliomatous cells under its influence underwent rapid fatty degeneration, while the stroma soon showed partial necrosis, with gradual healing of the lesion thereafter. Internally, the dose used was 0.25 gramme, an hour after one, two, or even three meals, according to the patient's general condition. Under this treatment rapid necrotic softening of a carcinoma of the neck in a man was noted, as well as healing of a recurrent carcinoma of the left cheek in a woman of eighty-seven years. In the latter case the drug was also applied directly to the ulcer for a month. No further recurrence had been observed two years later.

PARIS MÉDICAL.

May 18, 1912.

1. Moure: Value and Surgical Indications of Vessel Grafts.
2. Milian: Neosalvarsan
3. Baup: Treatment of Arteriosclerosis at Evian-les-Bains.
4. Dopter: Bacteriological Diagnosis of Diphtheria.

1. Vascular Grafts.—Moure states that the operation of vessel grafting used in human surgery to reestablish the continuity of a bloodvessel, is an exceptional one, and should not be used if collateral circulation is satisfactory. It is seldom required to

save life and ought not to be undertaken unless a favorable result is fairly certain; under such circumstances, however, it should be done.

2. Neosalvarsan.—Milian states, that notwithstanding the absence of sodium chloride from the solution, a febrile reaction is common after injection of this new remedy, rising occasionally to 100.4° F. and lasting several hours. Chills and vomiting are also noted, but not so frequently as with the older form. Care should be taken to avoid very large doses.

3. Arteriosclerosis.—Baup has nothing but praise for the results of treatment of this condition at Evian-les-Bains, owing to the skilled supervision now exercised over patients at that resort.

PRESSE MÉDICALE.

May 18, 1912.

1. L. Hallion: Hormones.
2. Auguste Pettit: Lymphoid Transformation in the Course of Trypanosomiasis.

1. Hormones.—Hallion, defining a hormone as a substance elaborated in an organ and liberated in a vessel by internal secretion, which produces in other organs whither the blood takes it certain definite functional modifications, undertakes to prove that it plays only a minor rôle in opotherapy. Chemical isolation of hormones, desirable for other reasons perhaps, and quite possible as we know from experiments with adrenalin, may not prove to possess very great therapeutical interest.

SEMAINE MÉDICALE

May 22, 1912.

F. Moty: Are Postoperative Thrombophlebitides Septic in Nature?

Nature of Postoperative Thrombophlebitis.—Moty gives his definition of a postoperative thrombophlebitis as a thrombosis occurring at a distance in subjects operated upon by laparotomy whose wounds have healed by first intention without fever, becoming localized in a hitherto intact femoral vein (sometimes in both), and being essentially a late phenomenon. Summarizing his conclusions, he states that such a thrombophlebitis is due to modification of the blood elements, is only indirectly related to microbic infection, and may occur without any contamination of the operative wound. This modification, characterized by an excess of hematoblasts, seems to be merely a means of defense of the organism against fragments of tissue and infiltrated blood acting as foreign bodies which must be resorbed, rather than a defense against microbic infection. The hematoblasts, their mission once accomplished, soon disappear, but constitute for a time a source of danger owing to their tendency to form thrombi, if there exists a favorable condition of the circulation in the large veins. Whatever may be the nature of the hematoblasts, we can state positively that postoperative thrombophlebitis is not of septic nature.

BERLINER KLINISCHE WOCHENSCHRIFT.

April 15, 1912.

1. Gottwald Schwarz: Röntgen Ray Examination of Alimentary Canal.
2. Paul H. Römer: Experimental and Epidemiological Thoughts on Phthisis.
3. Baerthlein: New Bacteriological Findings in Dysentery.
4. J. Plesch: Biological Effect of Thorium.
5. E. Friedberger and Annibale Moreschi: Anaphylactoxine.
6. R. Weissmann: Experiences with Inhalation Remedy, Tulisan, in Asthma and Tuberculosis.
7. Max Cohn: Radiological Examination of Large Intestine.
8. Arthur Alexander: Eczema and Treatment.

April 22, 1912.

9. Karl Hurthle: Relation between Pressure and Speed of Blood Current in Arterial System.
10. A. Bickel: Mesothorium, Thorium X, and Thorium Emanation Therapeutics.
11. Kenji Kojo: Biological Effect of Mesothorium.
12. Minami: Biological Effect of Mesothorium.
13. Albert E. Stein: Percutaneous Use of Radioactive Substances, Especially of Actinium.
14. Joachimsthal: Disturbances in Periosteal and Endochondral Formation of Bones.
15. F. Göppert: Treatment of Acute Spastic Bronchitis in Early Infancy during Attack.
16. Egon Tomaszewski: Cultivation of Spirochæta Pallida.
17. Karl Kolb: Antimeristem.
18. Joseph Lindenmayr: Therapeutics of Coryza and Complications.

April 29, 1912.

19. R. von den Velden: Chemotropism in Neoplastic Tissue.
20. Edmund Falk: Treatment of Myomata with Röntgen Rays.
21. Ernst Gräfenberg: Specific Influence of Röntgen Rays upon Myomatic Tissue.
22. W. Alexander: Erroneous Diagnosis in Sciatica.
23. Hermann Plew: Sarcoma of the Pelvis with Metastasis into Left Mamma.
24. Alexander Zweig: Diagnostic and Prognostic Progress in Psychiatry.
25. Von Tobold: Technical Novelties.
26. Friederich Proescher: Rat Bite Disease.

2. Experimental and Epidemiological Thoughts on Phthisis.—Römer formulates the following five points: 1. In localities in which tuberculosis is very prevalent nearly every man enters adult life with a severe tuberculous infection. 2. Tuberculous animals are relatively immune against reinfection with tubercle bacilli. 3. Tuberculous man is relatively immune against repeated infections with tubercle bacilli. 4. The mortality from tuberculosis is greater among people living in a locality where tuberculosis is not prevalent. He then comes to the conclusion, which he formulates as the fifth point: Phthisis occurs through great autoreinfection of an organism which has been infected since childhood and is therefore relatively immune.

4, 10, 11. Thorium.—Plesch remarks that if we wish to be successful with radioactive substances we must use much larger doses than heretofore given and for a much longer period. As radium is expensive, we must use thorium x. The advantages of thorium x he formulates in three points: 1. Radium emanation is a gas which acts as long as we remain in a closed room. As soon as we leave the room in which this emanation acts, we exhale the gas, and only a very small fraction remains in the blood. The thorium emanation remains in the blood for fifty-four seconds, that is, during the period of one complete circulation. The disintegrated parts will therefore remain in the body. 2. Thorium x is a transformation product, soluble in water, of radiothorium, and can be injected in one c.c. solution. This form of administration the author thinks to be the best, as in this way the alpha and beta rays can be easily carried to the tumors. 3. Radium is too expensive, while thorium, although still expensive, is cheaper.——Bickel reports on his use of thorium in articular rheumatism. He finds that in some patients a reaction occurred which was not regular, similar to the one seen in radium treatment. The appearance and the intensity of the reaction seemed to depend upon the dose of thorium x. The improvement in the joints was anatomical as well as functional; the swelling decreased, the pain disappeared, and the action of the joint was very much better.——Kojo states that after the drinking of a thorium x solu-

tion the emanation can be demonstrated in the expired air and the urine in such a way that the emanation will be found after drinking one c.c. solution for five or six hours. Inhalation of one hour's duration will not show any emanation in the exhaled air or urine.

17. **Antimeristem.**—Kolb adds his experience to the report of other observers that antimeristem does not exert any specific influence upon carcinoma cells. The cancer theory proposed by Schmidt is therefore not to be accepted.

20. **Treatment of Myomata with Röntgen Rays.**—Falk says that myomata, which are of considerable size, but which do not cause hemorrhage or other inconvenience, should not be treated and therefore not be subjected to x rays, but they should be kept under strict observation. A rapid growth of a myoma is a contraindication to Röntgen ray treatment; in such a case an operation will become necessary. Submucous myomata are not good subjects for Röntgen ray treatment. In young women myomata which produce severe hemorrhage should be operated on. The only good results from Röntgen ray treatment are to be expected in interstitial myomata in women over fifty years of age, in whom there is no strong indication for operation.

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

April 23, 1912.

1. Schreiber: Neosalvarsan.
2. Lüdke: Serum Therapeutics of Typhoid Fever.
3. Widmer: Rôle Played by the Psyche in Mountain Sickness and Psychic Factor in Fatigue from Climbing.
4. Francke: Law of Change in Legs and Knock Knee of Women
5. Von Brunn: Gauze Ether Method, Most Simple Technique for Ether Narcosis.
6. Baumann: Chlorethyl Intoxication and Narcosis.
7. Geissler: Luminal, New Subcutaneous, Very Effective Hypnotic.
8. Rost: Salvarsan in Frambesia.
9. Hesse: Diagnosis and Therapeutics of Fistula of Chin.
10. Steimann: Forceps Hands (*Zangenhände*).
11. Schwarz: Men with Tails.
12. Klauser: One Sided Formation of Drumstick Fingers, through Neglected Luxation of the Shoulder.
13. Goetze: Coloring of Diphtheria Bacillus According to Raskin's Method.
14. Schaal: Exostoses of Upper Surface of Calcaneus.
15. Rosenkranz: By Effects of Hormonal.
16. Czerny: Visit to New Helen Sanatorium for Cancer Patients in St. Petersburg.

April 30, 1912.

17. Winternitz: Intermittent Limping.
18. Rühle: Results Found in Central Nervous System after Methyl Alcohol Intoxication in Animals.
19. Rohrbach: Histological Retrocession of Dermatological Syphilides after Salvarsan.
20. Lorey: Endocarditis Lenta and Acute Endocarditis Produced by *Streptococcus Viridans.*
21. Nürnberger: Staphylococcic Sepsis in Small Pus Formations on Surface of Body.
22. Hasebroeck: Rôle of Muscles of Shoulder Region in Anomalies of Carriage and Curvature of Spine.
23. Wegner: Typical Fracture of Posterior Lateral Mallelolus of Tibia.
24. Quetsch: Total Dislocation of Cervical Vertebræ; Prognosis and Diagnosis.
25. Stursberg: Codeonal and Codeinum Diethylbarbituricum.
26. Hirsch: Pituitrin in Gynecology.
27. Stroscher: Experience with Joha in Practice.
28. Grön: Melanoderma after Late Dermatitis from Salvarsan.
29. John: Treatment of Typhoid Fever with Pyramidon.
30. Schindler: Treatment of Gonorrhea, Especially with an Aqueous Carrier for Antigonorrheal Remedies.
31. Wachtel: Diagnosis of Ectopic Testicle.
32. Spoerl: Variation in Usual Surgical Treatment of Female Prolapsus.
33. Frischberg: By Effects of Hormonal.
34. Lehmann: After Treatment in Vaccination.

May 7, 1912.

35. Traube: Immunity and Anaphylaxis.
36. Dreyfus: Late Nervous Reaction from Syphilis after Salvarsan.
37. Kreuzfuchs: New Method for Cardiac Measurements.
38. Fagiuoli: Therapeutics of Pneumothorax.
39. Bauereisen: Importance of Fissures of Tentorium in Newborn.
40. Melchior and Wolff: Diagnosis of Disease of Joints with Measurements of Local Temperature of Skin.
41. Meirowsky: Biological Demonstration of Effects of Extracts from Skin.
42. Heusner: Surgical Treatment of Chronic Articular Rheumatism.
43. Von Holst: Pfannenstiel's Incision.
44. Weile: Use of Ergotin-Caffeine in Myocarditis, Arteriosclerosis, and Cardiac Neurosis.
45. Rosenberg: Fango from German Eifel.
46. Ehrlich: Surgical Scalpel with Two Sided Point.
47. Danielson: Substitute for Aspirin.
48. Sommerfeld: Coloring of Diphtheria Bacilli.
49. Hansen: Formation of Paronychia.
50. Pfaundler: Starving Children.
51. Eversbusch: Richard Frommel.

1. **Neosalvarsan.** See editorial article on page 1052 of our issue for May 18th.

2. **Serum Therapeutics of Typhoid Fever.**—Lüdke believes that the typhus serum when used in the beginning of an attack will exert a beneficial influence upon typhoid. In later cases the results are not so good. The best effects will be produced with a serum which is both bactericidal and toxine neutralizing. The serum should be used intravenously or intramuscularly in larger doses.

4. **The Law of Change in the Legs and the Knock Knee of Women.**—Francke says that the formation of the legs often undergoes a sidewise change during life, especially in youth. This change follows usually certain rules; most people born with bow legs or straight legs, become knock kneed during the time they are learning to walk; while men usually lose this knock kneed formation up to the twenty-third year, women retain it during life; and, in women, this formation appears especially marked around the forty-eighth year. Twenty-five per cent. of men become knock kneed about the thirty-eighth year. The formation of the legs is determined through the position of the fetus in the uterus and through the weight of the body during the period of first walking, which is then, in proportion, too heavy for the legs; later on, through the mode of life. Good health and normal hygienic conditions favor straight legs, while diseases and poor hygienic conditions, especially the skirts of women, favor knock knee.

5. **Gauze Ether Method, the Most Simple Technique for Ether Narcosis.**—Von Brunn favors the gauze ether method which, he says, is very little known in Germany.

10. **Forceps Hands.**—Steimann speaks of injuries to the hand which leave this member after the loss of the three middle fingers in the shape of a forceps or ice tongs, possessing only the thumb and little finger, but still very useful.

13. **Coloring of the Diphtheria Bacillus According to Raskin's Method.**—Goetze remarks that Raskin's method of coloring the diphtheria bacillus is very useful, but will not supplant Neisser's method. The coloring matter contains the following: Acetic acid, 5 c. c.; distilled water, 95 c. c.; alcohol, 95 per cent., 100 c. c.; saturated aqueous methylene blue solution, 4 c. c.; Ziehl's carbol fuchsin solution, 4 c. c.

18. **Results of Experiments Found in the Central Nervous System after Methyl Alcohol Intoxication in Animals.**—Rühle dissected two dogs which were killed after the administration of methyl alcohol. He found in both the pons as well as the medulla oblongata disseminated hemorrhages surrounding the brain matter. He therefore thinks it important that histological examinations should be made of the brain in every case where methyl alcohol poisoning is suspected.

26. Pituitrin in Gynecology.—Hirsch observes that pituitrin is not a direct labor stimulating agent. It is therefore impossible to produce with it an abortion, but it will assist in stimulating labor after the first stage. It should be used in Cæsarean section on account of its contracting action on the musculature of the uterus. During the period of the afterbirth secacornin is a much more reliable and better drug than pituitrin.

27. Experience with Joha in Practice.—Stroscher reports his results in twenty-two cases with intramuscular joha injections of salvarsan. He warns against its use, as the by effects may become very serious. He favors intravenous injection of salvarsan, which is not so dangerous and gives much better therapeutical results.

40. Diagnosis of Diseases of the Joints by Measurements of Local Temperature of the Skin.—Melchior and Wolff describe a very practical little thermometer which can be placed upon any body surface to which it is attached by a rubber cap in which the mercury is imbedded and which cap, by adhering closely to the skin, excludes all surface air. The thermometer should remain in position for about a minute

ZENTRALBLATT FÜR CHIRURGIE.

May 18, 1912.

1. K. J. Wederhake: Simple Method of Sterilization of Catgut by Dry Heat.
2. Hagedorn: Rare Form of Orbital Cellulitis.

May 25, 1912.

3. F. Haertel: Endocranial Conduction Anesthesia of the Gasserian Ganglion.
4. C. Lauenstein: Avoidance of Paralyses after Application of Esmarch's Bandage.
5. K. Frankenstein: Incision in Operation for Appendicitis.

1. Sterilization of Catgut.—Wederhake sterilizes catgut with a temperature of 100° C. under a pressure of two atmospheres. The sterilization can be repeated frequently without impairing the good qualities of the catgut in any way.

2. Orbital Cellulitis.—Hagedorn describes a case of purely diphtheritic cellulitis of the orbit as proved bacteriologically.

JOURNAL OF PATHOLOGY AND BACTERIOLOGY.

April, 1912.

1. R. Muir and J. W. M'Nee: Anemia Produced by Hemolytic Serum.
2. M. A. Ruffer and A. Rietti: Osseous Lesions in Ancient Egyptians.
3. P. N. Cave: Some Properties of Hofmann's Bacillus and Its Relationship to Diphtheria Bacillus.
4. W. Edmunds: Observations on Thyroid Gland.
5. A. E. Boycott: Size and Growth of Blood Corpuscles in Rabbits.
6. A. Connal: Autoerythrophagocytosis in Protozoal Diseases.
7. G. W. Nicholson: Small Carcinoma in Association with Transplanted Sarcoma in Rat.
8. R. Muir: Relationships between the Complements and Immune Bodies of Different Animals.
9. E. E. Glynn and G. L. Cox: Variations in Inherent Phagocytic Power of Leucocytes from Donkeys Immunized against Anthrax.

1. The Anemia Produced by a Hemolytic Serum.—Muir and M'Nee, on account of the comparatively small amount of work that has been done concerning the action of hemolytic sera in the living body, undertook a series of experiments on rabbits. They present the changes met with in the blood and organs, and consider certain questions in connection with the blood destruction and regeneration. The hemolytic serum was obtained by injecting a young goat with rabbit's corpuscles washed free from serum. The hemolytic dose of the serum obtained was 0.01 c.c. for one c.c. of a five per cent. suspension of rabbit's corpuscles, along with the fresh serum of a normal rabbit as complement. This serum was found to cause a much greater destruction of the blood when introduced intravenously than when intraperitoneal injections were employed. In the latter, the blood destruction was much more gradual. However, the individual susceptibility of the rabbits varied enormously. The anemia was characterized by the early appearance of basophile megalocytes, which later greatly increased in number. The color index was also raised. Erythroblasts appeared in varying degrees, when numerous megaloblasts as well as normoblasts are present. If, instead of dying, the animal recovers, the regeneration of the blood may be very rapid, an average daily increase of 500,000 corpuscles per c.mm. being not uncommon. In association with the changes in the blood there is a marked erythroblastic reaction in the bone marrow, in which all the members of the erythroblastic series are concerned. The difference in the hemolysis occurring *in vivo* from that *in vitro* is that in the former case the hemolysis is much more gradual, the maximum not being reached till about the third day. The amount of blood destruction in proportion to the amount of immune body is much greater. A third difference is that greater variations in susceptibility are met with than is the case of test tube experiments.

2. Osseous Lesions in Ancient Egyptians.—Ruffer and Rietti give an account of lesions found by them in the skeletons of mummies and others. The most common changes were those of arthritis deformans, especially spondylitis deformans. There are excellent illustrations.

3. Some Properties of Hofmann's Bacillus.—Cave, wishing to determine the relationship if any between Hofmann's bacillus and the Klebs-Loeffler bacillus, takes up the subject mainly from the clinical and public health point of view. The points to be elucidated were: 1. The conversion of the diphtheria bacillus into Hofmann's bacillus; 2, the conversion of Hofmann's bacillus into the diphtheria bacillus; 3, the question of the pathogenicity to man of Hofmann's bacillus; and, 4, whether or not Hofmann's bacillus can confer on man any degree of immunity against the diphtheria organism. The conclusions are as follows: 1. Under certain circumstances the diphtheria organism during its stay in the throat or nose of a patient does degenerate into a true Hofmann's bacillus. 2. Hofmann's bacillus probably has the power to confer a certain degree of immunity against the diphtheria bacillus. 3. Hofmann's bacillus is pathogenic to man. From the public health point of view the presence of Hofmann's bacillus has no etiological significance. The only disadvantage is that at any time, given certain conditions which lower resistance, an attack of simple tonsillitis may ensue.

4. Further Observations on the Thyroid Gland.—Edmunds, as a result of experiments upon eight dogs and four cats, comes to the following conclusions concerning the administration of calcium to animals subjected to total excision of the thyroid and parathyroid glands. Early death from tetany, which almost always follows total excision of the glands in dogs and cats, can be often

prevented by the administration of calcium in large doses. Pituitary extract has no such effect. If the calcium is stopped the animals die; even if it is continued the animals eventually die of the effects of the operation.

7. **Carcinoma in Transplanted Sarcoma.**—Nicholson reports finding a carcinoma during the experimental propagation of a rat sarcoma. In the course of seven weeks after inoculation with the sarcoma, the rat was killed and the tumor examined. In this mass, surrounded by the sarcomatous tissue, a well developed carcinomatous area was discovered.

8. **Relationships between the Complements and Immune Bodies of Different Animals.**—Muir reports an investigation into the phenomena observed when complements from different animals are used with different immune bodies upon the same corpuscles. The results obtained indicate that there is a balance in favor of more effective complementing of mammalian immune bodies by mammalian complements than by avian complements and *vice versa*. On the other hand, slight zoological differences (as between rabbit and guineapig, or between duck and goose) may be associated with the most marked divergence in the mode of action of complements or immune bodies. The facts obtained are not in accordance with the idea of there being special complementophile groups in immune bodies. When lysis of sensitized corpuscles does not occur on the addition of a complement, this may be due either to (a) noncombination of the complement, or to (b) nonsensitiveness of the corpuscles to the action of complement, which has nevertheless really combined. The result in a hemolytic experiment depends chiefly on the complement and the corpuscles used. It is, however, not immaterial as regards the amount of lysis, by what immune body the complement is brought into combination with the corpuscles. More efficient lysis may result with one immune body than with another, the same complement being used in both cases, and this even when it can be shown that the immune bodies unite with the same molecules (receptors) of the corpuscles. These facts are best explained on the assumption that the immune body, although not producing lysis by itself, acts as an auxiliary toxic agent in addition to leading to the union of complement.

9. **Variations in Inherent Phagocytic Power of Leucocytes.**—Glynn and Cox, in their earlier work on opsonins, said that the phagocytic count is uninfluenced by the variety of corpuscles employed; they believed that the opsonic index of any blood was an index of the patient's power of phagocytic response, a conclusion regarded as of absolutely fundamental practical importance. Later it was noted that the leucocyte is not an entirely indifferent factor in phagocytosis. In order to obtain further information on the matter, experiments were carried on with donkeys immunized with anthrax vaccine, which have fully confirmed in healthy animals what has already been found in normal men, viz., that the inherent phagocytic power of leucocytes to staphylococci, when tested by Wright's technique, may be subject to variation and also be persistently below a given standard.

CENTRALBLATT FÜR ALLGEMEINE PATHOLOGIE UND PATHOLOGISCHE ANATOMIE.

April, 1912.

1. R. V. Lamar and S. J. Meltzer: Fibrinous Pneumonia Produced Experimentally by Endobronchial Insufflation.
2. F. Naegeli: Metastasis of Rectal Carcinoma in Adenoma of Thyroid.
3. P. Kschischo: Malformation of Liver.

May, 1912.

4. K. Mizokuchi: Gallstones in Japanese.
5. O. Stuhlweissenburg: Double Opening of Left Ventricular Atrium.

1. **Experimental Pneumonia.** — Lamar and Meltzer, by special means, introduced pure cultures of pneumococci deep into the bronchi of forty-two dogs. Of these, seven died within a few days from the infection. The remaining animals were killed. All the animals showed typical lesions of fibrinous pneumonia, with at least an involvement of the greater part of a lobe. In many instances one lobe and in some two showed the characteristic changes. In the fatal cases, in addition to the pneumonia, there was present pericarditis, empyema, and bacteriemia.

2. **Metastases of a Rectal Carcinoma into an Adenoma of the Thyroid.**—Naegeli reports this very unusual case. Although the presence in one individual of two or more different kinds of tumors is fairly rare, it is extremely unusual to find one type of tumor giving metastasis into a different tumor somewhere else in the body. The author gives in much detail the findings of the case at autopsy and by the microscope and reviews the literature. In this particular case it is suggested that the adenoma of the thyroid furnished a culture medium of a chemical composition favorable to the development of carcinoma from other structures.

3. **A Malformation of the Liver.**—Kschischo gives a brief report but a somewhat extensive discussion of a peculiar formation of the liver, one that gave rise to no clinical symptoms. At the autopsy it was found that the right lobe of the liver was separated from the left lobe by a mass about the size of one's fist, being connected only by means of the vessels and bileducts.

4. **Gallstones in Japanese.**—Mizokuchi concludes that there is a similar multiplicity of component substances in the Japanese as in those of European origin and that they occur in the same proportion. Although vegetables form the predominating part of the diet, that has no effect upon the type of gallstones.

5. **Double Opening of the Left Ventricular Atrium.**—Stuhlweissenburg describes a peculiar condition of the heart found at autopsy. The patient had given no history of cardiac disturbance, but on auscultation an extremely strong systolic murmur was present. The location of this was not determined ante mortem. The lesion was a true congenital anomaly which had nothing to do with a fetal endocarditis.

JAHRBUCH FÜR KINDERHEILKUNDE.

May, 1912.

1. Albert Niemann: Calcium Balance in Artificially Fed Infant.
2. U. Salle: Congenital Abnormal Enlargement of Extremities with Symptom Complex Resembling Acromegaly.
3. E. Welde: Portable Incubator.
4. John Cronquist: Treatment of Tuberculosis in Children with Koch's Old Tuberculin.
5. M. Kassowitz: Rhachitis.
6. Hans Rietschel: Breast Feeding in First Weeks of Life.

3. Portable Incubator.—Welde describes a very practical contrivance for conveying premature infants from private homes to hospitals, thus avoiding dangers of exposure to cold in transit.

INDIAN MEDICAL GAZETTE.

April, 1912.

1. Leonard Rogers: Specific Gravity of Blood in Treatment of Cholera.
2. T. H. Bishop: New Method of Intraperitoneal Administration of Roger's Hypertonic Solution in Cholera.
3. Lalbehary Ganguly: Cholera in Campbell Hospital, 1911.
4. Henry Smith: Treatment of Early Stages of Senile Cataract.
5. Lawrence G. Fink: Black Water Fever in Burma.
6. C. H. Keates: Suppurating Ovarian Dermoid Cyst.
7. Karuna K. Chatterji: Cure of Hydrocele by Lymphangioplasty.
8. T. V. Campbell and T. T. Thompson: Multiple Cysticercus Cellulosæ.
9. C. P. O. Shunker: Treatment of Sprains, Strains, etc., by Strapping, Movement, and Rubbing.
10. C. A. Nanjapa: Myositis Ossificans.

1. Specific Gravity of Blood in the Treatment of Cholera.—Rogers considers the specific gravity of the blood to be a better guide than the blood pressure to the necessity of giving intravenous injections in cholera, to be likewise a guide to the amount of fluid to be injected, a guide to the diagnosis of collapse due to other causes than a great loss of fluid from the blood, and a guide to saline injection in the latter stages of deficient urinary excretion. If the specific gravity is only 1.063, the injection of three pints of fluid will generally be sufficient, although a fourth may be given slowly if copious rice water stools are still being passed. If the figure rises to over 1.065 in an adult male as much as five pints may be necessary. When the cause of the collapse is not a great loss of fluid from the blood the blood is apt to have a low specific gravity. After the stage of collapse of cholera is past, if the blood is very short of fluid, the kidneys cannot work efficiently and then the high specific gravity indicates the injection of isotonic solutions of salt to relieve these organs. Subcutaneous salines may also be given for this purpose.

4. Treatment of the Early Stages of Senile Cataract.—Smith reports nine cases in which considerable improvement of vision was obtained by the subconjunctival injection of twenty minims of a one to 4,000 solution of cyanide of mercury.

9. Treatment of Sprains.—Shunker objects to the usual method of treating sprains by rest and advocates the following: Take a strip of plaster one half or one and one half inch wide, according to whether the muscles or joints injured are large or small, and begin from the distal end of the joint or muscle to cover it by figures of eight, till the whole of the affected part is covered by the strapping. The strapping is not applied so tightly as to obstruct the circulation, and yet tightly enough to give support. The patient is then told to use the limb and to make such motions as will bring the injured muscles into action and exercise the joint. The strapping is removed on the third day, or earlier if it gets loose from the subsidence of the swelling. The part is then rubbed, beginning at the proximal end of the area affected and gradually working lower and lower until all has been treated, in order to empty the joint or muscles of any extravasated blood or products of inflammation. He contends that this avoids much pain and confinement, as well as the occurence of stiff joints and weakened muscles, and gives a rapid recovery.

THE AMERICAN MEDICAL ASSOCIATION.
SIXTY-THIRD ANNUAL MEETING.
ATLANTIC CITY, JUNE 3 to 7, 1912.

(Concluded from page 1231.)

The House of Delegates.

Reference committees were appointed as follows:

Sections and Section Work: Dr. Wesley T. Mulligan, of Rochester, N. Y. Dr. Kenneth A. J. MacKenzie, of Portland, Ore. Dr. Hugh Cabot, of Boston, Mass. Dr. Thos. G. Davis, of Pittsburgh, Pa. Dr. A. H. Levings, of Milwaukee, Wis.

Rules and Order of Business: Dr. W. R. Tipton, of East Las Vegas, N. M. Dr. A. R. Mitchell, of Lincoln, Neb. Dr. G. A. Warren, of Black Rock, Ark. Dr. C. R. R. Fisher, of Bound Brook, N. J. Dr. G. L. Taneyhill, of Baltimore, Md.

Medical Education: Dr. J. H. J. Upham, of Columbus, Ohio. Dr. H. D. Arnold, of Boston, Mass. Dr. Reid Hunt, of Washington, D. C. Dr. Geo. W. Guthrie, of Wilkesbarre, Pa. Dr. A. T. Bristow, of Brooklyn, N. Y.

Hygiene and Public Health: Dr. Oscar Dowling, of Shreveport, La. Dr. Jno. Champlin, of Westerly, R. I. Dr. Edward Jackson, of Denver, Colo. Dr. Victor H. Stickney, of Dickinson, N. D. Dr. Lawrence Littig, of Davenport, La.

Legislation and Political Action: Dr. W. A. Evans, of Chicago, Ill. Dr. Morgan Smith, of Little Rock, Ark. Dr A. B. Cooke, of Nashville, Tenn. Dr. Jefferson R. Kean, U. S. A., of Washington, D. C. Dr. W. C. Gorgas, of Canal Zone, Panama.

Amendments to Constitution and By Laws: Dr. A. T. McCormack, of Bowling Green, Ky. Dr. William B. Russ, of San Antonio, Tex. Dr. Seale Harris, of Mobile, Ala. Dr. S. G. Kahn, of Utah. Dr. Wm. L. Noble, of Chicago, Ill.

Report of Officers: Dr. Hubert Work, of Pueblo, Colo. Dr. J. W. Young, of Grenada, Miss. Dr. Donald Campbell, of Butte, Mont. Dr. W. W. Richmond, of Clinton, Ky. Dr. E. A. Haines, of Seneca, S. C.

Credentials: Dr. D. Chester Brown, of Danbury, Conn. Dr. E. A. Vander Veer, of Albany, N. Y. Dr. E. W. Van Allen, of Springfield, Mass. Dr. E. J. Goodwin, of St. Louis, Mo. Dr. W. E. Anderson, of Farmville, Va.

Miscellaneous Business: Dr. J. W. Fleming, of Brooklyn, N. Y. Dr. J. F. Highsmith, of Fayetteville, N. C. Dr. D. R. Smith, of Grand Rapids, Mich. Dr. P. A. Haley, of Charleston, W. Va. Dr. W. A. Jones, of Minneapolis, Minn.

WEDNESDAY AFTERNOON SESSION, JUNE 5TH.

Dr. Abraham Jacobi in the chair.

After the usual routine, the Board of Trustees reported that the State secretaries and editors already received due aid for the State journals when necessary, but that this work was most important and needed enlargement of its scope. The scientific exhibit also demanded support to an increased extent.

The committee on anesthesia reported that we were on the verge of great progress. Chloroform was almost entirely given up everywhere. Anesthetists should be recognized as important specialists, and not as handling a mere adjunct to surgery. Every hospital should have a trained specialist in anesthesia with a staff, if possible. There would soon be a National Society of Anesthetists, which bespoke aid from the association. Nitrous oxide was growing in favor and was also useful to precede ether instead of chloroform. Overanesthesia was a danger in ether, and reanesthesia after partial recovery of consciousness was most dangerous, a condition not uncommon in adenoid and tonsil operations, when a fatal outcome was too often attributed to "heart failure." Meltzer and Auer's endotracheal method was safe and kept the field of operation clear. Warmed ether vapor (Gwathmey) was a great step in advance. Preliminary injection of morphine was valuable in many operations. In every operating room there should be tanks of carbon dioxide and oxygen. Gatch's method of rebreathing nitrous oxide-oxygen was a great step in advance. This combined gas method, although often ideal, was very costly. The ex-

haled carbon dioxide should be absorbed by a few cents' worth of potassium or sodium hydroxide.

A report was offered stating that over 300 physicians had signed a petition for the establishment of a Section in Physical Therapeutics, a method of treatment which called loudly for official recognition. Black sheep, using physical therapeutics, were being eliminated, and official recognition would drive them away altogether. Röntgenology, radiotherapy, gymnastics, massage, etc., interested a very large number of practitioners. Objections took the form of protest against increasing the number of sections; the association might become unwieldy. Could not the present Section in Therapeutics include every method of treatment? In rebuttal, it was strongly affirmed that physical therapeutics would soon loom larger than drug therapy. Expense and energy were, however, to be considered in creating new sections. If we were not careful, a section in purgatives would be asked for. It was decided not to add such a section at present.

The American Proctological Society made an earnest plea for incorporation as a section of the association, asserting great interest on the part of country practitioners in rectal diseases. The proposal to incorporate was recommitted.

On medical education the reference committee reported that the question of medical colleges was the most important brought before the meeting. A new classification was advised: Class A, plus; Class A, Class B, Class C, the first thus receiving proper recognition as having over seventy per cent. of counts. In Class A were colleges requiring *one* preliminary year of college education. Fifty-six colleges had been closed in Class C by the committee's campaign of publicity. Hospitals should be investigated as to opportunities offered to internes. The report, as a testimonial of respect and esteem for the council on medical education was adopted by a rising vote.

The Council on Health and Public Instruction, through the reference committee, secured the adoption of its report, and wished that the council be empowered to carry on a vigorous campaign to help proper animal experimentation.

Criticism of the present form of association button was offered at this meeting of the delegates; it was thought that the "red cross" ought not to form part of the design. That was not in any way a symbol of the A. M. A. Its use also violated an international agreemnt regarding the symbol of the red cross. The board of trustees should be asked to reconsider the design. The red cross, however, as a proper sign of association membership, had many supporters. It was thought, too, that the name of the association should appear in full, instead of the initials only. It was urged, on the other hand, that the present button was well known and had been in use for many years. It was used as a trademark on all association periodicals, etc. A new button was declared for.

The Reference Committee on Nomenclature and Classification of Disease commended the report of the regular committee and hoped the sanatorium for physicians would be realized.

The hospital reference committee recommended further examination into hospitals, particularly in regard to the question of internes.

The establishment of a permanent Committee on Industrial Hygiene was recommended in order to study all the questions connected with the relations of industry to health and safety of life and limb. Further consideration of medical ethics was advised, and of the control of tuberculosis and venereal diseases, also of milk supply. Regulation of traffic in opium, cocaine, and other habit forming drugs was asked to be referred for immediate consideration to a committee, in order that these drugs might eventually be sold for therapeutical use only.

Insufficiently qualified eye, ear, nose, and throat specialists were made a subject of discussion, as to whether a special license ought not to be secured by such physicians before they were permitted to announce themselves as specialists. Such men should be especially well qualified.

The state of certain physicians' and surgeons' offices excited some discussion; it was thought that a certain standard of equipment, order, and cleanliness should be established.

The question of the conservation of our forests was advanced as a matter of interest to physicians: loss of forests caused the recent disastrous floods along the Mississippi and in many other ways caused distress and disease, interfering, for example, with agriculture and the growth of foodstuffs. The president was of the opinion that it was the duty of the A. M. A. to appear before Congress to urge reforestation, a matter of right to us as citizens and physicians.

The secretary warned the delegates that this penultimate meeting offered them the last chance to introduce new business.

THURSDAY AFTERNOON SESSION, JUNE 6TH.

Dr. Abraham Jacobi, of New York, in the chair.

The introduction of new business at the final Session of the House of Delegates being unconstitutional, after the roll call and reading and adoption of the minutes of Wednesday's Session, the house proceeded to the election of officers of the association, with the results reported by telegraph in our issue for June 8th. The committee on credentials reported the addition of six new members to the house, making a total of 135. A seat had been contested in the Illinois delegation, three alternates presenting themselves for the vacant ninth seat. Suggestions were made by the committee to obviate this confusion in the future. The report was adopted.

The election was then proceeded with, Dr. John A. Witherspoon, of Tennessee, being first nominated, with high encomiums of his integrity and scholarship from the South, from Illinois, from the East, from New England, from Missouri, Utah, Virginia, Texas, Ohio, Wisconsin, California, Indiana, Alabama. It was moved that nominations cease, and this was carried.

After a vigorous argument and struggle, Dr. M. L. Harris was elected to succeed himself as a member of the Board of Trustees, the same occurring in the case of Dr. C. A. Daughtery and Dr. W. T. Councilman.

The President nominated for the Judicial Council, Dr. George W. Guthrie, of Wilkes-Barre; for the Council on Health and Public Instruction, Dr. W. B. Cannon, of Boston, to succeed himself; for the Council on Medical Education, Dr. James W. Holland, of Philadelphia, to succeed himself.

Several honorary and associate members were then elected, and some unfinished business was disposed of, principally reports of reference committees.

As stated last week, the place chosen for the next meeting of the A. M. A. is Minneapolis. Houston, Tex., Indianapolis, New York, Chicago, Louisville, and San Francisco were also applicants for the choice and had eloquent advocates of their respective advantages.

Report of Sections.

THE SECTION IN PHARMACOLOGY AND THERAPEUTICS.

TUESDAY, JUNE 4TH.

Dr. T. Sollmann, in his chairman's address, stated that the chief problem in pharmacology and therapeutics was the proper correlation of these two subjects; he compared the influence of the former on the latter to a ferment action, but thought the time had come for more fruitful work in the way of practical results.

Dr. J. L. Miller, discussing the subject of How May the Science of Therapeutics Be Advanced, said that the present unsatisfactory state of therapeutics had not been due chiefly to the lack of properly trained clinical minds, but rather to an insecure foundation upon which to establish rational therapeutics; to this he attributed the great accumulation of drugs without demonstrable therapeutic value. Another important source of uncertainty in therapeutics resulted from the prevalence of that class of cases grouped under the name neurasthenia—conditions in which the laity were especially prone to self deception as to the effects of drugs and other remedial agents, but in which physicians, too, were often apt to be misled. Doctor Miller urged, as a remedy for this condition, a closer association of the work of the pharmacologist and clinician—of the laboratory and the hospital; only in this way could therapeutics be placed on as firm a basis of facts as were diagnosis and pathology.

The relation of experimental pharmacological work to practical therapeutics was also discussed by Dr. G. B. Wallace, who showed by a series of examples how a number of apparently contradictory results could be har-

monized by considering the modifying influence of pathological conditions upon the action of drugs.

Dr. B. Fantus, discussing Candy Medication, stated that while the pill, the capsule, and the cachet had fairly well solved the problem of administration of medicines to adults they had not helped the child or insane patient. For these he thought candy made by adding the active ingredient to cane sugar containing three per cent. cacao butter, triturating and compressing into tablets, served admirably. He thought any educated pharmacist was qualified to fill prescriptions calling for drugs in this form.

M. I. Wilbert, speaking in a symposium on Patents and Trade Marks, gave an interesting review of the United States laws on the subject, calling attention to the fact that the first patent ever granted by the United States was for a process for making a chemical substance (potassium carbonate) and was signed by Washington. The speaker discussed some of the abuses arising under our laws, calling especial attention to the fact that the so called trade marks for medicinal substances were frequently names which were used as generic titles, that is as names for the substances themselves.

F. E. Stewart stated that manufacturers endeavored to secure an indefinite monopoly on new drugs, although the laws contemplated only a temporary monopoly. As a remedy Stewart suggested that the *United States Pharmacopœia* issue an annual report listing the new products under scientific names, but with the so called trade names as synonyms; in this way the latter would eventually become nonproprietary.

The section passed a resolution requesting the association to endeavor to secure a modification of our patent laws so as to eliminate product patents on chemical substances used as medicines.

Unusual attention was given to the subjects of Röntgen therapy, fulguration, etc., the first paper of the series being by Dr. W. L. Clark, who discussed the Therapeutic Uses of High Frequency Desiccation, Fulguration, and Thermoradiotherapy, emphasizing the differences between desiccation, fulguration, and high frequency cauterization and coagulation: The first devitalized by drying the tissues, the second shocked and produced hyperemia, but (contrary to a widely spread misconception) did not destroy, whereas the third was essentially the same as an ordinary cautery, although perhaps deeper in effect. Desiccation might usually be employed without an anesthetic, local or general, and was very useful for the removal of warts, moles, growths in the bladder, rectum, larynx, etc., and in superficial epitheliomata. Fulguration should be used in cancer only after the growth and all adjacent glands had been thoroughly excised; the speaker stated that he could not yet draw positive conclusions as to the value of fulguration from his personal work, but that his results with thermoradiotherapy (by which was meant a new method of applying the Röntgen rays based on the relation between radiosensitiveness of tissue to its temperature) seemed so far to be in accord with the favorable results obtained by Hart.

WEDNESDAY, JUNE 5TH.

Dr. C. E. Skinner, in a symposium on Röntgen Therapy, deprecated the skepticism regarding the efficacy of this form of treatment in malignant growths, especially of the skin; he considered it the treatment of election in such cases. Cancers of mucous membranes should first be extirpated and then a course of röntgenization instituted as after every ablation of cancerous tissue. Several objections to the preoperative röntgenization of mammary carcinomata were mentioned. Dr. G. E. Pfahler cited several cases of apparently absolutely hopeless cases of recurrent mammary cancer completely cured by röntgenization. Dr. E. H. Skinner believed that complete recovery was dependent on the character of the cancer and that the Röntgen therapy was as yet scarcely on a safe basis. Dr. R. H. Boggs stated that the value of Röntgen therapy in nonmalignant disease was undervalued by some dermatologists and overvalued by others. He emphasized the dangers of too strong treatments in case of tissues of low vitality, stated that ordinarily it was not a satisfactory method of removing hair, and emphasized its great value in stubborn cases of acne. Both Doctor Boggs and Dr. H. K. Pancoast emphasized its great value in the treatment of keloids.

Several speakers called attention to the value of Röntgen therapy in dermatology, tuberculous adenitis, fibroids of the uterus, enlarged thymus, and Graves's disease.

The question of the Desirability of a More Restricted Materia Medica was discussed from the standpoint of the chemist by W. A. Puckner. H. P. Hynson, speaking from the standpoint of the pharmacist, said that it was impossible for a pharmacist to become more than superficially acquainted with the large number (at least 17,000) of drugs he was at present called upon to dispense; this prevented his being sure of their quality and the best methods of dispensing them—all of which diminished his usefulness to the physician and patient. Dr. E. Lefevre, speaking from the standpoint of medical instruction, stated that the teaching of medicine was demoralized by the fact that State examining boards ask so many questions on useless drugs. Dr. O. T. Osborne, speaking from the standpoint of the drugs needed by the medical practitioner, stated that three fourths of the *United States Pharmacopœia* preparations could be eliminated from consideration. Dr. W. D. Calvin stated that every graduate eliminated from his practice about ninety per cent. of the drugs he learned of in the medical school and that this weeding out process should be done for him by his teachers and the State examining boards. Dr. H. A. Hare stated that half of his lectures were devoted to preparing students for the political barriers known as State board examinations. Other physicians and teachers spoke along similar lines.

The Committee on Useful Remedies of the Association made a preliminary report on their endeavors to secure a list of drugs to which medical teachers and State examining boards would agree to confine, to a large degree, their teaching and examinations in materia medica.

Dr. S. Amberg and Dr. J. H. M. Knox reported experimental work showing that the intravenous or local application of an oxidizing agent (sodium iodoxybenzoate) exerted an inhibitory action on experimentally produced inflammatory processes. Dr. J. A. Capps, discussing the effects of iodides on the circulation and bloodvessels, stated that these drugs were not vasodilators in the ordinary sense, except, perhaps, in lead poisoning. Their effects on absorption were probably due to their action on proteolytic enzymes which digested cellular exudates. Dr. H. G. Beck recommended the use of Einhorn's duodenal tube as the best method for administering ipecac in amebic dysentery; several very chronic cases were markedly improved when powdered ipecac, showed by physiological assay to be of good quality, was administered in this way.

THURSDAY, JUNE 6TH.

The persistence and duration of the action of the digitalis bodies was discussed by Dr. R. A. Hatcher from the experimental, and by Dr. C. Eggleston from the clinical, side. Doctor Hatcher spoke of the great differences in the rate of absorption and excretion of the various members of the series and then of the differences in the persistence of their action when given intravenously; the latter varied from a day in the case of strophanthus to a month or more in the case of digitalis, and was believed to be due to the drugs forming in the heart compounds of different degrees of stability—not to the persistence of an injury.

A similarly persistent action of digitalis was found by Doctor Eggleston in clinical cases and similarly explained; the duration of the action of the drugs varied from two to twelve days with an average of from six to eight days, i. e., small doses would bring back the digitalis action after a week or more. The action of strophanthine persisted for less than thirty-six hours.

Dr. A. D. Hirschfelder and Doctor Eggleston called attention to the bad results which might follow the giving of digitalis to patients who had recently received it unknown to the physician.

In a Symposium on Drug Standards, Dr. L. F. Kebler stated that impure chemicals and drugs were rarely imported, but that there was still difficulty in always securing plant drugs of high quality. Dr. R. H. True emphasized the value of the cultivation of medicinal plants; their quality could be controlled in a way impossible in the case of wild plants. Dr. H. C. Wood read a paper on Bioassay; he stated that less than one third of the active vegetable drugs of the *United States Pharmacopœia* were capable of chemical assay and that many of these might be assayed by physiological methods, although it was necessary for this to be done by properly qualified experts. Dr. M. C. Thrush suggested that a "time limit" be placed on the labels of those drugs which showed a

rapid loss of active constituents within a reasonable time.

[Symposium on Anesthesia: See report on Pathology and Physiology.]

THE SECTION IN PATHOLOGY AND PHYSIOLOGY.

THURSDAY, JUNE 6TH.

Doctor Soresi, in criticising present methods of transfusion, showed that the arterial pressure in the donor was not sufficient to overcome the pressure in the vein of the recipient. He advised that a vein of the donor be connected with the jugular of the recipient. The danger to be avoided was that too much blood might be withdrawn on account of the suction action present in the jugular. An important question was the decision as to whether saline solution or blood should be used. Where there was merely loss of blood without alterations in its character the transfusion of whole blood was to be recommended. If the trouble was with the blood forming organs transfusion was of little value. Introduction of saline solution in hemorrhage following operation might cause the hemorrhage to recur by raising the pressure or by diluting the blood coagulating substances. The transfusion of blood could not do any good after surgical shock had occurred, but it was of great value in preventing such a condition, the important point being that the substituting fluid flowed into the patient at the same time that the blood was escaping. When the hemoglobin had increased about twenty per cent. the transfusion might be stopped. In hemorrhagic diseases of the newborn, Soresi believed that whole blood was of greater value than the use of serum alone and that there was less danger of infection.

As a result of experiments upon splenectomized animals, Doctor Austin concluded that the spleen had no direct bearing upon the transformation of hemoglobin as such into bile pigment. It was also found that the red cells showed an increased resistance to hemolytic substances some twenty-five or thirty days after the removal of the spleen.

In working with the Roethlisberger uricometer Doctor Austin found that the uric acid contents of the blood serum could be crudely estimated quantitatively. Three milligrammes of uric acid to 100 c. c. of serum appeared to be the limit of its accuracy.

Doctor Kaisner, in his experiments, found that simple bland emboli would not produce infarction in the lung unless there was some marked interference with the venous outflow. This mechanical feature in some cases was the presence of fluid in the thoracic cavity. The histological examination showed that practically no changes occurred in the pulmonary epithelium for some forty-eight hours, the infarct not appearing macroscopically till after that time. These results differed greatly from infarcts of the kidney in which cellular changes occurred in the course of a few hours.

After considerable use of the Crehore micrograph, Doctor Austin believed that on account of many mechanical difficulties, which would require an almost complete reconstruction of the apparatus, it was not of great value. There was also a great difficulty in correctly plotting the waves as they appeared on the sensitive photographic film. He found that the Frank capsule manometer was as accurate and was free from many of the defects of the other.

Symposium on Anesthesia.

THURSDAY, JUNE 6TH.

Attention was called by Professor Baskerville, of New York, to the lack of uniformity in the standards for ether and chloroform in the different countries. It would seem, therefore, that at least some of the conditions that were attributed to peculiarities of the patient might be due to alterations of the anesthetic. When the container was once opened the contents would undergo oxidation with the formation of peroxides and aldehydes. The alcohol that was present did not act as a preservative but was of value in preventing the too rapid evaporation of the ether. With chloroform it was different as one per cent. of alcohol would prevent its decomposition. If the alcohol was removed and the chloroform exposed to oxygen it would degenerate. If, however, the vapor of both chloroform and of ether was passed through water the impurities would be removed.

Concerning statistics of anesthesia it was shown by Doctor Gwathmey and emphasized by those who discussed the paper that they were of comparatively little value, this being due largely to the fact that deaths from anesthesia were seldom reported, and it seemed quite evident that these were much more frequent than was generally appreciated. It appeared, however, that of the three most common forms of general anesthesia, nitrous oxide with oxygen was the safest, with ether next, and chloroform third, the figures being affected by the method of administration. It also seemed that chloroform was influenced very largely by the climate, this drug being safer to employ in warm weather and warm climates than under opposite conditions. Doctor Miller, in taking up the death rate from ethyl chloride, came to similar conclusions concerning the reliability of statistics, reports varying from a mortality of one in 2,000 to one in 150,000 cases. In point of safety he placed it below ether but above chloroform.

As a result of a large experience Doctor Teter considered nitrous oxide with oxygen as the safest and most agreeable of all of the methods, but he admitted that it was the most difficult to administer properly. To begin with, its action was very evanescent and it did not induce the same degree of muscular relaxation as obtained with ether or chloroform. In its administration it was necessary that the vapor should contain from eighty-five to ninety-five per cent. of the pure nitrous oxide gas. An even flow and mixture of the two gases must be maintained, the proportion being about one hundred of the nitrous oxide and twenty of the oxygen. It had also been found that nitrous oxide was much safer and produced anesthesia much more rapidly and profoundly when heated to a temperature of 90° F. Rebreathing was also valuable on account of the necessity of preserving a definite amount of carbon dioxide. It must be watched in order to avoid asphyxia. There were nevertheless certain limitations to its employment. It should not be given to children under six years of age nor to old people with arterial degeneration. It normally caused a marked congestion of the cerebral vessels with an increase in the blood pressure. It was not well adapted either for strong and somewhat violent individuals, particularly those addicted to the use of alcohol.

Doctor Lumbard presented some interesting ways of giving anesthesia and showed methods of overcoming the lack of apparatus.

Spinal anesthesia was dealt with most interestingly by Doctor Allen who considered it a safe method as compared with general gaseous anesthesia. He believed that it was specially valuable in cases of shock and sepsis and in old people in order to avoid shock. Emphasis was laid upon the necessity of a proper technique, also that either platinum or nickel needles should be used instead of steel as they would bend and not break like the latter. After administering the drug, five per cent. tropocaine with adrenalin being preferred, the patient should not be put into the Trendelenberg position for some ten or fifteen minutes, if the solution used had been one of low specific gravity.

Doctor Bainbridge preferred the word analgesia inasmuch as the patient lost only his sense of pain. His presentation consisted largely of an exhibition of lantern slides illustrating the steps in the technique of the operation, also showing the evident indifference of the patient to the surgical proceedings. Comment was made on the fact that although the dose could be easily increased after the operation was begun its effect could not be lessened; another drawback was that the analgesia might pass off before a prolonged operation was complete and it was impossible to change the position of the patient. In the discussion on this subject Babcock drew attention to the fact that the analgesia was not due to action upon the cord but upon the root ganglia. Also that it was the respiration that needed to be watched particularly, not the heart.

FRIDAY, JUNE 7TH.

As a result of experiments upon nephrectomized rabbits Salant found that the amount of caffeine excreted was not diminished, the function of the kidney having been assumed by the gastrointestinal tract. It was also noted that there was no increase in the toxic effect of caffeine in the animals whose kidneys had been removed; in fact it seemed that they were rather more resistant than the normal animal. Salant explained this on the ground that

the removal of the kidneys caused the formation or the accumulation of substances which had a depressing effect upon the nerve centres, this rendering the animal less susceptible to the toxic action of the caffeine.

Doctor Wellman made a most interesting announcement to the effect that a commission sent from Tulane University had been able to grow the malarial organism outside the body. (See editorial article, page 1278.)

In regard to the production of a multiple neuritis in fowls similar to beriberi, Doctor Wellman found that he could cause the condition by feeding fowls upon polished rice. If the diet was changed to unpolished rice or to mixed food the animals would recover. Similar results were obtained by feeding the animals pure cane sugar. The conclusions drawn were that the condition was due, not to polished rice as such, but to a pure carbohydrate diet.

THE SECTION IN GYNECOLOGY.

WEDNESDAY, JUNE 5TH.

Doctor Burnam discussed the discovery of the corpus luteum extract and its value as a therapeutic agent, stating that it was yet in the experimental stage.

From his personal experience he had found the extract to be valuable in amenorrhea from various functional causes, also for the distressing symptoms during the menopause. The preparation first used was the fresh, raw corpus luteum of the sow, given in the shape of sandwiches. Subsequently a dried preparation was used in the form of a tablet and in doses of twenty grains, increasing the dose to thirty or even forty grains, three times daily. No toxic effect had ever been observed when given by the mouth; injected intravenously into animals it was highly toxic.

The remedy had proved to be valuable for neurasthenia and nervousness before the menopause. In recurrent miscarriage of unknown cause the results were indefinite, although the experimentation along this line had been very limited.

Doctor Rogers, in discussing this paper, demonstrated diagrammatically the correlation between the various glandular secretions and the harmony existing between the functions of these glands

Dr. C. H. Mayo stated that thyroid extract was a valuable remedy for vomiting of pregnancy and that he attributed it to the close relationship existing between the functions of these two secretions.

Doctor Reed, in his paper on the relations of pelvic conditions to intestinal displacement in women, emphasized the importance of obstinate constipation, displacement of the intestines, the ptoses, and absorption of toxines from the gastrointestinal tract as causative factors, very often, of persistent headache, backache, neurasthenia, and other symptoms referable to abnormal pelvic conditions, while, as a matter of fact, relief for the pelvic conditions in many patients, failed because the underlying cause, intraabdominal, remained uncorrected.

Doctor Allan regarded faulty posture and disease of the sacroiliac joint an infrequent cause of uterine displacement.

Doctor Carsten and others believed that faulty development from too close confinement and too little of the proper sort of exercise for the growing girl were responsible for much of the constipation, headaches, etc., and reflexly for pelvic disorder.

Doctor Clark emphasized the importance of eliciting a complete history in determining the frequent coincidence of cholelithiasis with gynecological disease. He urged general exploration where the pelvic condition would permit of such examination without the danger of infection. He reached the following conclusions: 1. Gallstones gave rise to symptoms in a much larger proportion of cases than was commonly supposed. 2. Many cases heretofore diagnosticated and treated as "chronic indigestion" and other vague stomach disorders were in reality cases of cholelithiasis. 3. Gallstones were not necessarily innocuous when they were producing no symptoms, but frequently produced fatal lesions while their presence was unsuspected. 4. Unless contraindicated the gallbladder, as well as the appendix, should be examined in all cases of celiotomy, and gallstones, if present, should be removed, provided the patient's local and general condition was favorable.

Doctor McMurtry stated that the intestinal complications in gynecological operations were the result not necessarily of faulty technique, but of undue handling with improper surgical instruments, unnecessary manipulation with the examining hand and exposure, also blood clots, incomplete anesthesia, permitting of straining, etc., drainage with gauze—exposure of raw surfaces, and failure properly to adjust the omentum—the safeguard for the abdominal cavity. It was not wise to manipulate too extensively simply for the purpose of breaking up adhesions that did no harm. The same general view with regard to the wisdom of the complete operation in complicated conditions, was taken as had been taken in the previous papers and in the discussions in which Doctor McMurtry participated.

Doctor Watkins regarded puerperal infection chiefly as a systemic disease. Recovery was the result of general immunity. The successful treatment must consist of building up the body resistance until some specific serum or vaccine was discovered. Positive blood culture was significant. Negative blood culture did not mean much. Sapremia demanded that the products be removed. Puerperal fever demanded that the products, if any, be undisturbed. We were always in doubt with regard to mixed infections, therefore unless positive on this point, it was better to let the interior of the uterus alone. Pelvic exudations should not be operated on for the same reasons that we should not operate under other circumstances until the fever disappeared.

Doctor Boldt stated that the causes of salpingitis were principally infections from some source, gonorrhea being the most frequent cause. Salpingitis might exist without any marked symptoms being present, frequently none at all. Care must be exercised in palpating for salpingitis, likewise in performing any minor surgical operation or making intrauterine application. The possibility of the existence of tubal disease must first be eliminated.

While in some instances menstrual abnormities existed, they were not regular and should not be regarded as a criterion for the existence of tubal disease. Accurate diagnosis could best be made by rectovaginoabdominal palpating. Examinations should be made under anesthesia. The prognosis, as far as life was concerned, was generally favorable. In the treatment, one must be governed wholly by existing conditions, particularly the symptoms in chronic salpingitis.

Under the title Gynecological Pelvic Drainage Doctor Bobée stated that he had not drained suprapubically for fifteen years. Gravity was the important factor regardless of the nature of the drainage material used. Abdominal drainage was not justifiable where pelvic drainage by gravity was dependable. Indications for drainage were: Suspected presence of infection, removal of ruptured pus tubes, ruptured ectopic gestation, hemorrhage, injuries from operation in uterus and annexa, lessened resistance of the patient with peritonitis, etc. Material used was the rubber tubing, a half inch in calibre with the cross resting on the ligaments. The gauze and rubber drain and the cigarette drain were sometimes used when large cavities were to be drained, the drain to remain three or four days. The incision for the drainage tube in the supravaginal operation was made from above downward and the tube introduced from below.

Doctor Polak gave a summary of the recent literature on conservation of the ovary and described the types of ovary which might be conserved or resected. He also emphasized the importance of the influence of position of the ovary on the ovarian circulation and the changes which took place in the ovarian structure. The ovary was better conserved by the removal of a wedge shaped section for the small cysts rather than by simple incision. Other small neoplasms were similarly treated. After suturing, the scar was turned into the back of the broad ligament. The tuboovarian ligament and the peritoneum of the broad ligament were utilized in supporting the ovary and protecting the scar.

THE SECTION IN DISEASES OF CHILDREN.

WEDNESDAY, JUNE 5TH.

Infant feeding in its various phases was discussed by the essayists, and Doctor Chapin brought out the fact that the only difference in the various carbohydrates was the amount of water which they contained and that all of

them had the same nutritive value from the caloric standpoint. He believed that cane sugar was not directly fermentable, while maltose was markedly so—more than any of the other sugars used. However, the more fermentable it was the more readily it was assimilated; a rather startling fact when considered clinically. He placed the sugars in the following order, based on the order of their assimilation in the infant organism: 1. Dextrin; 2, maltose; 3, cane sugar; 4, milk sugar.

Doctor Brady used a milk low in fats, but with increased carbohydrate content (7.91 per cent.) in infants in the first three months of life. The carbohydrate was divided into lactose, 2.66 per cent.; cane sugar, 1.30; maltose and dextrin, 1.30; barley gruel, 2.25. With such a feeding in asylum babies he had better results than by any previous method employed.

Doctor Schloss ascribed the idiosyncrasy of certain children to eggs as a reaction closely related to anaphylaxis. He reported four cases closely studied due to the egg white. Ovomucoid was isolated in two of these, and he believed that this substance was the direct causative agent. Treatment consisted of administering small doses of the toxic agent until immunity was acquired.

Doctor Talbot showed that the fats were harmful in cases of infantile abdominal tuberculosis in which the lymph channels were blocked and deprecated the use of oils and emulsions in these cases. Doctor Dennett pointed out the caloric needs of infants artificially fed and showed that from 110 to 120 calories per kilo were needed for the average baby, while atrophic infants often required as much as 170 calories per kilo of body weight.

A very ingenious breast shield for mothers with sore or depressed nipples was shown by Doctor Griffith which was made entirely of rubber and which was fixed on the principle of an induced vacuum to the breast.

Speaking of the spread of infant welfare work, Doctor Cooley indicated the danger of passing over such activities prematurely to the health authorities. He believed they should be entirely controlled by pediatrists.

The surgery of children should not be undertaken, according to Doctor Kerr, without the help of the pediatrist, who should make a complete examination of the child's organism and give his judgment and experience to the surgeon. He believed that operative timidity and procrastination were the rule in children's surgery. Shock, loss of blood, loss of animal heat, and unskillful anesthesia were the factors of danger. Children suffered from too much or too little surgery and rarely had adequate postoperative care.

THURSDAY, JUNE 6TH.

Doctor Smith showed the value of the phenosulphonaphthalein test for the functional activity of the kidneys in children's disorders, and his experiments and autopsies proved that a delay in the excretion of this chemical indicated a kidney lesion. It was also possible by this method to differentiate the primary lesion in complicated renal and cardiac disease. The intramuscular method was recommended as the one of choice, the error being less than five per cent. In five cases of pyelitis the time was from seven to twenty-one minutes for excretion and the amount from twenty to fifty-eight per cent.

Doctor Royster, from studies of the temperature and humidity, in twenty-six different cities of the country, came to the conclusion that mortality resulted from defective radiation rather than from the heat itself, and that cumulative conditions were particularly baneful. We could not compare conclusions in this country with those made abroad, as the climatic conditions varied too greatly. Doctor Park, as the result of x ray studies of the wrists of children that had been at some time extremely ill for a prolonged period, came to the conclusion that, rated by Rotch method, he obtained no uniformity in developmental changes, some who showed the slightest changes or retardation being among the sickest of the children studied.

As there had been only twenty cases of exophthalmos in scurvy reported in children, Doctor De Buys's report, with pictures and radiographs, was well received. In his cases the condition receded and reappeared three times before a cure. The fundi were normal.

Doctor Pineo described his apparatus, especially applicable in children (particularly useful for head and throat operations) for pharyngeal insufflations of ether, claiming for it quick induction, even maintenance and prompt recovery and no loss of body heat as the anesthetic is warmed.

Doctor Pottenger made a strong plea for systematic care for children who had reacted to the von Pirquet tuberculin test. If the reaction appeared in twenty-four hours it was maximum evidence of an active lesion; if only after twenty-four hours a latent lesion was present. He advocated the use of tuberculin in the treatment of tuberculosis coupled with hygienic measures and diet.

Doctor Hubler showed an arrangement to be attached to a sphygmomanometer which by a pith ball indicator gave absolute readings of the diastolic and systolic pressure, eliminating the personal equation which he had proved caused wide discrepancies in the readings. With this apparatus pressures could be standardized. If used on the leg the readings in children were from ten to fifteen degrees higher than on the arm. In 150 observations on tuberculous children he found that they had a lower blood pressure and that this was always raised when they were transferred to the open air. This formed an important element in the treatment. The increase was sustained as long as they remained outdoors.

Doctor Stoll emphasized the importance of whispered bronchophony (in diagnosticating bronchial lymph nodes) as one of the most valuable signs. This stopped at the seventh cervical vertebra. It was obtained in eighty out of 168 of his cases. He stated that moderate enlargement often gave physical signs by clinical evidences alone.

THE SECTION IN GENITOURINARY DISEASES.

THURSDAY, JUNE 6TH.

In the chairman's address, it was pointed out that arrested spermatogenesis occurred through certain anatomical factors, environment, and artificial external agents. The speaker observed that two out of four baby rabbits with transplanted testes were able to function. It was believed that both interstitial cells and tubules took part in the active physiological process. In certain cases vasoligation might supersede vasectomy. The close relation between ductless glands and the testes upon which so much had been written, had been proved, and he cited instances as evidence. The recognition of the testes as excretory organs was shown in certain diseases. He further pointed out that infections of the epididymis were derived from the blood.

Dr. Eugene Fuller pointed out that in seminal vesiculotomy it was most important to be thoroughly acquainted with the anatomy of the field. The pathology of the condition was carefully detailed. The general surgical principle underlying the operation, namely drainage, was emphasized. He grouped the cases from the clinical symptomatology rather than from pathological condition 1, urinary; 2, genital; 3, nervous and mental; 4, rheumatic. The misconception of the operation was dwelt upon. In the third group hysteria in various forms was evidenced. In the fourth group distal and proximal lesions were shown to be cured by removal of the local infection. The term toxic rheumatism should be used rather than gonorrheal rheumatism. In a large series of cases there was no mortality. The end results in these cases showed strikingly good results. The operation not adapted to tuberculous cases.

Dr. Robert H. Herbst, in his paper on vasostomy (Belfield), discussed first the bacteriology of the condition. Symptoms referred to bladder and prostate were relieved by the operation, and he based his belief upon physiological rest. He gave a grouping of the cases and pointed out the indications and contraindications, and emphasized these two points in technique: 1, Definite fixation of the vas; 2, complete stripping before slitting. The end results were good, and strictures were rare after the operation. He then presented statistics.

Dr. Oswald S. Lowsley illustrated by diagram the embryological development of the prostate gland showing the five foci. Recent observations showed that primary carcinoma began in posterior lobe. The middle lobe might be absent. No capsule separated the middle and lateral lobes, but the middle tubules entered the urethra separately. The anterior lobe began to decrease after the sixteenth week and at birth was insignificant. He gave the number of prostatic tubules as varying from fifty-three to seventy-four. He showed a model reconstructed from the embryological specimen clearly demonstrative of the growth of the prostate. The work extended over a long period and

explained some of the hitherto hazy points in dealing with this gland.

Dr. Emil Goetsch presented the results of an experimental study of the influence of the hypophysis with reference to the genitourinary system. He detailed the effect of removal of the gland on the body growth, sexual development, and the ductless glands, especially the testes and ovaries. In the male he never reached development of adult cell type while in the female the same results were not obtained. In these cases there also was lack of pubic hair and infantilism. Treatment by glandular feeding thus far was not very satisfactory.

Dr. Ernest E. Irons said that the gonococcus was not infrequently distributed by way of the blood. After some experiments he found that by taking one thousandth of a gramme and adding one c. c. of glycerin a reaction was produced by introducing the extract by subcutaneous injection. He illustrated the lesion produced by injection as roseolar in character. The reaction obtained for twenty-four or forty-eight hours usually but occasionally lasted longer. Cases with reaction were cited.

Dr. L. E. Schmidt entered into the consideration of surgical modes of procedure both from above and below, for surgical conditions of the pelvis. The methods of diagnosis were detailed. An exact diagnosis must be made as this decided the route to be used. The operations might be divided into intraperitoneal, and extraperitoneal and further those done from above and those from below.

THE SECTION IN DERMATOLOGY.

THURSDAY, JUNE 6TH.

Dr. L. Duncan Bulkley presented striking proofs that there was a thoroughly scientific basis for the thesis that diet and hygiene were of importance in relation to many diseases of the skin. Many striking illustrations of the beneficial effect of a restriction of nitrogenous food under certain conditions, was found in the use of the so called "rice diet" which included hot boiled rice and bread at least twenty-four hours old. In severe erythema multiforme, in various acute inflammatory affections, in recurrent vesicular eruptions of the hands, in some eczemas, in the acute exacerbations of psoriasis and in severe rheumatoid arthritis the "rice diet" caused a complete cessation of distressing symptoms and a disappearance of the lesions. He again laid emphasis upon the benefit of a vegetarian diet in psoriasis. Many of the cutaneous flora required a proper soil in which to propagate, this favorable soil might be induced by faulty nutrition as influenced by erroneous diet.

Dr. Howard Fox, commenting upon the relative value of mercury and salvarsan from a serological point of view, concluded that: 1. In the primary stage of syphilis, especially before the Wassermann reaction became positive, salvarsan was a most valuable remedy from both the serological and clinical standpoint. 2. Repeated intravenous injections at this stage gave promise of aborting the disease in a considerable percentage of cases. 3. No such promising results had ever been reported by the early administration of mercury alone. 4. It was probable that the abortive method would prove still more effective when a combination of the two drugs was used. 5. A serological comparison of mercury and salvarsan in later stages of syphilis failed to show any decided advantage in favor of either remedy.

Dr. Abner Pott called attention to syphilitic affections of the ear occurring early after the inception of the syphilis with symptoms of ringing in the ears, deafness, vertigo, facial paralysis, unsteady gait, and occasional vomiting. Experiments on monkeys and man had demonstrated that calomel or mercurial ointment thoroughly rubbed into the inoculated spot within a few hours after exposure prevented infection. This preventive use was now practised in the armies and navies of several nations. The work of salvarsan in causing the mucous patches of secondary syphilis to disappear was most rapid. In no class of cases was the use of salvarsan more brilliant than the mercury and iodide resistant lesions of late syphilis. Serological tests had established that the apparently healthy mothers of syphilitic babies were themselves syphilitic. Salvarsan offered a quick cure to these apparently healthy women, and they should be treated that they may produce healthy offspring.

THE SECTION IN PREVENTIVE MEDICINE AND PUBLIC HEALTH.

THURSDAY, JUNE 6TH.

The contention of Chapin that the importance of "things" as conveyors of infection had been exaggerated received support from the investigations of Otis V. Nesbit upon the relation of library books to the transmission of scarlet fever. In a town of 10,000 people where this disease was not endemic and where the library system was very perfect it was possible to trace certain books from one family to another and note the houses in which scarlet fever was present or where it had recently existed. In several instances books were followed which had actually been handled by children during the course of the disease. Forty books were traced. In this town about 9,000 books had been taken from the library each year. An epidemic was stamped out in the course of the investigation. It could not be shown that any suspicion was attached to any book as the conveyer of the infection. Notwithstanding this apparently clear evidence Nesbit believed it safer to disinfect library books that had been in houses where infectious disease existed. The gasoline method of Beebe was the one recommended. "Persons" were more important as conveyers of infection than "things."

Dr. A. J. Wehr had studied the results of slow sand filtration and mechanical filtration side by side. The technical points of both kinds of filters were interestingly described and illustrated by lantern slides. He believed that the results of Stokes and Hachtel would be better and that a smaller quantity of hypochlorite would suffice if the Baltimore water was clarified before the addition of the germicide. The results obtained by Stokes and Hachtel had been encouraging and very much so up to the last two or three months. One difficulty in the final sterilization of water had been encountered in the final destruction of certain sporogenic bacilli which were very resistant. These however were almost certainly not pathogenic.

Dr. Otto P. Geier did not agree with Professor Gun that trained sanitarians, not medical graduates, were to take charge of health matters in the future. That some medical health officers had been worse than failures there could be no doubt, but such were the too well known common political doctors without scruple. The better class of physicians should interest themselves more in politics and especially in matters pertaining to the health and economic conditions of their communities. We might point with just pride to the achievements of the last few years, practically all of which had been due to the efforts of medical health officers. The Panama Canal had been made possible through the efforts of a medical health officer. The achievements in Cincinnati through a political upheaval were interestingly described. When local political conditions made it impossible to enforce the milk regulations, the fight was carried to the State Capitol and a State law was obtained which restored proper regulations. This campaign was carried through by a few determined physicians (the section learned in the discussion that Doctor Geier was the modest leader of these determined physicians). As an index of the improvement in health conditions it was sufficient to state that in 1911 there were 190 less deaths from infantile diarrhea than there were in 1910. There could be no doubt that intelligent physicians made the best qualified social and charity workers. As progress was being made in the control and eradication of disease the field of the practitioner was becoming constantly narrower. This need not be viewed with alarm but should point the way to a broadening of the field of medical service in another direction. Public charities, industrial inspection, and a number of allied activities were demanding competent, level headed workers. In some colleges courses were being established leading to the degree of doctor of public health. These courses should take cognizance of the need for social and industrial inspectors.

THE SECTION IN SURGERY

WEDNESDAY, JUNE 5TH.

Dr. Harvey Cushing, of Baltimore, was first to speak on the influence of the secretion of the pituitary gland. Not giving anything new here he took up the thyroid gland, saying the posterior lobe discharged a substance not definitely known as to composition into the spinal canal, then

reaching the bloodstream through the spinal fluid. When the portion of the gland degenerated then there were adiposity and sexual dystrophy. He thought surgical intervention should take place where there was pressure present on the pineal gland, as this pressure caused hydrocephalus.

Dr. J. H. Pratt, of Boston, spoke on theory of pancreatic secretions, saying little was known of the chemical constituents of same and that removal of the pancreas in animals produced diabetes. If one tenth of the gland was left this would not occur. The destruction of the islands of Langerhans changed the internal secretion.

Dr. David Marine, of Cleveland, stated that the thyroid did not play a prominent rôle in the symptoms complex. He said the iodine was simply stored there, and merely arrested the growth, and it was a question as to exophthalmic conditions. He gave fifteen patients with exophthalmic goitre iodine and the hyperplasia showed involution. He thought that exophthalmic goitre was more often assisted by feeding fresh thyroid gland dessicated and only one day old, but his experiments had been futile upon dogs. Kocher had used iodine and stated that it exaggerated the symptom complex.

Dr. William G. McCollum, of New York, read a paper on the parathyroid. He said emphatically that the parathyroids *were not* a part of the thyroid, and that we did not know positively what the chemical output was, but we did know that disease or destruction or extirpation caused tetany. Tetany could be checked and spasms stopped by injections of calcium. The removal of calcium from a nerve cell caused hyperexcitability, strontium and sodium lowered the condition. The ideal treatment was implantation of new parathyroid gland.

Doctor Plummer, of Maryland, said that twenty per cent. of patients with simple goitre found in the last five years showed no hyperplasia; in only two cases the pure hyperplasia was noted of cases of simple goitre.

Doctor Wilson, of Rochester, said in ninety per cent. of cases the physician could diagnosticate the case. He showed blood examples.

Doctor Marine, of Cleveland, said the overgrowth of the thyroid in exophthalmic goitre was due to an active oversecretion, but that any foreign proteid injected into the blood would show a fall of blood pressure.

THURSDAY, JUNE 6TH.

Dr. Willard Bartlett, of St. Louis, read the first paper on experimental and clinical work bearing on the value of the Lane splint or bone plate. He experimented on dogs with these plates and out of eleven dogs treated three died from infection, all of the eleven being more or less infected, the splint acting as a foreign body; these splints were unprotected. He also had three out of four successful cases in the human being where the Lane splints were put on in a suppurating wound; in these cases he intimated that the Lane splint although a foreign body did not act as an infective agent.

Dr. F. J. Cotton, of Boston, next read a paper entitled Operative Treatment of Joint Fractures. He said the most common cause of immobile joint was failure to mobilize the joint early enough, second, the shortening of the muscles and tendons. In speaking of nonunion at the hip and knee this was due to the condition of the synovial fluid on opening the joint, the only solvent when fluid was lost, then the bones would unite. In wrist joint cases much could be done by manipulation, but the carpal bones must be opened up. In the elbow the principal thing was contact operation although not always necessary. Radial head fractures would heal without operation also. In one case he removed the radial head, washed it off, replaced it, and got good results. The unrecognizable elbow joint fractures rarely were cured. In the ankle when both bones were involved, open operation and plate was advisable. He believed thoroughly in opening up but used external apparatus.

Dr. W. Darrach, of New York, did not agree with Doctor Lane inasmuch as all fractures should not be opened. Out of 2,100 cases at the Roosevelt Hospital last year only 105 were opened; out of 107 this year only fifty-seven recent cases were opened, and plates placed on only twenty-eight per cent. of the last number mentioned. In early cases seventy-one per cent. of plate were cured perfectly, thirty per cent. only in late cases. Out of 107 cases three showed infection in ankle operations and only three plates were removed in twenty-three cases and ninety-six cases were simple and eleven compound. Most fractures should be treated by closed method.

Dr. L. W. Ely, of Denver, said that the new ideas impeded the progress of surgery, relative to bone operations; in long bones the marrow controlled the growth of disease, etc., not the synovial fluid in the joints, therefore certain blood diseases affected the bone The study of bone change in the past few years had resulted in nothing and the curretting of the outer layer of bone in tuberculosis did more harm than good. The outer layer was merely a protection if at all and might be disregarded in bone diseases.

Next followed the discussion of the papers. Dr. John B. Murphy, of Chicago, said that from eighty-five to ninety-two per cent. of Colles's fracture resulted badly, due to defective reduction, and elbow joint fractures that were unsuccessful were those due first to incomplete reduction, second reduced by a bandage, and third from torn off periosteum. He stated that clinical observation in all cases was the final court of appeals. He removed the surgical head of the femur in a boy and interposed soft fascia from wthin the pelvis. The boy had a perfect joint and perfect control which was an actual demonstration. In a knee joint the periosteum had no osteogenetic force, hence we must implant bone that had.

Doctor Moore, of Minneapolis, said Lane plating was dangerous when done by the young man, and warned him about compound fractures. He said that the Lane plate was always more or less infectious regardless of the sterilization of the same, but he, with its use, found firm, bony union in every incident.

Dr. A. J. Ochsner condemned every form of plate except the steel. In eleven years of practice on hip joint cases he put on the pulley extension and got union in every case. He used the x ray to watch the growth of union. We should use Lane's own method to do this sort of work to get results. Out of 100 cases seventy-two were perfect union and only three plates had to be removed, because he used Lane's method.

Doctor Albee, of New York, said he had a case where the Lane plate was ineffectual. He had to remove it four times, then at last inlay bone in a tibia case.

Doctor McGlannan, of Baltimore, put a long drill through the femur and made traction, then he put on the Lane plate. In thirty-eight cases twenty-six were treated by Whitman's method of hip joint fracture.

Doctor Huntington, of San Francisco, preferred conservative treatment always when possible; it was a case of conscience with the surgeon. He emphatically said the young surgeon was the coming man, and he should do pioneer work in splinting, stapling, etc., but he should always put on external splints and plaster bandage; never trust the Lane splint alone. He used the staple himself more than anything else.

THURSDAY, JUNE 7TH.

Doctor Gibbon, of Philadelphia, read a paper on Aneurysmorrhaphy and the Matas Operation, supported for the removal of sac, saying superficial infection did not interfere with the cure, and the thrill often heard and felt after operation was not a serious sign; in fact it was a good thing, for it was evidence of an equal balance in blood pressure. He had failures when he attempted this operation upon the abdominal aorta, but thought if the sac was not too large there would be some improvement along this line. He laid particular stress upon antisyphilitic treatment where the disease was responsible for the cause.

Dr. A. D. Gatch, of Indianapolis, read the paper in the absence of Doctor Blake. He elaborated upon intestinal anastomosis, showing several methods, dwelt upon the subject of aseptic surgery, stating that the stomach and duodenal contents were sterile, but the rest of tract was not, and to prove this he drew silk ligatures of eighteen inches in length through the bowel, then put them in tubes, cut in small pieces, and invariably cultures grew, showing that, no matter how careful we worked, we were working in a dirty field at all times. He preferred invagination of the bowel to resection, doing a lower end invagination, as the upper end always failed and caused obstruction.

Doctor David said that the old Monsell technique was still the best end to end work, and he did not see why it had fallen into disuse.

Doctor Smith said that the end to end work depended entirely upon the condition of the gut and the patient; that we could not at all times do this operation, and it should not be said that the lateral anastomosis should not be done. He was supported by Doctor Huntington, who said the law was unto the individual, and a man should do the method he was most familiar with regardless of what was read.

Doctor Kistler, of Butte, then read a paper on thrombophlebitis of the left leg, mentioning the etiological factors and giving the anatomical relations of the veins of the left leg, merely stating the reason it occurred there more frequently was the anatomical arrangement of the vessels, and not pressure. His paper was not discussed, and the meeting adjourned.

Allied Societies.

AMERICAN SOCIETY OF TROPICAL MEDICINE.

At the last meeting of this society, held in connection with the sixty-third annual meeting of the American Medical Association, in addition to the officers mentioned on page 1231, the following were elected: Assistant secretary, Dr. Allen J. Smith, of Philadelphia; treasurer, Dr. C. Lincoln Furbush, of Philadelphia; councilors, Dr. H. J. Nichols, U. S. A., of Washington, D. C., Dr. Roger S. Morris, of St. Louis, Dr. Seale Harris, of Mobile.

The following new members were elected: Dr. A. P. Hitchens, of Glenalden, Pa.; Dr. G. C. Crandall, of St. Louis; Dr. W. E. Deeks, of Ancon Canal Zone; Dr. W. H. Bell, of Cristobal, Canal Zone; Dr. A. H. Zeiler, of Cristobal, Canal Zone; Dr. Victor G. Heim, of Manila, P. I.; Dr. John T. Halsey, of New Orleans; Dr. J. S. McLester, of Birmingham; Dr. William Krauss, of Memphis; Dr. G. E. Henson, of Crescent City, Fla.

Delegates to the Fifteenth International Congress of Hygiene and Demography were appointed as follows: Dr. George Dock, of St. Louis; Dr. F. C. Wellman, of New Orleans; Dr. H. J. Nichols, of the Army Medical School, Washington, D. C.

Letters to the Editor.

INFORMATION WANTED CONCERING SUSPECTED INSECTS.

BROOKLYN-NEW YORK, *June 10, 1912.*

To the Editor:

I should be greatly indebted to you for any assistance you could render me through the columns of the JOURNAL in ascertaining the coincidental presence of acute poliomyelitis and *Cimex lectularius* in sickrooms, tenements, summer camps, hospital wards, and institutions during the coming season.

Information is especially desired concerning:

1. Presence of insect bites on body of poliomyelitis patient.

2. Had bitten child been well screened from mosquitoes?

3. Is insect bite on area of body protected by clothing from mosquitoes?

4. Has physician attending poliomyelitis case observed bedbug on personal clothing subsequent to professional calls?

5. Any known association between bedbugs and cases occurring in doctor's family?

6. Number of cases of poliomyelitis treated in which bedbugs were found; percentage of total number of cases?

7. Occurrence of sudden, unexplained fatal epidemic disease, with symptoms of meningitis and respiratory paralysis, in institutions for young children? Sanitary condition of institution? Bedbugs?

Physicians noting one or more of the points given above will confer a favor by reporting them to,

J. V. V. MANNING, M. D.,
151 Lafayette Avenue.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Diagnose und Therapie der Magen- und Darmkrankheiten. Anhang: Die chemische und mikroskopische Untersuchung des Mageninhaltes und der Faeces. Von Priv.-Doz. Dr. WALTER ZWEIG, Abteilungsvorstand am Kaiser Franz Joseph Ambulatorium in Wien. Zweite, vermehrte Auflage. Mit 36 Textabbildungen und 1 farbigen Tafel. Berlin und Wien: Urban & Schwarzenberg, 1912. (Through Rebman Company, New York.) Pp. xv-502. (Price, $4.)

The first edition of this book appeared in 1906. The present, second edition, recently issued, has undergone essential changes made necessary by the intervening progress of medical science. The chapter on the Physiology of Digestion has been materially changed. Other additions are as follows: The Visceral Nervous System, Salt Free Diet, Enteroptosis, Ulcerative Colitis, Sigmoiditis, and Sphincteric Proctitis. A new chapter has been added, dealing with the microscopical and chemical examination of the stomach contents and feces.

Not the least valuable portion of the work is the series of diet lists. The dietetic management of the various diseases considered, has been very thoroughly worked out and the lists include the caloric valuations. If this is considered, after a careful perusal of chapter two on the physiology of nutrition and of tissue interchange, a scientific basis is furnished which must prove of great value The chapter on enteroptosis is a very thoughtful one, and the author properly lays stress upon frequency of heredity as a causative factor, hence, as a prophylactic measure, the children of those subject to this condition should be carefully studied, and the most strenuous efforts made to develop them physically and increase their resistance. In treatment he does not lay sufficient stress on the difference in handling hereditary and acquired types, nor does he mention the several very excellent corsets designed to relieve sufferers, nor is mention made of lipectomy as an operative measure to increase abdominal tension.

We regret to see no mention of the Faught apparatus for lifting stomach contents, and for gastric lavage. It is simple, eminently practical, and insuring, as it does, completive evacuation, it furnishes a fair estimate of the motility of the stomach.

No reference is made to esophagogastroscopy. The modern, combined direct and indirect vision or periscopic gastroscope, is a safe and practical aid to diagnosis in the hands of the trained observer, and makes earlier operation possible in selected cases as it demonstrates its futility in others. A diagnostic point of considerable value in cases of gastric cancer is briefly touched upon as follows in the section dealing with carcinoma of the stomach. "In ulcerating carcinomas, the stomach often contains pus, which, after excluding phlegmonous gastritis and perforation of an abscess into the stomach, speaks strongly in favor of cancer of the stomach." No detailed mention of this very important measure is touched upon, being wholly ignored in the chapter on laboratory technique. This is an unfortunate omission, for curious as it may seem, not only in ulcerative carcinoma, but in early, nonulcerative stages, the stomach washings, using a physiological salt solution reveal after sedimentation numerous pus cells. It is necessary, in any given case, to advise against the swallowing of postnasal mucopus.

Despite these few shortcomings, however, the work merits considerable praise and abundantly justifies itself.

and one will find it of special value in helping in treatment, as the author devotes considerable attention to the management, dietetic and otherwise, of all the subjects considered.

La Pratique de l'opothérapie. Principes, indications, posologie. Par M. L. Hallion, directeur adjoint du Laboratoire de Physiologie pathologique des Hautes Etudes, professeur remplaçant au Collège de France. Paris: Masson et Cie, 1911. Pp. 148.

In this monograph, the author attempts to give a survey of the physiology and therapeutics of organic extracts. In the first and second chapters he reviews what is known of the general principles of their physiological action. He urges that, contrary to what is generally believed, it is not by compensating for, or adding to an internal secretion that organic extracts produce their effects, but by exciting the functional activity of the corresponding organ in the subject to whom it is administered. An exception to this is the thyroid, the secretion of which serves as a substitute. The author does not grant this position, however, to the pituitary or adrenals "as their secretion does not in an appreciable manner replace the function of the corresponding organs." There exists in all organs some specific cellular product, though not necessarily an internal secretion. Opotherapy in this sense means precisely what the term suggests: Organ juice therapy, regardless of the identity of the structure as a ductless gland or any kind of gland. Thus muscle, nerve, pulmonary, and other tissues mentioned are not glandular, but their extracts prove nevertheless active. Viewed from the standpoint of present day therapeutics, which means little more than empiricism, this little book possesses merit in that it enumerates the disorders in which a multitude of organic extracts have been tried with more or less success.

The Mortality of Alcohol. A Statistical Approximation of the Deaths in the United States in Which Alcohol May Figure as a Causative or Contributory Factor. By Edward Bunnell Phelps, M.A., F.S.S. Reprinted from the American Underwriter Magazine and Insurance Review, Vol. XXXVI, No. 1 (September, 1911). New York: Thrift Publishing Company, 1911. Pp. vi-75.

This monograph represents the first serious attempt to determine accurately the number of deaths for which alcohol is responsible annually in this country. It is purely a statistical study, based on the mortality records of the census bureau with reference to the registration area of the United States in the year 1908. The method employed in establishing the estimates was to select from the causes of death enumerated in the census report those in the case of which alcohol could possibly have been responsible in whole or in part for any deaths among men between the ages of twenty and seventy-four years, inclusive. The list thus made up included 106 separate conditions in the production of which alcohol might have figured. These are further classified into three groups, according as the alcohol might have been an important contributory factor, a minor contributory factor, or merely a harmful adjunct.

The next and most essential step in the calculation was to secure the opinions of three experienced medical insurance experts, all medical directors of well known companies, as to the proportion of deaths in each of the disease conditions listed which should be attributed directly or indirectly to alcohol. The average of the three estimates was then taken and applied to the total number of deaths from each cause given in the census report for 1908, the actual number of deaths probably attributable to alcohol in that year being thereby computed.

The result finally reached was that in 32,853 deaths out of a total of 198,858 occurring in males between the ages of twenty and seventy-four years—i. e., in 16.5 per cent. —alcohol was probably a causative or contributory factor. Assuming that all deaths abetted by alcohol occur between twenty and seventy-four years, that the ratio of deaths attributable to alcohol in women bears the same relation to that in men as prevails in chronic alcoholism, viz., 12.7 per cent., and further, expanding the estimates so as to include the whole United States instead of only the registration area, the total number of deaths wholly or partially attributable to alcohol in this country in 1908 is calculated to be 65,897. "Apparently," the author concludes, "not more than one in thirteen deaths *at adult ages* is even remotely attributable to alcohol—instead of the one in six deaths *at all ages* which Mr. Reid and some other writers on the subject would have us believe are so chargeable."

Mr. Phelps is to be commended for having adopted so reasonable and systematic a plan as a basis for his estimates. The figures reached appear to be far more trustworthy than any "guesses" hitherto advanced. One point suggests itself in regard to the accuracy of the data. The estimates of the three experts consulted varied considerably, one man in particular almost invariably giving much higher estimates of the harmful contributory effects of alcohol in disease than the other two. An average obtained from the estimates of a larger number of insurance medical experts than the three consulted could hardly have failed to furnish an even closer approximation to the true figures.

A Manual of Clinical Chemistry, Microscopy, and Bacteriology. By Dr. M. Klopstock and Dr. A. Kowarsky, of Berlin. Only Authorized Translation from the Last German Edition, Thoroughly Revised and Enlarged. Illustrated with Forty-three Textual Figures and Sixteen Colored Plates. New York: Rebman Company, 1912. Pp. 371. (Price, $3.)

As is stated in the preface this manual presents in concise form the essential features of the subjects treated. The publication succeeds very admirably along these lines and contains a large amount of information clearly put. It is well adapted for use by the practitioner who wishes to refresh his memory concerning methods previously employed and to look up what has more recently been added. The arrangement is good and the various subjects are well treated in accordance with their importance. The examination of the sputum, of the gastric contents, and of the feces is given fully, and the chapter on the urine is extensive. That on the blood is good and also that on the bacteriological examination of diseases of the skin. The final chapter is devoted to a brief but clear presentation of the usual methods of bacteriological examinations, formulæ of stains and culture media. The one point of criticism is in regard to the illustrations, for they are not in keeping with the quality of the text. The book, however, is one that should prove useful to those carrying out the ordinary routine examinations in the course of their practice and to that end may be recommended.

Die Blut-Morphologie der Laboratorium-Tiere. Von Prof. Dr. Carl Klieneberger und Dr. Walter Carl. Mit 14 Farbdrucktafeln. Leipzig: Johann Ambrosius Barth, 1912. Pp. vi-110.

The authors of this volume have filled a gap that has existed for a long time in the literature on hematology, that a comparative study of the blood of experimental animals. Any one who has undertaken experiments in which a knowledge of the normal cytology of the blood of the animals used was necessary, has felt the need of such a book. The examinations were made in each case in a definite manner, attention being paid to the age and sex of the animal, the form of food given, and the time when feeding took place. The hemoglobin was estimated by Sahli's method, the erythrocytes and leucocytes were counted in the Thoma-Zeiss chamber, and the measurements made from fresh specimens. Numerous blood stains were used and smears from various organs were made. Sections were prepared of the organs and examinations made of the neutrophilic and basophilic cells. In each instance the following course was pursued: Blood findings, tissue findings, protocols, and the chapter closes with the average blood findings in the animal examined. In all, the hematology of twelve different animals is given, this list including not only the more common ones, as the white mouse, rat, guineapig, rabbit, cat, and dog; but the hedgehog, ape, sheep, hen, dove, and frog. As the authors state in the preface, they will feel that their task has been fulfilled if their contribution will lighten the way of the investigator along the path that each must travel, that of the normal. This volume will surely accomplish this, particularly with the aid of fourteen very good colored plates showing both the cells of the blood and those of the bone marrow. Every laboratory where experimental work is being done should have a copy of this book.

NEW PUBLICATIONS.

Hutchison, Robert, and Collier, H. Stansfield.—An Index of Treatment. By Various Writers. Edited by Robert Hutchison, M. D., F. R. C. P., and H. Stansfield Collier, F. R. C. S. Revised to Conform with American Usage, by Warren Coleman, M. D., Professor of Clinical Medicine and Applied Pharmacology in Cornell University Medical College. Sixth Edition, Revised and Enlarged. New York: William Wood & Co., 1912. Pp. xvi-1051. (Price, $6.)

McKisack, Henry Lawrence.—A Dictionary of Medical Diagnosis. A Treatise on the Signs and Symptoms Observed in Diseased Conditions. For the Use of Medical Practitioners and Students. Second Edition. New York: William Wood & Co., 1912. Pp. xi-590. (Price, $4.25.)

Meetings of Local Medical Societies.

MONDAY, *June 17th.*—Medical Association of the Greater City of New York; Medical Society of the County of Erie, Buffalo; Elmira Clinical Society; Hartford, Conn., Medical Society.

TUESDAY, *June 18th.*—Medical Society of the County of Kings; Syracuse Academy of Medicine; Buffalo Academy of Medicine (Section in Obstetrics and Gynecology); Oswego Academy of Medicine; Ogdensburgh Medical Association; Clinical Society of Elizabeth, N. J., General Hospital.

WEDNESDAY, *June 19th.*—Medicolegal Society, New York; Buffalo Medical Club; Northwestern Medical and Surgical Society of New York; New Jersey Academy of Medicine (Jersey City); New Haven, Conn., Medical Association.

THURSDAY, *June 20th.*—German Medical Society, Brooklyn; Newark, N. J., Medical and Surgical Society.

FRIDAY, *June 21st.*—Clinical Society of the New York Postgraduate Medical School and Hospital; Brooklyn Medical Society.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending June 8, 1912:

CHOLERA—FOREIGN: *India,* March 1-April 13, 54 cases, 50 deaths; *Indo China,* April 16-22, 65 cases, 56 deaths; *Siam,* March 24-April 20, 531 deaths; *Turkey in Asia* (Adana), April 9-15, 53 cases, 21 deaths; *Brazil* (Rio de Janeiro), April 7-30, 1 case, 1 death; *Great Britain* (Liverpool), March 14-18, 1 case; *Mexico* (Merida), May 3-25, 1 case, 1 death.

PLAGUE—FOREIGN: *China* (Hongkong), April 14-20, 66 cases, 55 deaths; *Dutch East Indies,* Jan. 1-March 2, 78 cases, 73 deaths; *India* (Rangoon), March 1-31, 65 cases, 63 deaths; *Indo China,* April 16-22, 15 cases, 5 deaths; *Japan* (Kobe), May 8, 1 case; (Formosa), April 14-20, 13 cases, 11 deaths; *Mauritius,* March 22-28, 7 cases, 5 deaths; *Persia,* Feb. 6, 2 cases; *Senegal,* May 29, present; *Siam,* March 24-April 30, 3 deaths; *West Indies* (Granada), May 2-7, 1 case, 1 death.

SMALLPOX—UNITED STATES: *Florida,* April 1-30, 82 cases; May 1-26, 31 cases, 1 death; *Pennsylvania,* April 1-30, 51 cases; *Utah,* April 1-30, 267 cases.

SMALLPOX—FOREIGN: *Arabia* (Aden), April 16-22, 1 case, 1 death; *Argentina* (Rosario), Feb. 1-29, 1 death; *Brazil* (Rio de Janeiro), April 14-20, 1 case; *Canada,* May 19-25, 8 cases; *China* (Hongkong), April 14-20, 16 cases, 8 deaths; *Great Britain* (Bristol), May 12-18, 1 case; *India* (Rangoon), March 1-31, 222 cases, 66 deaths; *Indo China,* April 16-22, 5 cases; *Italy* (Palermo), May 5-11, 9 cases, 3 deaths; *Japan* (Formosa), April 14-20, 1 case; (Kobe), May 7, 1 case; *Mexico,* March 17-May 25, 48 cases, 28 deaths; *Portugal* (Lisbon), May 5-11, 9 cases; *Russia* (Riga), May 5-11, 2 cases; (Warsaw), March 17-30, 23 cases, 7 deaths; *Siam* (March 24-April 20, 106 deaths; *Spain* (Barcelona), April 28-May 13, 1 death; (Cadiz), April 1-30, 2 deaths.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending June 5, 1912:

Alford, Neill, Acting Assistant Surgeon. Granted three days' additional leave of absence from May 31, 1912. **Cleaves,** F. H., Acting Assistant Surgeon. Granted three days' leave of absence from May 29, 1912, under paragraph 210, Service Regulations. **Collins,** G. L., Passed Assistant Surgeon. Leave of absence for one month from March 15, 1912, amended to read twenty-six days from March 15, 1912. **Creel,** R. H., Passed Assistant Surgeon. Detailed to represent the Service at the annual meeting of the American Society of Tropical Medicine, to be held in Atlantic City, N. J., June 3, 1912; granted four days' leave of absence, May 16, 17, and 18, 1912, under paragraph 191, Service Regulations. **Delgado,** J. M., Acting Assistant Surgeon. Granted one day's leave of absence, May 31, 1912, under paragraph 210, Service Regulations. **Duffy,** Francis, Acting Assistant Surgeon. Granted three days' leave of absence, without pay, from June 4, 1912. **Goldsborough,** B. W., Acting Assistant Surgeon. Granted three days' leave of absence, without pay, from June 4, 1912. **Grimm,** R. M., Assistant Surgeon. Granted four days' leave of absence, during May, 1912, under paragraph 191, Service Regulations. **Holt,** J. M., Passed Assistant Surgeon. Granted one month's leave of absence from June 22, 1912. **James,** W. F., Acting Assistant Surgeon. Granted five days' leave of absence from May 20, 1912, under paragraph 210, Service Regulations. **Korn,** W. A., Passed Assistant Surgeon. Granted seven days' leave of absence from June 5, 1912. **Naulty,** C. W., Jr., Acting Assistant Surgeon. Granted two days' leave of absence, June 6 and 7, 1912. **Osborn,** J. L., Pharmacist. Leave of absence for five days en route to station, amended to read "four days" leave of absence en route to station. **Ramus,** Carl, Passed Assistant Surgeon. Relieved from duty at the Marine Hospital, Port Townsend, Wash., and directed to report to the Chief Medical Officer, Ellis Island, N. Y., for duty. **Reimer,** H. B. C., Acting Assistant Surgeon. Granted five days' leave of absence from May 27, 1912, under paragraph 210, Service Regulations. **Rush,** J. O., Acting Assistant Surgeon. Granted two days' leave of absence, May 26 and 27, 1912, under paragraph 210, Service Regulations. **Sprague,** E. K., Surgeon. Granted three days' leave of absence, May 8, 13, and 14, 1912, under paragraph 191, Service Regulations. **Stimpson,** W. G., Surgeon. Granted nineteen days' leave of absence from May 31, 1912. **Terry,** M. C., Acting Assistant Surgeon. Granted thirty days' leave of absence from July 1, 1912. **Troxler,** R. F., Pharmacist. Orders dated April 29, 1912, directing him to report to Marine Hospital, San Francisco, Cal., amended so as to direct him to report to the medical officer in command of the San Francisco Quarantine Station, for duty and assignment to quarters. **Vogel,** C. W., Passed Assistant Surgeon. Granted four days' leave of absence from June 1, 1912. **Weitgenant,** W. W., Pharmacist. Granted three months' leave of absence from June 1, 1912. **Wertenbaker,** C. P., Surgeon. Detailed to attend the meeting of the association of Surgeons of the Southern Railway, to be held at Washington, D. C., June 11, 12, and 13, 1912. **White,** J. H., Surgeon. Detailed to represent the Service at the meeting of the American Society of Tropical Medicine, to be held at Atlantic City, N. J., June 3 to 7, 1912. **Wille,** C. W., Passed Assistant Surgeon. Granted ten days' leave of absence from June 5, 1912.

Board Convened.

Board of medical officers convened to meet at Vancouver, B. C., for the reexamination of alien immigrants. Detail for the board: Passed Assistant Surgeon Carl Ramus, Chairman; Acting Assistant Surgeon H. R. Storrs, recorder.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending June 8, 1912:

Boyer, Perry L., Captain, Medical Corps. Ordered to report on August 28, 1912, at West Point, N. Y., for temporary duty until November 15, 1912. **Dunbar,** [illegible] R., Lieutenant, Medical Corps. Granted thirty days' leave of absence. **Foster,** George B., Jr., Lieutenant, Medical Corps. Granted leave of absence for one

month and fourteen days, about September 1, 1912. **Haig,** Chester R., First Lieutenant, Medical Reserve Corps. Having completed the course of instruction at the Army Medical Corps, Washington, D. C., will report to the Surgeon General of the United States Army for assignment to temporary duty as assistant to the attending surgeon in Washington, D. C. **Harris,** Jesse R., Captain, Medical Corps. Ordered to accompany the 16th Infantry from Alaska to their destination in the United States, then to report to the Adjutant General of the army for further orders. **Jueneman,** George F., Captain, Medical Corps. Granted two months' and fourteen days' leave of absence. **King,** Edgar, Captain, Medical Corps. Granted five days' leave of absence. **Leary,** Thomas J., Lieutenant, Medical Corps. Ordered to proceed from his home to the Walter Reed General Hospital, D. C., for duty, relieving First Lieutenant John R. McKnight, Medical Corps, who, upon being thus relieved, will proceed to Fort Andrews, Mass., for duty, relieving Captain Hiram A. Phillips. Captain Phillips, upon being relieved, will proceed to Fort McIntosh, Texas, for duty. **Mitchell,** Leopold, First Lieutenant, Medical Reserve Corps. Ordered to Washington Barracks, D. C., for temporary duty during the absence of Major Charles R. Reynolds, and upon completion of this duty to proceed to Fort Lawton, Wash., for duty. **Phalen,** James M., Captain, Medical Corps. Ordered to report on August 28th at West Point, N. Y., for temporary duty until November 12, 1912. **Quade,** Omar H., First Lieutenant, Medical Reserve Corps. Having completed the course of instruction at the Army Medical School, will proceed on June 10, 1912, to Fort Snelling, Minn., for duty. **Raymond,** Henry I., Lieutenant, Medical Corps. Relieved from duty in the Philippines Division about September 15, 1912, and ordered to proceed to Schofield Barracks, H. T., for duty at that post. **Sheep,** William L., Lieutenant, Medical Corps. Ordered to report on August 28th, at West Point, N. Y., for temporary duty until October 10, 1912. **Tasker,** Arthur N., Captain, Medical Corps. Granted fifteen days' leave of absence; ordered to report on August 28, 1912, at West Point, N. Y., for temporary duty until November 12, 1912. **Truby,** Albert E., Major, Medical Corps. Granted thirty days' leave of absence, about June 25, 1912. **Wertenbaker,** C. I., First Lieutenant, Medical Reserve Corps. Orders directing him to accompany the 16th Infantry from Alaska to their destination in the United States revoked.

By par. 22, Special Orders No. 130, War Department, June 3, 1912, each of the following named First Lieutenants of the Medical Reserve Corps, having completed the course of instruction at the Army Medical School, Washington, D. C., will proceed to the station specified after his name for duty: Harry H. Blodgett, Fort Meade, S. Dak.; Thomas W. Burnett, Fort Casey, Wash.; Morris H. Boerner, Fort Sam Houston, Tex.; Charles R. Castlen Fort Worden, Wash.; Philip B. Connolly, Fort McPherson, Ga.; Micael A. Dailey, Fort Sheridan, Ill.; Howard L. Hull, Fort Howard, Md.; Robert M. Hardaway, Fort Lawton, Wash.; Thomas E. Harwood, Jr., Fort Caswell, N. C.; William E. Hall, Fort Winfield Scott, Cal.; John G. Ingold, Fort Missoula, Mont.; Frederick C. A. Kellam, Jr., Fort Clark, Tex.; Harry R. McKellar, Vancouver Barracks, Wash.; Shelley U. Marietta, Presidio of Monterey, Cal.; William B. Meister, Fort Benjamin Harrison, Ind.; Alvin C. Miller, Fort George Wright, Wash.; Guy L. Qualls, Fort Lincoln, N. Dak.; Thomas E. Scott. Fort Niagara, N. Y.; Robert Skelton, Fort Robinson, Neb.; Leeson O. Tarleton, Vancouver Barracks, Wash.; John H. Trinder, Fort Omaha, Neb.; Harry H. Van Kirk, Plattsburg Barracks, N. Y.; Charles M. Walson, Fort Douglas, Utah; Adna G. Wilde, Fort Flagler, Wash.; Neal N. Wood, Presidio of San Francisco, Cal.; James E. Baylis and John W. Sherwood, Fort D. A. Russell, for duty with Ambulance Co. No. 1; Kerwin W. Kinard and Alfred P. Upshur, Walter Reed General Hospital, D. C., for duty with Field Hospital No. 3; Douglas W. McEnery, Fort Logan, Col., for temporary duty; Hew B. McMurdo, Fort McDowell, Cal., for temporary duty; John W. Meehan, Fort Slocum, N. Y., for temporary duty; Samuel J. Trumbull, Fort Leavenworth, Kans., for duty with Ambulance Co. No. 2; Johnson F. Hammond, Presidio of San Francisco, Cal., for duty with Ambulance Co. No. 2.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending June 8, 1912:

Clark, G. F., Passed Assistant Surgeon. Commissioned a passed assistant surgeon from April 14, 1912. **Cuthbertson,** Roy, Passed Assistant Surgeon. Commissioned a passed assistant surgeon from October 12, 1911. **Drago,** C. H., Assistant Surgeon. Commissioned an assistant surgeon from May 4, 1912. **Smith,** H. L., Passed Assistant Surgeon. Detached from the receiving ship at New York, N. Y., and ordered to the *Chester*. **Whitmore,** G. B., Passed Assistant Surgeon. Detached from the *Connecticut* and ordered home to await orders. **Wood,** G. C., Assistant Surgeon. Commissioned an assistant surgeon from May 4, 1912.

Births, Marriages, and Deaths.

Married.

Care—Mayer.—In Overbrook, Pa., on Thursday, June 6th, Dr. James Robert Care and Miss Florence K. Mayer. **Finch—Dye.**—In New York, on Wednesday, May 29th, Dr. Percy H. Finch, of Broadalbin, N. Y., and Miss Marion E. Dye, of Gloversville. **Hall—Kurtz.**—In Philadelphia, on Saturday, June 1st, Dr. William Shepherd Hall, of Baltimore, and Mrs. Katherine Turner Kurtz. **Moore—Kennedy.**—In Camden, N. J., on Monday, June 3d, Dr. Frank F. Moore and Miss Marion I. Kennedy. **Muncie—Jennings.**—In Brooklyn, N. Y., on Tuesday, June 4th, Dr. Curtis Hamilton Muncie and Miss Louise Belle Jennings. **Stoutamire—Smith.**—In Richmond, Va., on Monday, May 27th, Dr. Frederick Ashton Stoutamire and Miss Elsie Smith. **Zimmer—Franson.**—In Brooklyn, N. Y., on Wednesday, June 12th, Dr. William B. Zimmer and Miss Agnes M. Franson.

Died.

Andrews.—In Camden, N. J., on Tuesday, June 4th, Dr. Purnell W. Andrews, aged sixty-five years. **Bedell.**—In Wheeling, W. Va., on Tuesday, May 28th, Dr. Israel Bedell. **Butcher.**—In Philadelphia, on Friday, May 31st, Dr. Benjamin F. Butcher, aged seventy-two years. **Carman.**—In Brooklyn, N. Y., on Saturday, June 8th, Dr. George Pell Carman, aged seventy-two years. **Crumley.**—In Oglethorpe, Ga., on Wednesday, May 29th, Dr. M. F. Crumley. **Fife.**—In Red Bluff, Cal., on Wednesday, May 29th, Dr. John Fife, aged fifty-two years. **Gilpin.**—In Westfield, N. J., on Wednesday, May 29th, Dr. Fletcher Gilpin, of Newfoundland, Pa., aged sixty-nine years. **Hamilton.**—In Marion, S. C., on Wednesday, May 29th, Dr. W. W. Hamilton, aged seventy-seven years. **Hawley.**—In Chicago, on Sunday, May 26th, Dr. Edgar R. Hawley, aged forty-eight years. **Hinds.**—In East Orange, N. J., on Tuesday, June 4th, Dr. Harriet C. Hinds. **King.**—In Ogdensburg, N. Y., on Tuesday, May 28th, Dr. Le Roy Wendell King, of Lowville, aged thirty-seven years. **McChesney.**—In Troy, N. Y., on Tuesday, June 4th, Dr. James McChesney, aged eighty-nine years. **McConnell.**—In Prospect, Pa., on Sunday, June 2d, Dr. Thomas Dunn McConnell, aged fifty-eight years. **Olds.**—In Spokane, Wash., on Tuesday, May 28th, Dr. William H. Olds, aged sixty years. **Parker.**—In Edgar, Ill., on Wednesday, May 22d, Dr. Howard S. Parker, aged thirty-eight years. **Rogers.**—In Darlington, Ind., on Wednesday, May 29th, Dr. Samuel G. Rogers, aged fifty-five years. **Samuels.**—In Parkersburg, W. Va., on Wednesday, May 22d, Dr. Gail Samuels, aged forty years. **Stewart.**—In Pittsburgh, Pa., on Wednesday, May 29th, Dr. Samuel Shaw Stewart, aged eighty-one years. **Waterman.**—In New York, on Sunday, June 9th, Dr. J. Hilton Waterman, aged forty-one years. **Wood.**—In France, on Monday, June 3d, Dr. Edwin L. Wood, of Dansville, N. Y.

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INDICATIONS FOR ARTHRODESIS AND ARTHROLYSIS.*

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In accepting your invitation to prepare an address for your highly honored society, I felt a little embarrassed as to the subject which might sufficiently arouse your interest. After some deliberation, I decided to choose a question which finds lively discussion at the present time in special circles. Though this subject interests me much more than it may interest you, yet I take the liberty to invite you to plunge a little with me into the insidious depths of the question concerning the indications for arthrodesis and arthrolysis.

At first sight, it might seem that it is quite superfluous to discuss this question and that enough has been said with the statement that each loose paralyzed joint should be stiffened, and each joint ankylosed by whatever morbid process—should be mobilized. But the question is far from being so simple. The answer should depend upon many circumstances, should be modified for each single joint, and must be influenced by the causative morbid process, by the age of the patient, and many concomitant conditions.

The same question may be answered differently by different surgeons,—in accordance with their different temperaments. The impulsive and energetic optimist may sometimes reap fruit from a field, which a more deliberate man may consider unfertile. But the first may often have lost sight of the real advantage of the patient,—he may even have caused damage and death, while the second may find comfort in the thought, that damages and loss have been spared to him. The first principle of medicine, *primum non nocere,* does not by any means rule equally the work of different men, though they may not admit it, though their personal intentions may be the best. The endeavor to determine the indications of arthrodesis and arthrolysis must consequently bear a personal coloring.

I am ready to meet reproach, without immediate hope of converting other people's views on the subject to my own standpoint, yet I trust that some of my statements will make some impression and may induce some surgeons to review their own conception of the question.

There are but few remarks to be found in literature on the indications for arthrodesis and arthrolysis, the bulk of the rather countless communications being devoted to technical questions, and all these different technical proposals regarding arthrodesis, aim at the same result,—to get a true bony ankylosis of the joint operated on and not merely a fibrous junction.

To understand this trend, we must not forget that the only intention of arthrodesis is to free the patient from his orthopedic apparatus. Without this result the operation is a failure.

Many have said that fibrous ankylosis, especially of the ankle and hip joint also suits the purpose, inasmuch as the foot under these circumstances is more able to adapt itself to the unevenness of the soil. But this statement is by no means true,—it makes a virtue out of inadequacy. Fibrous ankylosis interferes considerably with the endurance of function,—the fibrous tissue not being able to stand the wear and tear of function under the weight of the body. Fibrous ankylosed joints easily become tired and even painful. Besides this, fibrous ankylosed joints are not exempt from subsequent contractures. To prevent pain and contracture, patients with fibrous ankylosed joints are bound to wear their apparatus; they have lost the only advantage of the operation to get rid of the brace, and, at the same time, are afflicted with the great disadvantages and drawbacks of arthrodesis,—the loss of mobility of the joint. This loss even in a paralyzed joint has to be judged as to its true value.

We must not forget that the paralyzed patient will never become a walker, in the proper sense of the word; he always remains a "sitter," constrained to a sitting life and sitting occupation. Sitting inconveniences to such a patient are doubly cumbersome, therefore we must conscientiously consider whether disadvantage and advantage are properly balanced, lest we give the patient less than we take away.

To realize the true value of arthrodesis, we have to decide the question whether a normally pliable, otherwise healthy and durable joint, even without muscular motion, is preferable to a bony ankylosed joint. According to the answer the indications of arthrodesis will show respective variety. To my mind the pliable, even paralyzed joint, is preferable to the bony ankylosed joint, because fixation in function can easily be procured by an orthopedic

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support, while pliability comforts the sitting posture. Most of you will share this opinion, yet the operation of arthrodesis cannot be done away with, even in cases where mechanical support can easily be procured. In other instances the operation of arthrodesis removes the expense of orthopedic apparatus and therefore has been justly called the "operation of the poor."

Even the few advantages of arthrodesis can be procured to the patient only under the condition that a true bony ankylosis takes place (that it results in a true bony ankylosis). In children, on account of the thickness of the cartilage layers on the surface of the joints, the contact of the cancellous tissue of the bones is usually insufficient, and the operation results in fibrous ankylosis. To prevent this nuisance, many modifications of the operative plan have been proposed, for instance, more thorough wounding of the cartilage without impairing the future growth of the limb by lesion of the epiphyseal cartilage,—or causing increased reaction by chemical irritation of pure carbolic acid (phenarthrodesis Mençière-Phelps) or adding osteotomies of the ankle (Goldthwait), or resections of parts of the tibia and fibula touching each other (Willets), in order to make the contact of the vivified surfaces more intense. Other operators have advocated a combination of arthrodesis with free transplantation of periosteum, or with tendodesis or artificial silk ligaments (Lange). The most radical proposal comes from Biesalski, who combines arthrodesis with a special method of tendodesis, recommending the perforation of the tibia in axial dissection, inserting the tendons of the pronator muscles in this tibial tunnel, and then fastening their ends in a side hole of the tunnel.

By this modification the harmless and simple operation of arthrodesis becomes complicated and implies even danger to life. Certainly this is the case in Dollinger's method of stiffening the paralyzed hip joint, where after the usual operation, the intense contact between the acetabulum and the head of the femur is secured by wiring the great trochanter against a steel plate, introduced at the pelvic aspect of the acetabulum.

Considering all these complicating, yet often ineffective proposals, aiming at true bony ankylosis after arthrodesis, really the question is allowed,—Why not put off arthrodesis until at least adolescence if not adult age, when true bony ankylosis can always be accomplished in a more simple way? The patient should have an opportunity to decide whether he prefers an invariable stiff joint to a flail joint or not, for it seems utterly inadmissible that in any case the surgeon should decide this question for the patient.

If I call strongly for delaying arthrodesis until adolescent age, I find myself in good company, as Lange (of Munich) does not permit arthrodesis of the knee joint in patients younger than twenty years. Kirmission and Robert Jones advise to operate not earlier than in the twelfth year of the patient.

The frequent failures in getting a true bony ankylosis in the joints operated on induced Lexer, Frangenheim, Bade, and others to bolt the joints, either by bone autoplastic, or ivory nails. The results hitherto accomplished by the bolting method are all but convincing. Leaving this question aside, it has to be emphasized that Frangenheim also pleads for bolting only the joints of adult patients.

In general, there can be no doubt that arthrodesis, characterized by destruction of an admirable mechanism, and changing a physiological into a pathological condition, is far from being a sympathetic operation, and many surgeons assert that they perform it most reluctantly. Sharing their opinion to its full extent, I do not hesitate to recommend the operation in cases where I am fully convinced of its usefulness,—but we shall see that such cases are relatively rare.

I have very often seen that patients, paralyzed to such a degree that they ranged in the class of so called hand walkers, learned to walk in an erect attitude on their feet, even without any mechanical support,—at least on an even floor, when they had reached adult age, provided their joints had been kept in favorable position until this time.

After these general remarks, we have to enter into the question of indication for arthrodesis on each single joint. As far as the hip joint is concerned, arthrodesis is not favored by operators in general. Robert Jones contends that arthrodesis of the hip joint is scarcely ever necessary. Döllinger, in his recommendation of a rather severe wiring operation of the hip (as has been mentioned already), has found no followers. Only Mençière and Kaufmann assert good results with phenarthrodesis. I, myself, was formerly an advocate of arthrodesis of the hip joint and performed the operation several times without noticeable effect.

My experiences in operative reduction of the congenital dislocated hip (an operation very similar to arthrodesis), extending over nearly two hundred cases taught me that in children beyond the fifth year nearly always stiffness, at least of the nonreluxated joints, had to be deplored. But these ankyloses were never of a bony, but of a fibrous character and therefore liable to contractures which made after treatment tedious and almost endless. I have no doubt that arthrodesis in paralyzed joints would give the same results. A stiff and contracted joint is certainly not preferable to a paralyzed mobile joint, and it is certainly inadmissible that the patient pay for such result with danger to his life.

As daily experience shows, the subspinal muscles (tensor fasciæ latæ, sartorius, psoas) are generally less affected and help the patient to throw his paralyzed leg forward. These muscles would be uselessly sacrificed by the operation. Under these circumstances scarcely another indication for arthrodesis of the hip joint is left, except in relatively rare cases of bilateral paralysis, and even then only on one (the severer affected) side.

As to arthrodesis of the knee joint, true bony ankylosis was obtained in seventy-five per cent. (according to Vulpius). In twenty-five per cent. the patients received a questionable benefit, the operated knee not being stiff enough to rid the patient of the apparatus even though he had lost the mobility of his knee. Very often the final result has been an ankylosis in flexed position. In all these cases the patients have been damaged. All of these patients could have been benefited had the

operation been delayed until adolescent or adult age.

Should this conviction spread, then experience would show that paralyzed knees kept in position of full extension or slight hyperextension, are capable of sufficient function, even without mechanical appliances.

Tendon operations also restrict the indications of arthrodesis of the knee joint to a marked degree. The delay of the operation until adult age will undoubtedly make the operation superfluous in the majority of cases, and the rest of them could be spared the operation by charity, providing these patients with very simple appliances, securing stiffness or mobility according to their wants.

To realize the value of arthrodesis of the knee joint, stress must be laid on the fact that the patients after the operation have to wear for at least one year, better two years, supporting apparatus to prevent flexion contraction of the joint operated on—that is to say, they have during this time to suffer the inconvenience without getting the advantage of the operation. I should think that just as in hip joint arthrodesis, the same operation on the knee joint is justified in cases of paraplegia on one side, that is on the severer affected side.

To the arthrodesis of the knee joint adheres a blemish, i. e. the name of operation of the poor. Refused by the well to do people who can afford a supporting appliance,—it is thought to be good enough for the poor. This ought not to be so. The paralyzed knee joint of the poor should be stiffened by charity providing a proper brace, and not by the surgeon's gouge.

We have now to deal with arthrodesis of the ankle joint, an operation which has been most frequently performed hitherto, and of which experiences abound. By this operation only the ankle joint becomes ankylosed, while the articulatio talocalcanea, as well as the Chopart's and Lisfranc's joints remain intact. Opinions vary as to whether these joints must also be ankylosed, to correct the dropping of the foot. By these combined arthrodeses the stiffening operation becomes rather complicated.

Many operators favor the combination of arthrodesis of the ankle joint only, combined with additional tendon operations, such as shortening the tendons, tendodesis, fasciodesis, and so forth. Especially in the ankle joint, it becomes evident that arthrodesis should not be performed on young children. According to Vulpius only in about the half of the cases a firm ankylosis can be arrived at, the other half of the cases presenting either insufficiently stiffened joints or complete failures, liable to supervening contractions in the form of clubfoot or flatfoot. It has to be kept in mind that even a bony ankylosis of the ankle joint can be called a good result only if the position of all other joints of the foot is absolutely normal. I have to admit that arthrodesis of the ankle joint is justified in all cases of absolute paralysis of the muscles of the leg, but to prevent failures the operation should be postponed to the adolescent or adult age. The after treatment requires the most careful attention, to avoid supervening contractions.

In comparison with arthrodesis of the hip or knee joint, the same operation on the ankle joint has the great advantage that sitting is not at all interfered with. The patient gets the real advantage of getting rid of the orthopedic apparatus without any drawbacks as far as sitting is concerned.. Yet I dislike arthrodesis of the ankle joint also. My experience has demonstrated to me that the endurance of function is diminished even by a so called good result. Lange (of Munich) is of the same opinion. Statistics of final (remote) results would probably lead to the same conclusion. According to my experience adult patients are usually able to use their paralyzed foot, even without an orthopedic apparatus in the strict sense of the word. A good lacing shoe with a flatfoot or clubfoot sole being sufficient to secure a good walking foot, providing the foot has been kept in a good position all the time. To this purpose we use largely the so called modelling redressment of the foot and prevent the dropping of the foot by intense reflection in the Chopart and Lisfranc's joint.

While arthrodesis of the so called static joints of the lower extremity lacks my sympathies, I have to state, on the other hand, that arthrodesis of the joints of the upper extremity rather appeals to me, with one exception to be sure. I do not think that arthrodesis of a paralyzed elbow assures any advantage to the patient. Not to speak of the cosmetic side of the question, it seems to be clear that a very simple brace, allowing only the extended and flexed position of the joint, makes the arm more useful to the patient, than if it is stiff at the elbow in right angular flexion.

On the contrary, arthrodesis of the paralyzed shoulder deserves sincere recommendation. It gives to the patient the great advantage of moving his arm by the strong and healthy muscles of the shoulder blade without other inconvenience than a stiff shoulder joint, a drawback scarcely requiring consideration. Shoulder arthrodesis is by no means an operation of the poor, being the only way to make the muscles of the shoulder blade useful to the patient. No brace of whatever construction is able to assure the same effect. Muscle transplantations or operations on the nerves are uncertain in their results in comparison with arthrodesis. Vulpius (of Heidelberg) has acquired great merit by improving the operative method of arthrodesis of the shoulder. In eighty per cent. of his cases a firm, bony ankylosis (in abducted and slightly forward directed position of the arm) could be gained. To avoid failures the delay of the operation to adolescent age must strongly be emphasized. Should arthrodesis of all other joints find few advocates, certainly the operation on the paralyzed shoulder would be sufficient to maintain the value of the genial idea of Albert to whom orthopedic surgery will always be indebted.

Arthrodesis of the wrist joint comes seldom into question on account of the unaccountable but ascertained fact, that in the upper extremity in contrast to the lower, the peripheral (distal) muscles (of the hand) are less subject to paralysis than the proximal muscles of the arm and the shoulder. In some cases, however, if the extensors of the fingers are affected and a contraction of the wrist joint in ulnar flexion is present, arthrodesis of the wrist

joint is of great value, not only to correct deformity, but also to get the advantage of transplantation of the dorsal flexors of the wrist to the paralyzed palmar flexor muscles of the fingers.

We have now to deal with arthrolysis, or operative mobilization of an ankylosed joint, an operation which means just the contrary to arthrodesis. One should think that there is not much to be said about the indications of arthrolysis, as any stiff joint should be mobilized. That would be right, if we could at the moment being mobilize all joints to a perfect degree. In fact we are far from perfection. Therefore, indications must be limited by the defects of our methods. If arthrolysis can procure only a mobile joint; if this joint at the same time is not stabile enough; if it lacks endurance; if it is sensitive and liable to become painful then arthrolysis has been a complete failure. We shall have to appreciate arthrolysis from our standpoint. Even an ankylosed joint in good position is preferable to a mobile but sensitive or painful joint, lacking stability or endurance.

Our artificially mobilized joints are far from being normal, far from uniting mobility in one direction with stability in the opposite direction; far from being tolerant to the wear and tear of function; far from endurance to strain and tire,—in fact our artificial joints are anatomically and functionally mere caricatures of normal joints, of God's joints, so to speak. We hope that this judgment will be modified in the future, but just for the present the indications to operative mobilization of a joint depend in the first place upon the ankylosing process.

If tuberculosis has been the cause of ankylosis, especially in the static joints, and if these joints are stiffened in a good position, it is in my judgment nothing but a crime to try to mobilize such joints. The tuberculous process may become acute again,—at least the patient probably will lose his functional endurance. If he dies, an event which has taken place in spite of the most careful operation by most skillful men, one must meet the most dreadful tragedy which can happen in a surgeon's life,—to kill a patient by an absolutely unnecessary operation. In orthopedic surgery we have to keep in mind that this specialty in general lacks vital indications.

Osteomyelitic ankylosis is equally liable to recrudescence after the rather severe mobilizing operation. Rheumatic ankylosis, ankylosis after metastatic suppuration, or ankylosis after penetrating lesions of the joint followed by suppuration seems less dangerous in this respect. Very important conditions are youth, general health, strength, resistance, energy, tolerance to suffering pains, and a most energetic will of the patient to assist the surgeon's orders,—conditions which may only seldom be found united. More frequently, perhaps, these conditions may occur combined in cases of gonorrheal ankylosis. In cases of ankylosis due to arthritis deformans, the advanced age of the patient will usually form a counterindication to arthrolysis. Indications will further depend on the fact that ankylosis of different joints is of varying importance as to the nuisance caused thereby.

These few remarks will have made it clear, that very conscientious deliberations have to precede the resolution on the side of the surgeon to undertake a riskful work which easily results in disillusion and discouragement on both sides. It must not be forgotten that, besides all previously mentioned circumstances, the condition of the muscular power plays a great part in the indication of operative mobilization. Inefficiency, incurable atrophy of the moving muscles makes even a successful arthrolysis rather useless.

All of this must be stated in spite of the fact that the methods of operative mobilization of the joints have recently made considerable progress. The most essential progress is the substitution of organic for inorganic material to secure the necessary separation of the resected articular surfaces. All inorganic material has proved a failure for separating purposes. Only living organic material, living tissue obtained by free transplantation (homotransplantation or autotransplantation) meets the purpose. The best method is undoubtedly the transplantation and interposition between the resected bones of a muscular or a fascial flap, taken from the immediate neighborhood of the joint. In hip and knee mobilization large flaps of the fascia lata femoris are resorted to. In elbow mobilization muscular flaps taken from the biceps or triceps or free transplanted periosteum assure the same purpose.

The names of Helferich, Murphy, Hoffa, Hoffmann, Payr, Lexer, Schanz, Baer, and others are connected with this progress.

Free transplantation of an entire knee or hip joint taken from a fresh cadaver, or from a simultaneously amputated leg, represents the culmination of the technique of transplantation. Lexer, Kuttner, and others seem to have been successful in single cases, but a definitive judgment of final results is not possible at present. Although such a major undertaking must always be confined to great surgical clinics, yet it seems to me that this procedure should give better results than other methods, because the entire mechanism of the joint, the cartilages, the synovial membrane, and the ligaments, is preserved.

Another improvement of the operative technique is due to E. Payr, who recommends thorough excision, not only of the articular surfaces and adjacent bone, but also of all cicatrized tissue including capsule, synovial membrane, and even ligaments. Furthermore, he recommends the extension of the largely resected bones in order to keep them separated and at the same time to avoid compression of the transplanted and interposed fascial flaps. I cannot here enumerate all the necessary prescriptions concerning a rather tedious and painful after treatment. It was necessary to allude to these progresses on account of the fact that they are apt to favor mobility, but at the same time to endanger the necessary stability, especially at the knee joint.

After these general remarks we have to consider the indication of arthrolysis on each single joint.

As to the hip joint, every day experience appears to me to be convincing that patients with unilateral hip ankylosis in good position of the leg, walk simply normally, without the slightest limp, and with normal endurance, the only nuisance to them being

discomfort when sitting. Of all stiff joints hip ankylosis is the least cumbersome to the patient. This is due to the fact that (and this is the only exception in the human body) the mobile hip joint works for its stiff fellow also. Apparent flexion of the stiff hip is guaranteed by overextension of the mobile hip; throwing backward of the leg (that is to say extension of the hip joint) is obtained by flexion of the mobile hip. In this way the mobile hip joint substitutes in its function for its stiff fellow.

Besides being superfluous, hip mobilization is dangerous. Resection of the hip after Volkmann's method, taking away the entire upper end of the femur and deepening and widening the acetabulum, has never been a harmless procedure. Interposition of a great flap, taken out of the fascia lata, by no means diminishes the danger of the operation. A good result provides the patient with some comfort when sitting, but remarkably reduces his walking capacity. It makes him limp and diminishes his endurance. Is it worth while to change comfort in sitting for bad walking at the price of endangering one's life? Surely you will answer no, and you will agree with me when I assert that there is absolutely no reasonable indication for hip arthrolysis in unilateral ankylosis, not even in the case of a contracted position of the thigh. Then paraarticular correction by osteotomy is the only operation which is justified.

Somewhat different is the question in the rare cases of bilateral ankylosis of the hip joints. Then, of course, unilateral arthrolysis is justified. But, I hasten to add that even in this most disastrous condition the operation is not absolutely necessary in those cases, while the stiffness of the hip is at least partially compensated for by overextension of the knee joints and by an increased mobility of the symphisis assium pubis and of both sacroiliac symphyses. Such patients make short steps, but walk without limping.

I know a young lady afflicted with osteomyelitic hip ankylosis on both sides, the thighs being in good position. I tried to mobilize one hip by a severe operation, with the result that this hip got as stiff as it ever was. Thanks to the increased mobility of the knees (in the sense of overextension) and to the acquired mobility of the amphiarthrosis of the pelvis, this young lady walks beautifully, certainly without limping. She is a musical performer and gives concerts. When she ascends the steps to the stage and walks along it, nobody can notice that she is the unfortunate bearer of bilateral hip ankylosis. But this case may be an exception. Generally speaking we must admit that arthrolysis of one hip is indicated in bilateral hip ankylosis. But then the operation should be of a harmless character,—it should by no means endanger the life of the patient.

My pseudarthrosis operation of the ankylosed hip joint answers this demand to its full extent. This operation consists of dividing the neck of the femur (or what is left of it) as nearly as possible to the head of the bone (osteotomia pelvitrochanterica), then the wounded surface of the neck of the femur is turned aside and upward by rotating the thigh outward and pushing it upward. A pseudarthrosis pelvitrochanterica forms in the course of time. We know that division of the diaphysis of the femur results always in bony reunion, therefore, the first attempt of Rhea Barton (in 1862) to create a pseudarthrosis by subtrochanteric osteotomy must have failed necessarily. We know also that bony union of the fragments in fracture of the neck of the femur is found less often the nearer to the head the fracture has taken place.

Pelvitrochanteric osteotomy in order to create a pelvitrochanteric pseudarthrosis profits by this fact and favors its intention by turning and dislocating the wounded surfaces from each other. The advantage of this operation in comparison to arthrolysis is the absolute absence of danger, less shortening, and better walking.

In my general remarks I have repeatedly hinted at the knee joint, and not much is left to say. In arthrolysis of the knee joint, especially after the radical method of extirpation of all cicatrized tissues, including capsule and ligaments, the question arises whether such a joint, if it should become mobile, could offer sufficient stability. According to the well known anatomical conditions of the knee joint, mobility should be more easily arrived at than stability. It is quite certain that a mobile joint without stability is much worse than ankylosis in good position.

In this regard mobilization of the knee joint is by far more difficult than in the hip joint where the borders of the enlarged acetabulum offer some resistance. In the mobilized knee joint stability depends upon transplanted and sutured fascial flaps, which are to substitute for the extirpated lateral ligaments. It seems that this substitution would be insufficient. In fact, nearly all attempts to change an ankylosed into a mobile and at the same time useful knee joint have failed hitherto. Hoffa's attempts resulted in discouragement, and he asserted that a ankylosed knee joint in good position should be regarded as *noli me tangere*. He consoled himself with the fact that Murphy as far as the knee joint is concerned could not report better results.

Recently the question seems to become more hopeful. E. Payr reported three results out of eight cases operated in,—five of these eight knees became stiff again. But nothing can be said yet about final results. Especially at the knee joint the result, as I have said already, depends not only on mobility, but just as much on stability or even more so. About the question of stability, nothing can be stated yet. For the present moment I cling to the standpoint of the late Hoffa: "Hands off an ankylosed knee joint in good position."

As to partially ankylosed knee joints, especially ankylosis of the patella, there can be no question that a mobilizing operation is fully justified. Arthrolysis of the ankle joint has never been tried as far as I know, and with good reason, for this operation would transform a good walking patient into a disabled cripple.

In a word, there are in general no indications for operative mobilization of the joints of the lower extremity. At the upper extremity matters are somewhat different, though no operator can earnestly recommend to his patient mobilization of

his stiff wrist joint, the final result being more than questionable, though nearly the same must be said should the shoulder joint come in question (the inconvenience of shoulder ankylosis to the patient being too insignificant to justify a rather severe operation).

Yet the question assumes a quite different aspect when the elbow joint is concerned. The elbow joint should always be mobile. In cases of bilateral ankylosis the mobilizing operation becomes stringent, if both joints should be stiff in flexed or extended position. To my mind even a flail elbow, provided that it is painless, is preferable to an ankylosed joint, because its movements can be restricted and directed by very simple mechanical means. Should all attempts at mobilizing the static joints of the lower extremity result in failures, yet the work done will certainly not have been useless, for the ankylosed elbow will be so benefited by enlarged experiences to the joint, that even unilateral ankylosis of whatever origin should become the object of arthrolysis.

According to what has been said, only one joint as far as orthopedic surgery commands the field, should be mobile, i. e., the elbow joint. There is still another joint whose disabilities are claimed by general surgery, which must be mobile under all conditions, i. e., the jaw. There can be no discussion about the indication of mobilizing the jaw.

To sum up all I have said about arthrodesis and arthrolysis, if you agree with me that a healthy and painless, though paralytic joint, outvalues a stiff joint (especially in patients condemned to a sitting life), then arthrodesis is justified only at the paralytic shoulder and eventually at the contracted paralytic wrist; the static joints had better be left to mechanical fixation.

If you further agree with me that an ankylosed joint in favorable position is preferable to a mobile but sensitive and even painful joint without sufficient stability, then you will admit that for the moment being, arthrolysis is justified only in the elbow joint and in the jaw.

In judging these difficult questions, you must always be aware that in orthopedic surgery we have no vital indications. Have faith in your asepsis in operations of vital indications, but do not boast of its infallibility to justify an unnecessary operation.

COMMENTS ON SEX ISSUES FROM THE FREUDIAN STANDPOINT.*

By James Jackson Putnam, M. D.,
Boston,
Professor of Neurology and Psychology, Harvard Medical School.

(*Concluded from page 1254.*)

Another point of practical importance with reference to this matter of classification is that we should make a clear distinction between "acts" and "tendencies."[7] Even so slight an event as a handshake may be suitable or neutral as an act, but of considerable psychological significance as marking a tendency—progressive, or regressive, as the case might be. In other words, there are handshakes and handshakes, of very varying connotations. Again, it seems, and is, a small matter to walk in the country with one's hat off, or without one's coat or collar, but a similar, or even more trifling insufficiency of costume, if occurring in a dream, may be a circumstance of far wider meaning, and well worthy of one's attention.

Suppose it were possible to take a photograph of a cannon ball in mid air. The plate would show us a round object, harmless in itself, and nothing more. But how differently would this sight appeal to our imagination according to whether we believed that the photographed ball was a shell fired with hostile intent from the camp of an attacking enemy and that it presently would explode in the midst of a populous city; or knew, on the other hand, that it indicated that a piece of harmless target practice was going on, and that a sand bank was the ultimate destination of the missile. So it is with many psychological events and acts. In the case of one man a given act might indicate the existence of passions which he gladly would conceal from himself, but ought to force himself to recognize; while in the case of another the same act might mean that the person who performed it was on the march of progress toward civilization of a higher sort. The context alone—and in our case that means the detailed history of a man's life, picked out, perhaps, bit by bit—can decide as to the justice of a given classification of an act, in itself indifferent.

The real danger, in the presence of which every psychoneurotic patient constantly lives, is that he may be drawn back, in the selection of his ruling motives, to the immature and sensual days—*sit venia verbo*—of his infancy and childhood,[8] and to avoid this he must learn to see the danger clearly and in detail. If he does not get this clear vision, he must win his good qualities through repression and reaction; and the outcome is more than likely to exhibit the signs of self deception and imperfection on the one hand, and of excess and narrowness upon the other.

The gaining of a clear vision of his underlying tendencies brings a man a better chance of real freedom through a real assimilation of these tendencies. The infant, strictly speaking, may be on the road to sublimation as truly as the adult. His acts, also, could be classified either as indicating progress toward a high and distant goal, or as indicating that his concern is too much the gratification of his own senses. One should not classify his acts, any more than those of the adult, by taking them at their face value; the question is not one of acts, but of *tendencies*. It is, therefore, unjust to speak of him as a sensualist, an egotist, a criminal, unless one uses these terms with a clear recognition of what one means by them, in general and in particular, just as it was unjust for our logical forefathers to use, indiscriminately, the designation of "original sin."

On the other hand, it is foolish to quibble about names, if by so doing we blind our eyes to the recognition of important facts. We must learn that

[7] "'Judge the people by their actions,' is a rule we often get; 'Judge the actions by the people' is a better maxim yet."

[8] This sort of reversion is sometimes technically called "sexualization." It implies the slipping back of a man's waking life toward the life hinted at in his dreams—*i. e.*, his interpreted dreams—and actual in his childhood.

the best virtue does not come by inheritance, but is won by struggle. *Die Tugend ist der vollendete Kampf,*[9] and although a favorable inheritance tends enormously to smooth the path, and may seem, when found in company with favorable environment, to render any struggle almost needless, yet the virtue which is born of this struggleless existence may be of but little worth as a sign of real power of resistance.

Suppose, now,—to speak again of the conditions which obtain during the life of later childhood, of adolescence, and of adult years,—that the difficult, steep, and stony path of progress toward the higher forms of civilization becomes so arduous that progress gives place for a time to retrogression; or, what is more common, suppose a continual tendency to retrogression shows itself, so that each effort of the supposed wayfarer is docked of a certain percentage, which must become a gradually increasing percentage, of its value; and that he becomes more and more strongly tempted to seek the refreshment of paths of less resistance, tending toward one or another form of personal gratification. Is it not plain that under these circumstances —that is, during this slowly retrogressive process —acts and thoughts and emotions which might, if regarded in and for themselves, be unexceptionable and even desirable, may become of considerable importance provided that they can be read as meaning that the apparently long past sensuous period of infancy is really close at hand? I use the expression "close at hand" not without reason; for from the psychological standpoint the interval which separates a man from his childhood is not to be measured in terms of years, but of functional significance. No atom of our past is ever really lost, and the only question is how vitally it is still active. It is, therefore, in my opinion, entirely justifiable and even necessary, that the retrograding individual should learn to hold up before himself, every now and then, a stern *memento mori,* to show him the real nature of the influences to which he tends to yield. No fact in a person's history need be considered as standing by itself, alone; each one may be interpreted, if carefully studied, as if it was a finger post, pointing upward or downward, forward or backward, to the right or to the left. A fact in a given person's history is an imaginary point on the curve of motion of an idea, and may be the centre of intersection of many diverse and even contrary ideas.

It is one of the great merits of Freud and his followers that they have discovered means of interpreting a large number of facts in the terms of the whole history of these various curves. We all object to having it shown that some of these curves indicate, in our own case, the continued presence of some trait that was derived from our self indulgent childhood. But we ought not to be thus sensitive, and we should not be so were it not that we either were not trained, or are unwilling to be trained, to pursue to a logical end the study and the meaning of our own lives and the lives of our fellow men. It is in the overcoming of the "resistances" to these revelations of ourselves to ourselves that the benefit of the psychoanalytic treatment largely lies. We all naturally wish to be left comfortably in a condition of blissful ignorance, even at the cost of being in an unstable equilibrium or assume that it is inevitable that we should so remain. Every one likes to feel himself as if on a safe plateau, even if he must dimly suspect that it is surrounded by high precipices, some rising upward, some falling downward. We all have climbed up to this plateau, and should go higher; but most of us were conducted over the dangerous passage so early that we preserve but dim memories of its dangers (as dim as Mignon's memories of the marble halls of her infancy) and only know that we shrink from having these memories revived. We prefer to close our eyes to them, and do not realize that it is sometimes impossible to do this and at the same time to open them with unprejudiced gaze on other topics.[10] Neither can we do so and yet keep alive our sympathy with other sufferers who are painfully toiling way up the precipices which we have passed, or with those who have gone wholly astray on this journey; nor can we go on ourselves to climb with satisfaction to the plateaux which lie higher and higher above us, guarded by new dangers in their turn.

It is a mistake to assume that Freud believes abnormities of sex to be the sole basis, the final, underlying cause, of the psychoneuroses. In the first place, to find this really final cause, one would have to investigate the very beginnings and meaning of life itself. And this task, interesting though it is, is one rather for philosophy than for medicine. Freud's chosen problem was solely to consider in what aspect or department of the *life of experience,* beginning with birth, the action of the real underlying causes, whatever these may be, finds itself most strongly expressed, most strongly accentuated, best illustrated, and brought most definitely into coordination with the rest of the drama of experiential life. He has always admitted and asserted that each child brings other sources of weakness and danger into the world beside those which attend the necessity of grappling with the terrible but weighty problem of his sex instincts. There are other instincts also, such as the food getting instinct, the play instinct, the fighting instinct, and many more, which must have more or less to say in the final account of a man's life; and if the influence of these factors has not been much discussed, it is simply because, from the point of view of neurotic symptomatology, it seems to be, not absolutely, but relatively, of slight importance.

The task with which Freud and his immediate followers found themselves confronted, however, was a clearly defined and very practical task. They saw men struggling, as all men must, along the steep paths of the Hill of Difficulty. They observed that these men were held back by certain handicaps, as if obliged to drag a ball and chain; and they were able, with the insight of genius and by the aid of scientific methods, to make these handicaps visible, first to themselves, then to the victims of them, and to suggest methods of relief.

It appeared that the strength and essence of these handicaps, not merely as abstractions, but in due

[9] Hegel.

[10] "Where one man is a slave, no man can be free."

relation to other elements of the personality, was their very invisibility, and that to make them clearly seen (no easy matter), was what was mainly needed. It was found that these handicaps, these balls and chains, were more or less fictitious; that the patients—for such we may now call them—were not so much essentially sick or degenerate, as they were self deluded, or as if under an evil spell; or, at least, that self delusion had played a large part in placing them where they were, and that, in every case, the essence of the delusion was the attitude of the victim toward the subtle conflicts centering on the sexual life and expressing the disharmony between social ideals and imperative, misunderstood desires, based on the instinct of race perpetuation.

It will be obvious from the foregoing that the term *sexual,* as defined in the psychoanalytic vocabulary, is of far wider meaning than is ordinarily conceived. It is by no means to be taken as equivalent to *sensual,* and is to be considered as carrying connotations which bring out its relationship to almost every aspect of the emotional life. The history of evolution is the history of a series of movements and reactions due to the expansive energy of a vital principle of energy. This principle of energy is always of one sort, but seems to vary according as the modes through which it is able and is compelled to express itself vary, in complexity and in excellence.

This latter variation is, however, so great that it is convenient to study the apparently different streams of energy that go to create the phenomena of life as if they really were different, and to speak thus of the conflicts between the consciousness and will on the one side, the instincts on the other, as if the energies underlying them were of quite different kinds.

Thus reasoning, we may use the term *tropisms* for the simplest vital reactions, instincts for a higher, and consciousness, will, intellect, feeling, and intuition for those of the highest sort. We like to think of an adult man as regulating his life by his consciousness and will, practically alone, although obviously every one knows that this is not the case. In reality each person strives to weave his life elements into a unity, but does not realize against what active obstacles he is working, obstacles which depend upon attempts analogous to his own, to create unities, but of inferior sorts. For picturesqueness, one might say that the organized complexes of the various animals from which we inherit represent special unities of these sorts which tend, in a certain sense, to perpetuate themselves. It is, however, better and more scientific to take functional tendencies, as represented by the different organized instincts, as standing for the somewhat antagonistic unities of which I speak.

We do not step, as if across a definite barrier, from the state of the animal to that of man, or from infancy to childhood; but we make the passage through learning to deal with various organized unities, each complex within itself, and each struggling to maintain its own supremacy.

To that portion of the vital energy on which the reproductive function rests, the name of *libido*[11] has been given. As the cell (or the primary cells) must reproduce itself, so the child must love, or yearn for, somebody or something—himself, his parents, or whatever object seems appropriate. This craving dates from far back, and is, therefore, as difficult to deal with as was the ocean which was magically connected with the horn of wine that Odin tried to drain, and its influence is antagonistic in some measure to the newly forming ideal unity, dependent on the consciousness and will.

This antagonism is, moreover, accentuated by the fact that the sex cravings of man, even in infancy, are deprived, to some extent, of the automatic control which keeps the corresponding instincts of the animal within bounds. It is a case of Phaeton assuming to drive the chariot of an organism which, from the standpoint of excellence of mechanism, is more powerful than he.

I have said that the sex instinct, even of the young child, is complex. This complexity is indeed greater than could be here stated, but the point on which I would here insist is that each infant contains within himself, naturally in crude and immature form, the qualities of the different members of a whole community. He is, as it were, not only male and female, but father, mother, and child; and the tendencies corresponding to these different personalities are by no means entirely harmonious. In the interests of the new unity which his consciousness and will endeavor to sketch out, these different qualities must be harmonized by assimilation, or else one or another must be suppressed. But in the latter case not health and efficiency, but compromises and nervous symptoms—which are a form of compromise—will result, taking the shape of fear (primarily self distrust), compulsions (expiation or propitiation), suspicion, introversion, delusions of reference, and many more.

Truly, the army which the consciousness and will aspire to rule is, indeed, an army of Highland clans, and if such an army is strong when well organized, its tendency to fall apart when badly organized is measured by the same strength. It is clearly the sex instincts, intensified into human sex cravings, to which are traceable many of the elements of force, mutiny, and discord.

Since writing the foregoing I have read an interesting paper by Dr. Boris Sidis[12] (one of a series of which I believe I have read the whole), in which the writer gives it as his view that "fear," regarded as "apprehension," without relation to any particular object, lies at the basis of all psychoneurotic illnesses; and this view he seems to oppose, as he has done also in other places, to the views of Freud, such as are defended in my address.

I wish to refer to this argument with some care, for the reason that Doctor Sidis, if one may judge by the whole series of his writings, appears to feel that if it were possible to establish the fact that "fear" is a primal and hereditary mental attribute, having its root perhaps far back in our animal ancestry, the views concerning the cause of the phobias and the psychoneuroses asserted by the majority of the psychoanalytic writers, would be thereby contravened. I beg leave to call attention to the fact, however, that it would not be just to draw a

[11] *Confer inter alia,* Jung's Wandlungen der Libido, in the *Jahrbuch für Psychoanalyse,* etc., iii.

[12] *Monthly Cyclopedia and Medical Bulletin,* March and April, 1912.

conclusion of this sort. Neither Freud, nor any of his followers, has denied that the psychoses are partly due to hereditary tendencies; nor have they denied that one root of "fear" strikes back into prehuman days. On the contrary, Freud and others have repeatedly asserted the possibility that the fear of snakes, for example, may have such an origin as this. For my own part, I think there is a good deal to be said from the philosophical standpoint about "fear," which could not be gone into in this place.

The main point is that the psychoanalytical movement is essentially a practical movement, and that all those who support it recognize the fact that it is, to say the least, convenient, and perhaps scientifically admissible, to speak of *"frei flotierende Angst"* as a factor to be treated as a quantity, and to be regarded in and for itself.

These writers have, nevertheless, been rendering a great service to medicine in pointing out that this tendency to "apprehension," even if the germ of it, or, so to speak, the predisposition to it, is already in the mind, becomes intensified, and more capable of acting specifically as a partial cause of special symptoms, when it attaches itself, as it always tends to do, to some particular object, that is, mental state. The particular mental state which they regard as important is, obviously, the repressed sex feelings. To attempt to explain over again just why this sense of apprehension becomes particularly effective as a partial cause for emotional distress, and why it is that the patient, under the pressure of this distress, seeks to substitute some other object of fear for that which has become so intolerable to him, would be to review the whole Freudian movement. I repeat that the question is not an academic one as to the cause of fear, but a practical one as to the conditions under which "fear" becomes converted into harmful "fears."

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THE CAUSES AND RESULTS OF CONSTIPATION IN RELATION TO PELVIC DISORDERS OF WOMEN.*

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The subject that has been designated for the papers of this afternoon, causes and prevention of pelvic disorders, is a most important one when we appreciate that a large proportion of the ills that are peculiar to womankind, can be prevented. Intelligently to prevent disease we must understand the cause; and consequently to-day the efforts of the medical profession, especially that portion of the profession who labor in research laboratories, are largely devoted to the endeavor to discover the cause of disease. Therefore, the gynecologist and obstetrician can do no more important work than to point out to the lay mind the causes of those diseases of the female organs which are preventable, as it is largely through ignorance of these laws of hygiene that indifference or neglect is so prevalent in such matters.

The portion of the subject that has been assigned to me by the committee is the causes and results of constipation. Chronic constipation is of such prevalence among women, and its evil effects are so far reaching, that it behooves us to give it serious attention, as its prevention is far easier than its cure. Especially is this so in the formative periods of life, and it is, therefore, an imperative duty of parents and those having the guidance of growing children, with all that that means as to responsibility, to appreciate fully that during childhood is the time when a regular habit as to the bowel function is easily formed, which habit will usually persist throughout adult life, and thus contribute largely to the general health and consequent happiness of the individual.

The word constipation is derived from the Latin *constipare,* which means literally "to pack closely together." A definition of constipation which will convey its broadest meaning, is a condition of the bowels which is characterized by difficult, delayed, infrequent, insufficient, or irregular fecal evacuations.

The difficulty in obtaining a proper evacuation of the bowels is not a disease in itself, but a manifestation of some disturbance in the intestines, or in some other part of the body, whereby the waste material is retained or is retarded in its passage through the canal. The alimentary canal is practically a continuous tube extending from the mouth to the anus, and in an adult is about twenty-five or twenty-six feet in length. The lower five or six feet of this tube is considerably larger in diameter than the upper part, and is therefore known as the large intestine, to distinguish it from the upper or small intestine. This large intestine has a diameter of from one and one half to two and one half inches, and in this portion of the gut, the conversion of the useless portions of the food into fecal matter takes place, the nutritious substances having been previously extracted. The food substance has undergone material chemical change while on its journey through the mouth, stomach, and small intestine, in order to prepare the nutritious portion so that it can be readily absorbed into the blood. When it reaches the large bowel, it is still in a fluid state, but it becomes more and more solid until it reaches the condition of normal fecal matter before it enters the rectum.

It requires from fifteen to twenty hours for food to pass through this canal, and in the light of these figures a normal individual should have an adequate stool once in twenty-four hours.

The passage through the intestines of the contents is accomplished by a wonderful provision of Nature. In the walls of the bowel are coats of muscle which run circularly and longitudinally. A contraction starts at one point and travels along the gut by means of these muscle coats, thus imparting a wavelike effect, with the result of propelling the contents along in the downward direction. These propulsion movements of the intestine are known as peristalsis, and this peristalsis, or wavelike con-

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traction of the bowel, is excited by the stimulus of the food, and also by the gases which are the result of the chemical changes that have been taking place during the process of digestion. The harsh, undigested portions of the food also play an important part in stimulating these muscular coats of the bowel to contract, and the act of respiration imparts a to and fro movement, or a sort of churning of the bowels, which does likewise. The act of defecation by which the contents of the rectum are finally expelled is a complex one, but it depends chiefly upon an involuntary, peristaltic, or wavelike contraction of the bowel, aided by the voluntary muscular efforts of straining, which is accomplished by a deep breath and fixing of the diaphragm, and, at the same time, a strong contraction of the abdominal muscles.

A healthy condition of the muscular system is therefore essential, consequently, those who lead an active outdoor life are less prone to this complaint than are those whose time is spent in sedentary occupations.

The amount of fecal matter passed by a healthy person averages about six ounces in the twenty-four hours, but the amount is dependent upon the quantity of food ingested and also by its quality. Thus, those who are hearty eaters should be expected to have larger evacuations than those with small appetites. Also, those who live on vegetables, cereals, and food containing much indigestible matter, pass more than those who eat chiefly of concentrated food containing a small amount of indigestible material. The time and frequency of fecal movements, while more or less involuntary, are largely matters of education and habit. A definite hour each day for the movement can be established, or it can be made to occur twice a day, or at intervals of several days.

It is astonishing almost beyond belief to what extent the fecal evacuations can be delayed. A well known rectal specialist has reported a case under his observation in which the movements occurred at first once in two weeks and gradually extended until the bowels moved but once in four months. He aptly states that in this case, the movement was not only an event in the family, but to the entire neighborhood. Many other instances, even more astonishing, are on record.

With this hasty sketch of the process of the passage of the food through the alimentary canal, we can now consider the various factors which may contribute to inhibit this function, and then study some of the results to which constipation leads, and by thus understanding the normal process may intelligently apply our knowledge to the prevention of a condition that leads to so many evils.

At the extremes of age we find constipation a very common malady. Very young children are frequently constipated on account of artificial feeding, and the aged, owing to deficient exercise, and a feebleness of the muscular system, have an insufficient peristalsis and not enough secretion in the bowel to keep the waste matter at a proper consistence. Between the ages of twelve and twenty years (the careless age), the habit of constipation is most frequently formed.

Women are much more prone to constipation than men. This is due to a combination of circumstances. As a rule women, especially in the higher walks of life, are habitually much less active physically than men. The manner of dress has an important bearing on the subject. Pregnancy, on account of the excessive pressure and crowding of the intestines, naturally tends to inhibit the bowel action, and frequently recurring pregnancies tend to prevent the abdominal muscles from regaining their normal tone after the excessive stretching they have been subjected to, and thus greatly relax and weaken them. Menstruation is also frequently associated with constipation, especially in the week preceding the flow, due to the congestion of the pelvic organs and the diminution of the amount of water in the stools as a result of the increased output of urine and perspiration incident to that period. Likewise, the pressure on the rectum by a womb that has been displaced backward, may produce difficulty in emptying the bowel. Again, many women, especially young girls, are strangely indifferent to the whole matter, and it is often difficult to arouse them to a sense of the seriousness of the neglect of this function.

The character of the food has an important bearing on a regular action of the bowels. It is intended by Nature that man should live on a mixed diet, that is, meats and vegetable matter. A study of the formation of the teeth will show this. An animal which Nature intends to live on meat alone, has teeth adapted for that purpose, as the carnivora, the teeth being shaped for tearing, while a herbivorous animal has teeth adapted for grinding up vegetable matter. Man has teeth suitable for both tearing and grinding, and is termed omnivorous; thus, Nature intended him to eat both animal and vegetable food. A deviation from this rule usually results in a disturbance of the natural action of the bowels. If too concentrated food is eaten, there is not enough residue or indigestible material to stimulate the bowel to wavelike contraction, and thus there is a deficiency in the propulsion of the intestinal contents. If too much coarse food, or an excess of vegetable food, which leaves a large residue, is habitually taken, an overaction of the bowels may result at first, but later on the sensitiveness of the gut may be lost through overstimulation, and it will not respond. This is demonstrated in the well known home remedy of bran and water, which acts very well to overcome a sluggish bowel action at first, by the coarse bran particles stimulating peristalsis, but which very quickly loses its efficiency, as the bowel becomes less responsive on account of its blunted sensibility.

A certain quantity of fluids is essential to give to the bowel contents the proper consistence; otherwise, constipation will result on account of the dryness of the feces.

Plenty of fruit and green vegetables, a sufficiency of water, and a generous mixed diet containing both meat and fat, is the common sense dietary to enable the bowels to function properly.

Bodily laziness will almost always beget constipation, as it frequently does obesity. Many women take very slight exercise or none at all with regularity, not even walking in these days of luxurious motors. Consequently, their whole muscular sys-

tem is poorly developed and their muscle fibres contain a far too large proportion of fat cells. This means that the muscular coats of the intestine are deficient in power, and the rapid and deep inspirations which are induced by exercise and which are necessary to the proper "churning" of the bowels, are lacking. Their abdominal muscles are in a state best characterized as flabby, with the inevitable result that they have not enough power in them to strain sufficiently to accomplish easily the act of defecation. Also, the blood stream moves sluggishly which results in delay and impairment of the digestive processes. The deep breathing of an abundance of fresh air which results from outdoor exercise is also necessary to insure a healthy state of the blood itself,—otherwise, a condition of anemia results, which, in the form seen in girls, known as chlorosis, is nearly always accompanied by troublesome constipation as a result.

Women's dress is perhaps dangerous to tread upon in more senses than one, as our ideas of what constitute lines of beauty are so variable and our points of view are so many. Nevertheless, if for the time being we look at the subject purely from the point of view of physiology, and not from that of art, we perhaps can see what will best favor the proper action of the bowels.

The corset stands first in importance as the factor in women's dress that seriously interferes with the proper exercise and consequent development of the abdominal muscles. Also by constriction it prevents the proper mobility of the coils of intestine, thus directly interfering with the propulsion of the bowel contents.

The long continued pressure and immobilization of the abdominal muscles produced by the tight corset has a splintlike effect, that is, the muscles being limited in their action, become atrophied just as the muscles do in a leg or arm that has been inclosed for a long period in a plaster cast, so that the ability to strain with any degree of power is lost. The opposite of this is seen in the abdominal muscles of the washerwoman, who, by her vigorous exertions at the washtub, has an abdomen that is gnarled and ribbed with highly developed muscle fibres, like her own washboard, and to whom parturition is little more trouble than defecation. Also, the tightly worn corset prevents those deep inspirations that I have already mentioned as an essential part in Nature's plan to insure intestinal movements.

I am reminded of the poet's apostrophe to a relic of the inquisition, which says:

> Thou ugly thing of tapes and bones
> And laces, reeds, and steel,
> Invented all the graceful lines
> Of women to conceal.
> I cannot laugh, I cannot breathe,
> I'm crimson in the face,
> I cannot even sit with ease
> When clasped in thy embrace.
>
> The torture chambers' iron queen,
> The "Maiden," in whose arms
> Was agonizing death for all
> Who felt her cruel charms.
> Once counted thousands as her prey;
> But thou, her offspring dread,
> Claim'st millions now who do not die.
> But wish that they were dead.

I do not desire to convey the impression that I believe that the corset serves no useful purpose and is to be utterly condemned. A properly shaped and adjusted corset is often a necessity and gives important support in many cases. The physician relies upon it very largely in certain cases of sagging of the abdominal contents, which is often an inheritance. Centuries of corset wearing has had its effect on our race to-day, and we cannot in all cases ruthlessly cast it aside. What I mean to convey is that the extreme type of corset, with excessive constriction, which tends to limit all abdominal movements, and very often leg movements as well, is a potent factor in the production of conditions that favor chronic constipation.

The hobble skirt and high heel pointed shoes, by limiting free and easy walking, also play their part.

A regular habit as to the hour of going to stool is one of the most important essentials to procure proper daily evacuations of the bowels. The bowels cannot act regularly unless this rule is rigidly adhered to. If the same hour of the day is always taken for this purpose, the bowels become trained to act at that time, and the inclination will then occur each day at that hour. Neglect of this rule does more to establish a constipated habit than any one thing. Children should be taught that they must never pass over this hour, for if the inclination is habitually resisted when the warning is received, the sensation of the desire to evacuate is soon lost and it is often with great difficulty that this sensitiveness of the rectum is reestablished. Thus a state of chronic constipation results.

Many an individual goes through life a victim of chronic constipation, with all its train of ills, mental as well as physical, the blame for which rests upon the parents in that they were neglectful in teaching the growing child this most essential of habits of having an evacuation of the bowels at the same hour each day. Teachers, especially in boarding schools, have an important responsibility in this matter in the daily supervision of those committed to their charge. The importance of a sufficient number of toilet rooms being available in schools is manifest.

The best hour for going to stool is immediately after breakfast, as the rectum has become filled during the night and the food taken at breakfast acts as a stimulus to the peristalsis.

The importance of regulating the hour of rising is here apparent, as sufficient time should be arranged for dressing, breakfast, *and* going to the toilet before the time to start for school, otherwise the call of Nature will be put aside in the hurry to avoid being late. Irregularity of this habit is often the result of a false modesty. As an instance of this, a case occurred in the practice of a New York specialist, of a young woman who went on a sailing cruise of eight weeks, and had but three movements of the bowels during the entire time, simply because she was afraid that some gentleman would see her going to the toilet. The result was a severe inflammation which took a long time and much treatment to relieve.

It must not be forgotten that the natural posture of defecation is the squatting position which is common to all primitive people, and therefore Na-

ture's plan apparently did not contemplate the use of the universal high toilet seat. It is especially important to remember that children cannot be expected to perform this act easily with the feet dangling from the seat, when Nature prefers that the thighs should rest firmly against the abdominal wall to give a point of resistance to the abdominal muscles and thus greatly increase their expulsive power. A footstool of suitable height will correct the trouble for the child and will also be of great advantage to adults in cases of difficulty.

Psychic influences have an important bearing on the act of defecation. The effect of concentrating the mind on a determined effort to secure a bowel movement, even when there is no desire, will frequently suffice to produce an inclination, and thus start up peristalsis. Thus mental healers can obtain results in suitable cases. It is obvious that a proper concentration of the mind on the business at hand is not possible, if the toilet is used as a library or reading room.

The promiscuous use of drugs and patent medicines, whose advertisements are everywhere so boldly displayed, is most prevalent for the relief of constipation. The unnecessary and indiscriminate employment of drugs for the purpose will beget a habit, so that the bowels will become dependent on this form of temporary artificial stimulation, instead of the far preferable, more natural methods, which tend to correct the cause. The use of drugs is often essential to overcome a temporary constipation and to aid in the reestablishing of a lost habit of regularity,—but their employment requires the judicious guidance which can be obtained only from a physician.

There are other causes of constipation of a mechanical nature, due to previous inflammatory disease in the abdomen and pelvic cavity, resulting in obstructing adhesions, etc., which are beyond the ken of the layman, and which emphasize the adage, that "he who doctors himself has a fool for a doctor."

The results of chronic constipation are so far reaching that there is no organ or part of the body but what is affected thereby. This is due to autointoxication (self poisoning), the inevitable consequence of continued constipation, for if the feces are retained, the poisons in the fecal matter are absorbed into the blood, which is constantly circulating throughout every organ and tissue of the body. The muddy complexion, melancholic depression (the "blues"), listlessness, loss of appetite, headache, griping pains in the abdomen, etc., are the resulting symptoms, familiar to all.

The results which are peculiar to women are due largely to the mechanical pressure caused by the distention of the large bowel with fecal masses which may completely fill the pelvis. These fecal masses press directly on the veins which carry the blood *from* the womb and the ovaries, and the rectal wall. Veins, being collapsible tubes, are more easily compressed than the arteries, which have rigid walls, and which carry the blood *to* the parts, so that the result is, an engorgement and stagnation of the blood in the part, as it cannot readily move onward owing to this pressure. The organs are thus swollen with venous blood,—blood that carries the waste material away from the tissues to be purified in the lungs.

This stagnation of the blood more readily occurs in these particular organs, because some of their veins have no valves which would prevent the backward flow of the blood. Valves are common in most of the veins of the body, especially where the blood has to travel upward against gravity, but in the ovarian and rectal veins they are wanting, so that whenever they are subjected to pressure, there is readily caused a congestion of the ovaries and tubes which, if long continued, results in diseased conditions, giving rise to pain and sometimes ovarian tumors. In the rectum, hemorrhoids, which are dilated veins, are the result. In addition, the womb itself suffers from this engorgement, becoming heavy, which causes a sensation of weight and bearing down, and may result in displacements. The mucous membrane lining the interior of the womb also suffers. The glands which it contains being stimulated to excessive work by the superabundance of blood, produce an excess of secretion, which runs out of the mouth of the womb, and appears in the vagina as leucorrhea. From the same cause, menstruation is increased in quantity and frequency, and is often painful. Backache is almost always present in these cases, and if the pressure from the fecal masses is excessive, neuralgic pains in the pelvis, extending down the thighs, may be caused by the involvement of the large nerve trunks which are in the pelvic cavity.

During the pregnant state these pressure symptoms are greatly aggravated, as all the available space is taken up by the rapidly enlarging womb. The woman has a special tax on all her eliminating organs during pregnancy, as they have extra work to perform owing to the presence of the child, and any failure of these organs is more serious at this time than at any other, as the poisons accumulating in the blood to a dangerous degree, favor the outbreak of that terror of obstetricians, eclampsia, which is characterized by convulsions, and is so often fatal. A daily free action of the bowels is the safety valve in these cases.

While the lesser symptoms already enumerated are familiar to all, enough has been said to emphasize the serious results that may follow chronic constipation. It is impossible for one to feel the joy of living if suffering from this complaint. Every occupation is a burden, every recreation becomes a task. It is folly to expect the brain, any more than the rest of the body, to do its best work, while it is suffused with blood that is loaded with poisons absorbed from an intestine that is being used as a storehouse of old and decomposing fecal matter.

In conclusion, I would emphasize the fact, that as this unhappy condition is engendered during early life in the large majority of cases, as a result of ignorance or neglect of simple rules of hygiene, parents, school teachers, and others having the guidance of children, should appreciate the importance of the subject, and thus the measure of their responsibility.

One would not expect the furnace to burn properly if the ashes were not shaken down regularly,—therefore, why should we expect that complex organism, the human body, to carry on properly the

processes of slow combustion which are continually taking place throughout its tissues, without doing likewise?

71 West Fiftieth Street.

DEMENTIA PARALYTICA.*

1. Two cases of the so called circular type.
2. A case exhibiting the catatonic symptom complex.
3. A case of cerebral syphilis showing catatonic symptoms.

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One cannot see much of dementia paralytica without realizing that it is almost as protean in its clinical manifestations as is the disease which causes it. While it is true that the great majority of cases fit into the familiar pigeonholes of the *expansive, agitated, depressed,* and *demented* forms, yet one now and then sees cases which cannot be so classified.

For example, one occasionally sees cases which pass through distinct phases of both exaltation and depression, thus combining the elements of two of the usually described forms. Kraepelin,[1] in his last edition, speaks of these cases as follows: "The depressive phase may at times gain such a position in the clinical picture of the expansive form that they appear to be independent disease epochs. Rather rarely one sees a rapid irregular change from one phase to the other or an intimate mixture of the two. More frequently, however, they follow each other as almost independent attacks, sometimes passing immediately over from one state to the other, sometimes separated by a period of remission. Several of these cycles may be observed. This may be characterized as the *circular* form of general paralysis."

The two following cases may serve as fair examples of this type of the disease.

Case I. M. R. Admitted to the Norristown State Hospital November 19, 1908; married, forty-one years old, butcher by occupation.

A maternal uncle had locomotor ataxia, otherwise the family history was negative.

His early medical history was unimportant. He stated to have used alcoholics in moderation. He asserted that he had had syphilis twenty years prior to admission, and was treated for it at the time with the usual antisyphilitic remedies. About twelve years before admission he had a stroke, as a result of which his face was drawn to one side, he lost the use of one arm, and could not speak, but did not lose consciousness. Under specific treatment he was as well as usual in three weeks' time.

About five months before admission it was noticed that he was making mistakes in his business dealings. Shortly after, he began to grow exalted, talked of large investments, etc. He soon became so excitable that it was necessary to take him to the Friends' Asylum, where he remained about three months, being transferred from there to Norristown. While at the Friends' Asylum he was restless, excitable, and grandiose most of the time. It was stated that while there he also attempted suicide on one or two occasions.

On admission to the Norristown Hospital he was extremely exalted, estimated his wealth at two and a half billions, owned half of California, all of Cuba, etc. His speech was somewhat slurring. His pupils were unequal and reacted poorly to light. There were tremors of the tongue and facial muscles, and the knee reflexes were absent.

For the first five months he pursued the usual course of the exalted and excitable paretic. He was loud, quarrelsome, restless, untidy, and unclean, and entertained extravagant delusions.

From this time he rapidly subsided into a condition of profound depression, would speak only in a whisper, was much retarded. He said the other patients were going to make him drink their urine, that he had attempted to seduce other patients, that he was insane and ought to be restrained constantly to prevent his doing harm, was fearful that he was going to be harmed. This depressed condition lasted about three months, after which he gradually improved until he appeared to be in a state of remission. At this time, eleven months after admission, he had his first apoplectiform seizure accompanied by stupor, transient loss of power in left arm and leg, followed by a mild general convulsion. These symptoms rapidly subsided so that by the next day he was as well as usual. A few days later his mental condition was so satisfactory that his wife was allowed to take him home for a trial visit.

He remained home for five months, during most of which time his condition was fairly good so that he was able to take a light position in a department store. At the end of this period, however, he became excitable and had to be returned to the institution. After his return he quickly became exalted and boisterous again and this condition continued, with gradually increasing mental and physical deterioration.

About three months after his return from this visit he had another relapse into a period of depression, during which he was dull, frequently apprehensive, imagining that he was going to be killed, and was often lacrymose. During this time, however, there were occasionally periods of a few hours when he showed restless activity. He lived only six months after this last period of depression, his latter days being typical of the restless disturbed paretic in the terminal stages of the disease. Six weeks before death the blood showed a strongly positive Wassermann reaction, but the spinal fluid was not examined. He died February 7th, 1911. An autopsy was not permitted.

The clinical course of this case may be summarized as follows: Ten months of exaltation with excitement, three months of depression, five months of remission, three months' exaltation, two months' depression, six months of terminal excitement with the vestiges of the former exaltation.

Case II. L. F. H., admitted to the Norristown State Hospital April 20, 1909, at which time he was forty-four years old. He was married and a produce dealer by occupation. Nothing noteworthy could be learned of the family history. His early life was uneventful. The patient admitted syphilitic infection, but the date of the initial lesion was not learned. He was married in 1899, there being no children from this marriage.

Eight months prior to admission the patient was noted to be losing ground physically. Four months prior to admission his mother died, and this event may have determined the character of the earlier mental symptoms, which were those of marked depression. He became morose, cried, and talked much of his mother. He continued at his work, however, working often late at night. This period of depression lasted until about three weeks prior to admission, when he suddenly exclaimed that he saw a vision of his mother in heaven. From this time he began to grow exalted, called himself Christ, and wanted to enlarge his business. This condition continued, with one short period of partial remission of symptoms, until admitted to the hospital.

When examined he moved about restlessly in bed, though at times he lay perfectly motionless with his eyes fixed upon the ceiling or wall; expression staring and rapt. His voice was loud and strident from overuse. He continually spoke of seeing his mother in heaven and frequently spoke to her, receiving clearly cut answers in return. I have never seen such vivid hallucinations of sight and hearing in any other case. He was at times noisy, profane, filthy,

*Read before the Philadelphia Psychiatric Society, January 12, 1912.

[1] Kraepelin: *Psychiatrie*, ii, p. 424.

and destructive, and showed usually much motor activity. Physically he showed some reduction of the patellar reflexes and the pupils were equal, somewhat dilated, and reacted sluggishly to light. The tongue was moderately tremulous, but no speech impairment could be detected.

The patient was placed on mercurial inunctions eighteen days after admission. About a week later he began to improve, growing quieter, tidier in his habits, and the hallucinations became less vivid. His condition continued to grow better though on June 12th he still showed grandiose delusions. A lumbar puncture on June 30th gave a lymphocyte count of fifty to the c. mm., though the Noguchi butyric acid test was negative. On August 8th (nearly five months after admission), his wife was allowed to take him home on parole.

He remained away for ten months, during which time I saw him monthly. Shortly after leaving the hospital he became depressed, moody, was vaguely apprehensive, and disliked to go out of the house. He spoke in a low voice and at times his answers were delayed. He conversed coherently on all subjects, although there was evidently a degree of impairment present. This condition lasted until near the end of the ten months' parole, when he again became restive and exalted so that it was necessary to return him to the institution.

He remained relatively quiet after his return, occasionally reacting to hallucinations, for about two weeks, when he became noisy and violent, and his condition was in every respect similar to that on his original admission. This condition obtained with greater or less intensity for about eight months. On January 30, 1911, examination of both the blood and spinal fluid showed a strongly positive Wassermann reaction. On March 7th 0.3 gramme of salvarsan was given intravenously. Following this treatment there was some alleviation of symptoms for about two weeks, but it did not last. On April 18th 0.6 gramme of salvarsan was given. The only unpleasantness experienced was a severe chill two hours after administration of the drug. There was no improvement whatever after this treatment, and the patient was now evidently in the last stages of the disease. He had convulsions on June 16th. He remained expansive, reacted to hallucinations, and was noisy and excitable up to the last, never showing the profound mental hebetude seen usually in advanced paresis. His speech was never typical of paresis. Death occurred September 30, 1911, two and three quarter years after mental symptoms were first noticed. Unfortunately an autopsy could not be obtained.

One may roughly divide the clinical history of this case into the following periods: Three months of depression, three months of exaltation with excitement, two months of remission, nine months of depression, sixteen months of exaltation, excitement, and terminal symptoms. While there was apparently some transient alleviation of symptoms after the first dose of salvarsan, there is nothing to show that this treatment was of any value in shortening or altering the course of the disease.

Turning abruptly to another class of cases I will again quote Kraepelin.[2] "At times there appear in general paralysis some of the disturbances of the will which we are wont to characterize as catatonic. Not only catalepsy is, at least, passably frequent, but also echolalia, echopaxia, and verbigeration. Evidences of aimless resistance are frequently observed, also stupor, refusal of food, a resisting attitude toward direction, the taking and holding of strange attitudes, and the holding back of urine and feces."

Case three may serve to illustrate this type of the disease, which, in my experience at least, is relatively rare in America.

Case III. W. L. F., admitted to Norristown State Hospital April 20, 1911, aged thirty-two years, married, and a weaver by occupation. The family history was of some interest, the maternal grandfather being alcoholic, also the father, who was an excessive drinker. An older brother was very peculiar and had been a tramp most of his life. An older sister had had true hysterical seizures judging from the description of her attacks. Two sisters seemed normal.

The patient was temperate in habits, using neither tobacco nor alcohol. He was happily married at the age of twenty-eight years, and one child resulted. There were no miscarriages. At the age of twenty-six years he had a fall, injuring the left side of his head and was unconscious for a half hour.

In March, 1910 (thirteen months prior to admission), he had a slight convulsion while attending a labor meeting and was unconscious for over an hour. He showed no mental symptoms until November, 1910, when he complained of memory failure and difficulty in doing accurate work. The case was diagnosticated as neurasthenia by the family physician, and he went to the country for three weeks.

Soon after his return he became very talkative, asserted he had acquired syphilis, and insisted upon being examined by many physicians. He was next treated in a hospital for nervous diseases for seven weeks. His attending physician wrote of him as follows: "The man was hysterical and had delusional insanity. He did well at first but soon began to have syphilophobia, considered that he was base, that he had not only infected his wife but the whole ward, declared that he was not decent enough to live, etc. He left the hospital against our wishes and those of his wife."

Shortly after his return home he became unclean in habits and his wife had to dress and feed him. After he had eluded his wife and walked seventeen miles before he was picked up, he was sent to the Norristown State Hospital.

On admission the patient was mute; his face was oily and expressionless. He held himself rigid and resisted all efforts to care for him or to examine him physically. He was unclean, soiling his bed frequently. When questioned he looked in the direction of the examiner and moved his lips as if to answer, but did not speak until asked if he was afraid, when he said "no." When asked if his wife had visited him since admission he said "yes," but later said "she was not up here." At another examination he answered only the question whether he had syphilis, replying "yes, can't you see it down there?" At this time his pupils were equal and reacted promptly to light and accommodation. There was a slight drooping of the left eyelid. No other physical examination was possible owing to his extremely rigid and resistive condition.

A tentative diagnosis of catatonia was made as a result of this initial examination. Two days later, however, an examination of his blood showed a positive Wassermann reaction and shortly after this it was learned that he had been treated for primary and secondary syphilis by his family physician seven years prior to admission. He was placed upon mercurial inunctions shortly after admission without resulting benefit.

On May 10th he had thirteen severe general convulsions, but was in his usual condition on the second day following. He talked some then, saying he felt better, but had no knowledge of the convulsions.

On May 23d (thirty-three days after admission) he was given 0.6 gramme of salvarsan intravenously without unpleasant sequelæ. An examination of the spinal fluid made on the same day showed a positive Wassermann and a positive Noguchi (butyric acid) reaction, and thirty-six lymphocytes per c. mm.

On May 30th, it was noted that his pupils were unequal and that they reacted very sluggishly to light.

On June 11th the patient had nine general convulsions and the next day three more.

During all this time he had remained almost continuously rigid and most of the time mute, but on June 22d he suddenly became noisy, jumped out of bed, and broke two panes of window glass. He prayed and talked in a loud voice for two hours, then relapsed into his former condition. A similar noisy episode occurred on June 25th. On July 6th there were more convulsions. From July 24th he began to grow restless, would walk or crawl about, and could not be kept in bed, though he was manifestly growing weaker. The mutism and the rigid, resistive tendencies persisted until the last, though he talked on one or two occasions for a short time. He died, September 9th, as a result of his gradually increasing en-

[2] *Loco citato*, p. 353.

feeblement, there being no terminal convulsions. No autopsy was obtainable.

The initial depressive delusions are interesting in this case, since the same prodrome is not infrequently observed in true catatonia. I have no doubt, however, that Kraepelin is right in saying that "the opposition of the patient is more changing and inconstant than in catatonia and may be often overcome by persuasion, so that it must remain doubtful whether the outwardly similar disease manifestations have really the same origin." Again, in concluding his discussion of this subject, he says, "I have not yet been able to convince myself of the justification of making a separate catatonic division of general paralysis."

Case IV. G. L. C., admitted to the Norristown State Hospital, October 12, 1911, aged forty-five years, married, and a bookkeeper by occupation.

The family history was negative except for moderate alcoholism in the father and repeated strokes of apoplexy in the mother. There were two children, apparently healthy, and there was no history of miscarriages.

The patient contracted syphilis at eighteen years of age, for which he received prolonged treatment. He had used alcoholics for years, at times to excess.

After having many business worries and working late into the night for a long period of time, he suffered a mental breakdown in April, 1911. For a month or two previous to this he had been somewhat irritable toward his family. He now became extravagant with his money, expressed ideas of wealth, and rode about Philadelphia in taxicabs, which was not his wont. On April 28th he was committed to the Pennsylvania Hospital for the Insane. The notes received from Doctor Moulton, of that institution, stated that he had been markedly confused for the first five weeks, later improving somewhat, but soon subsided into a dull condition with retarded mental reflexes; this condition was punctuated with occasional periods of excitement during which he was noisy and inclined to be violent. He later became very quiet, did not move from the position in which he was placed, and soon refused to speak, even to his wife, He was emotional at times, especially when visited by his family.

When admitted to the Norristown Hospital he was noted to walk very slowly, was stiff in his movements, and resisted mildly. Later, when brought before the medical staff, he was noted to be very slow in his movements, his face was entirely expressionless and had an oily appearance. He seated himself when told to do so and sat rigidly, staring directly before him. When asked "how are you?" he extended his hand stiffly, but did not reply nor look at the questioner. When asked to protrude his tongue he extended his hand first, then complied with the request. He refused to answer questions, but obeyed most simple commands. When the examination was completed he rose stiffly and started to leave the room without being told, then turned back, extended his hand slowly, and in a jerking manner suddenly grasped the examiner's hand and shook it.

His reflexes were generally exaggerated, and there was a fine fibrillary tremor of the tongue and the facial muscles. The pupils were unequal in size, but reacted promptly to light and accommodation. The patient ate and slept fairly well from his admission and was cleanly in his habits.

A blood examination eleven days after admission showed a positive Wassermann reaction. Two days later a counterpane was noticed over his transom with a loop in the lower end, but he was found in bed after evidently having made some sort of an attempt at suicide. He seemed somewhat agitated, but refused to answer any questions about the matter. He was placed on mixed treatment on admission which was changed to mercurial inunctions on November 10th. His condition up to this time had remained the same, he being still mute and resistive, though he did talk to his wife somewhat when she visited him. Five days after the inunctions began he seemed brighter and answered several questions, stating that he felt better. On November 28th a spinal puncture was made, giving a negative Noguchi and a negative Wassermann reaction, and five lymphocytes in the c. mm. The inunctions were discontinued, December 5th, after twenty-one days of treatment. On December 12th 0.6 gramme of salvarsan was given intravenously with no unpleasant symptoms except a slight flushing of the face and a sensation of fullness in the head. There were no unpleasant sequelæ.

The patient's condition has gradually improved since that time. At present he shows only traces of his former rigidity, though his movements are still slow. He converses coherently, though the answers are usually given in a slow, deliberate fashion, and he says it is difficult for him to collect his thoughts. He remembers that he was exalted at the beginning of his trouble, but cannot recall how long he was at the Pennsylvania Hospital for the Insane, or what his condition was at that time. He remembers about how long he has been at Norristown and realizes that he is much better than when he came. He knows the names of several of the doctors and the employees. At times he becomes somewhat emotional when he talks of the way in which his family has been broken up by his illness, and the blighting of his son's prospects thereby. His pupils are equal at times and react fairly to light. His tongue and facial muscles show only very slight tremors. His speech shows no defect.

A tentative diagnosis of a catatonic form of syphilitic pseudoparesis has been made in this case, based principally upon the absence of the Wassermann reaction in the spinal fluid and the low lymphocyte count in the spinal fluid, there being only five lymphocytes in the c.mm. According to the Munich school, the absence of the Wassermann reaction, and such a low cell count in the spinal fluid afford a strong presumption against the presence of general paralysis.

Additional facts which strengthen this diagnosis, are the continuous improvement since the employment of antisyphilitic remedies, the absence of speech defect, the gaining of insight into his former condition, the absence, from the beginning, of signs of deterioration, such as unclean and untidy habits. In any event, the case serves as an interesting contrast to case three in which the initial symptoms were depressive instead of grandiose, where unclean habits and other signs of deterioration occurred early, and the findings in the spinal fluid definitely indicated the presence of paresis.

THE DIETETIC TREATMENT OF CARDIOVASCULAR DISEASE.*

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We cannot go far in the clinical study of cardiovascular disease without discovering that the most important thing in its treatment is the diet. In this short paper I shall try to tell with some, though not complete particularity, how I have learned from clinical experience to feed patients suffering with this disease; and I shall also make brief allusion to some of the reasons for the diet which I advocate; for on the soundness of these reasons, taken in connection with favorable clinical results, depends the claim of this dietetic treatment for consideration.

In prescribing a diet for a patient with cardiovascular disease, the first thing to decide is

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the quantity of food which he should receive. It is obvious that this quantity should be the minimum quantity capable of maintaining the highest degree of nutrition under the circumstances; but what is that minimum?

The minimum quantity of food requisite for a healthy man of average size in middle life, judging from my own observations, which, though limited, have been sufficiently extensive to form a basis for induction, seems to be one which supplies a daily average of sixty to sixty-five grammes of protein, and possesses a fuel value which varies with the extent of his activities and the temperature of his environment: if he lies quietly in bed in a warm room, he can get along very well, for a considerable time, at least, on not far from 1,500 calories; if he is engaged in a sedentary occupation or one involving moderate exertion, he will require 2,000 calories or more; and if he is engaged in hard labor, he may require more than 3,000 calories. The protein requirement apparently changes less with the amount of activity than the fuel requirement. The size of the body calls for modification of both the protein and fuel rations, and it is the size of the frame more than the body weight which counts in this connection.

We can with propriety take the minimum health ration as the standard ration for cardiovascular disease subject to modifications to meet special pathological conditions and clinical emergencies; and these modifications usually consist in a temporary reduction of the standard quantity.

Having thus settled the question of how much food a patient with cardiovascular disease should receive, we have next to decide what kind of food he should have. To do this we must study the indications regarding particular articles or classes of food presented by existing pathological conditions. We find these indications chiefly in the condition of the kidneys, the liver, and the heart, and they may also be found in the gastrointestinal tract and in the general condition and habits of the patient.

Cardiovascular disease is by no means necessarily synonomous with chronic interstitial nephritis, but the latter condition so often complicates it that it is safest to consider it always present or likely to develop, and to arrange the diet accordingly. The main indications presented by insufficient kidneys in regard to the kinds of food that should be taken, relate to articles which contain nitrogenous extractives, those which produce putrefaction poisons in the intestines, those which possess an excess of salts, and those which introduce directly into the system substances whose elimination irritates the kidneys. We will pass over the last two classes and confine our attention to the articles of food which contain nitrogenous extractives or purin bodies, and those which produce putrefaction poisons in the intestines. Both these classes of substances are found in, or develop in articles of food derived from the animal kingdom, except milk, and the purin bodies are also found in considerable quantity in some articles of vegetable origin, notably the ripe legumes. The indications regarding diet presented by the kidneys point very plainly to the restriction of all animal food, except milk, and of the ripe legumes.

The indications regarding diet which are given by the liver are of the greatest importance. When we consider that everything swallowed, except the fat that is digested and the refuse that is discharged in the feces, is ultimately strained through the liver and modified by that extraordinary organ so as to become more useful and less harmful to the general organism, we begin to realize the important relation which the liver holds to questions of the management of diet in disease. The liver, in addition to being a laboratory for the manufacture of digestive and other secretions, and the main sugar refinery and storehouse of the body, is the chief defender of the body against poisons, notably the poisons which are introduced into the alimentary canal or are formed there. Experiments on animals have shown that it can destroy or neutralize two thirds of the putrefaction poisons which are brought to it from the alimentary tract in ordinary conditions. In cardiovascular disease, with elimination deficient, and the tissues less able than usual to resist toxines, even the normal amount of putrefaction toxemia cannot be tolerated; and in this disease it is more than likely that the liver itself suffers in the general depression of vital activity and permits more than the regular proportion of putrefaction poisons to spill over into the general circulation. So the liver in this disease presents indications for the restriction of those articles of food which favor the production in the intestines of putrefaction poisons, that is, of animal food except milk, which is not ordinarily putrefiable; and also of those articles which directly introduce toxic substances, such as alcohol and some of the essential oils: These substances put an extra burden on the already overworked and weakened liver, and by so much diminish its capacity to perform its necessary antitoxic function.

The dietetic indications presented by the heart relate chiefly to mechanical pressure from the abdomen, nervous reflexes from the abdominal viscera, and irritant toxines from the gastrointestinal tract. Large meals, indigestion, and various kinds of intoxication can in the ways mentioned disturb the heart, and should be guarded against in the regulation of the diet. Heavy meals toward night, or any food or drink near the time of sleeping, can disturb the degenerated or irritable heart, and should be avoided.

The indications regarding diet presented by the intestinal tract, relate chiefly to digestion and fermentation. The digestive capacity is subnormal in many cases of cardiovascular disease, and the question of fermentation has to do chiefly with cane sugar, whose inversion is effected almost entirely by the succus entericus and the intestinal mucosa; failure to easily and promptly invert the sugar favors fermentation in the intestinal tract, irritation of its mucosa, and further secondary disturbances. Indications regarding laxative articles of food may also be found in the gastrointestinal tract.

The dietetic indications which are found in the general condition and habits of the patient should be duly considered, though they are less imperative than those afforded by the heart, kidneys, and liver. If the patient has been all his life a very hearty eater, especially of meat and stimulating food, the change in his diet should take into account that fact, and he should be allowed perhaps a little more ani-

mal tissue than would accord with the total of the other indications, or he should be allowed relaxation of his diet at stated periods. But even in such cases it often happens that the patient experiences such benefit from the more rigid diet that he soon forgets to hanker after the full flesh pots. If the patient is too fat, the fuel ration should be cut down below his apparent needs, and if he is too thin, the fuel ration should be generous.

From the preceding statement of the dietetic indications present in cardiovascular disease, cursory and brief though it is, we are able to draw some practical inferences regarding the feeding in that disease.

Evidently animal tissues to a considerable extent should be restricted, and in some cases they should be altogether excluded. It is my practice in the great majority of cases to allow a small amount of meat, fish, or poultry from one to four times a week; in a smaller number of cases, for a time at least, no animal tissue at all is allowed; these last are the cases which show marked symptoms of putrefaction toxemia. It is not usually difficult to get cardiovascular patients to reduce their animal food to a very small amount after they have experienced the beneficial effects of such abstinence.

The broths made from animal tissues seem to have no reasonable place in the dietary of cardiovascular disease; they are little more than solutions of the nitrogenous extractives (artificial urine); their only claim to consideration is found in their ability to excite the secretion of gastric juice and that merit is not sufficient to counterbalance their positive disadvantages.

With animal tissues occupying a very small place in the dietary of cardiovascular disease, we have to rely for protein chiefly on milk and the cereal foods. Milk supplies easily digested, nonputrefiable protein in considerable amount, and also a fair quantity of easily digested fat and nonfermentable carbohydrate, and it is free from the purins. A quart of milk contains nearly as much protein as a half pound of beef, and considerably surpasses the latter in calorific value. The objections to its digestibility which obtain in many cases can be overcome very easily by dilution with cereal gruels, alkaline waters both still and carbonated, or even plain water, or by fermentation outside the body with the lactic acid bacillus. Milk thus modified is not only very digestible, but is an important factor in making the diet antiputrefactive, which is one of the indications in cardiovascular disease.

The cereals, including bread, contain a considerable amount of protein, a large amount of carbohydrate, and a very little fat, and are almost entirely free from the purins. The deficiency of fat can be supplied by the addition of butter, which makes them more palatable. The moist cooked cereals should never be served with cane sugar to patients with cardiovascular disease. Seven ounces of cooked cereal, which is a large saucerful, contains more protein than a lamb chop and possesses nearly twice the fuel value. Two ounces of bread without butter contain more protein than one ounce of sirloin steak, and possess a fuel value more than twice as great. Cereals, beside being an important source of easily digested protein and carbohydrate, supply sugar in the lower part of the digestive tract where, by being converted into lactic acid, it helps to keep down intestinal putrefaction.

All the green vegetables which are easily digested are generally acceptable in the dietary of cardiovascular disease, unless special contraindications exist. They supply necessary salts, add variety to the diet, and are laxative.

Most fresh fruits which are easily digested, and which do not contain so much sugar as to be unduly fermentable, are valuable adjuncts to this dietary for nearly the same reasons as the green vegetables.

The roots, particularly potatoes and carrots, are ordinarily allowable.

Butter and olive oil are digestible and agreeable fats. A little fat bacon is occasionally useful for variety, and adds only a very small amount of putrefiable protein to the diet; but this small amount sometimes has to be considered.

The soups made with milk and green vegetables (the vegetable purées) also add variety to the diet and possess considerable food value in the milk they contain.

Cheese, particularly cream cheese, can be allowed in many cases, and is a valuable source of nonputrefiable protein.

Cane sugar should be excluded largely or completely from this diet, but any craving for sweets can be satisfied by honey, which is acceptable to most people, though some have an idiosyncrasy which makes it impossible for them to take it without disturbance. Milk sugar is perhaps the least objectionable of the common sugars, but its lack of a pronounced sweet taste prevents it from being popular. It is not often necessary to consider the sugars by themselves in the dietary of cardiovascular disease, for the starch of the cereals, to say nothing of the milk sugar in the milk, supplies sufficient carbohydrates.

In prescribing a diet for cardiovascular disease, it is not sufficient to prescribe the articles and the quantities; it is also necessary to state how the food should be taken. It may be possible to arrange the food in three daily meals, but it often happens that a larger number of smaller meals best suit the conditions present. In any case the evening meal should be the lightest, and the patient's stomach should be empty when he goes to sleep.

To illustrate the effect of this dietetic treatment, I will briefly describe a few patients with cardiovascular disease who were fed according to the principles and precepts above laid down.

Case I. A man of forty-five years, a produce merchant, had always been a hard worker; had lost much sleep; had been a hearty eater, taking meat three times a day; had been a moderate user of tobacco; never used alcohol; had always been constipated; had suffered much from headaches, and had lately noticed that he was somewhat short of breath on exertion. Physical examination: Large frame; weight 233 pounds; appearance healthy; systolic and diastolic murmur heard over aortic region, and left ventricle enlarged nearly one inch downward and to the left; examination of the urine negative; systolic blood pressure 200 mm. I put this patient on a diet which consisted exclusively of cereals, bread, milk, buttermilk, butter, green vegetables, potatoes, carrots, fresh fruits, prunes, olive oil, weak coffee once a day, and a small portion (one and a half ounce) of lean meat, three times a week, so arranged as to supply a daily average of seventy

grammes of protein and to possess a fuel value of 2,200 calories. He adhered to this diet very faithfully and his blood pressure, which was 200 mm. on September 28, 1911, was 185 mm. on October 5th, 160 mm. on October 19th, 140 mm. on November 8th, and 150 mm. on January 12, 1912; and his weight on the last date was exactly the same as on the date when he began to take this diet, and his general condition was good.

Case II. A man of fifty-five years, an accountant; had been a hearty eater and a heavy smoker, but extremely moderate in his use of alcoholics; had been more or less constipated; had noticed some shortness of breath on exertion, but no other symptoms of a disturbing character. Physical examination: Medium height; weight 200 pounds; appearance healthy; urine of specific gravity 1,014, containing a faint trace of albumin; systolic blood pressure, 220 mm. He received a diet of cereals, bread, milk, buttermilk, cream, butter, green vegetables, potatoes, fresh fruits, olive oil, occasionally cheese, and twice a week a small portion of meat or poultry, so arranged as to supply a daily average of seventy grammes of protein, and possess a fuel value of 2,200 calories. On this diet his blood pressure, which was 220 mm. on October 13, 1911, was 190 mm. on October 20th, 185 mm. on October 29th, 195 mm. on November 5th, 175 mm. on November 11th, and 165 mm. on November 19th. The albumin disappeared from his urine and the specific gravity rose to 1.020, and his general condition was good.

Case III. A woman of fifty-three years. Up to five years before she had had no symptoms bearing on her present condition; since then she had had occasional attacks of shortness of breath, and on one occasion about two years before she had an attack of pulmonary edema. She had always been a hearty eater, especially of sweets. She complained of feeling tired all the time, of being frequently dizzy, and of suffering from indigestion. Physical examination showed her to be well nourished, of florid complexion; systolic blood pressure, 280 mm.; urine of specific gravity 1.010, containing a trace of albumin and a few hyaline and granular casts. I put this patient on a diet of milk, cereals, bread and butter, vegetables, fresh fruits, and a small portion of meat or poultry, three times a week, arranged to supply 55 grammes of protein and 1,600 calories. I was not able to check off her diet by a record of what she actually ate as in the two preceding cases, but it was probably less rather than more than the amount prescribed. Her blood pressure dropped from 280 mm. to 210 mm. in six weeks, and she enjoyed comparative comfort for over a year, though confined to her room; then her heart began to fail, and she died eighteen months after the examination first recorded. This was a case of cardiovascular disease with advanced interstitial nephritis when it first came under my observation.

Case IV. A man of forty-five years, a clergyman, for many years suffered from headaches and constipation; during the past year the headaches were worse, and he was much troubled with gastric and intestinal flatulence. He had always been a hearty eater, particularly of meats and soups, and had been a constant and energetic worker. Physical examination showed him to be of large frame, well nourished, though not too fat for his height; his complexion was pale; the left ventricle of his heart was slightly enlarged, and the aortic second sound was notably accentuated; his urine was of low specific gravity and showed a trace of albumin; his blood pressure was 220 mm. I put him on a diet of cereals, bread, milk in any form, butter, cheese, fat bacon, fruits and vegetables, honey, milk soups, and at first once a week, and later twice a week, a small portion of meat or poultry; so arranged as to supply a daily average of eighty grammes of protein and 2,800 calories. On this diet he rapidly improved; all his unpleasant symptoms left him, his urine became apparently normal, and his blood pressure fell after two months from 220 mm. to 165 mm., where it has remained to the present time, a year since he began to take the diet. In a recent conversation this patient told me that he had rigidly adhered to his diet from the beginning, and that he felt better than he had felt for years; that he had more mental vigor than he had before and more physical endurance. The only thing he had noticed which was not altogether favorable, was a slight diminution in the snap and boldness with which he was wont to undertake enterprises; but he considered that a small thing compared with the freedom from disagreeable symptoms and the increase in mental and physical power and endurance.

These four cases are given simply as illustrations of the good effect of this dietetic treatment in cardiovascular disease. In advanced cases it stays the progress of the disease, and in the early stages it brings the patient back apparently to safe ground. It is the most effective treatment with which I am acquainted for the reduction of high blood pressure.

I will here state that I do not maintain that the regulation of the diet constitutes the whole treatment of cardiovascular disease; the work of the cardiovascular system may also require to be lessened on other than the alimentary side, regulated physical exercises and other means for improving function and elimination may be called for, and the heart may require direct support; but it is by far the most important—one might say the essential—part of the treatment, and in the early stages no other treatment may be called for.

In this connection I should like to call attention to the value of dietetic treatment in the prophylaxis of cardiovascular disease. Many individuals are destined from their birth to die of this disease. Even if they take ordinarily good care of themselves, when middle life comes their heart, arteries, or kidneys begin to wear out. This may be due to the poor material of which their vascular system is made, or to abnormally functioning organs, especially an insufficient liver. Whatever may be the particular weakness in their makeup, that weakness should be favored. This can best be done, when we suspect an individual of being in this predestined class—and the suspicion is always excited by a family history of apoplexy, Bright's disease, diabetes, obesity, or chronic rheumatism—by giving him an antiputrefactive diet, which is approximately, though not necessarily completely lactovegetarian, and which is limited in quantity to his physiological requirements; and by starting him on that diet as early as possible. And those who engage in the strenuous life, especially in the cities, living this strenuous life differently from their ancestors and unhygienically, can with advantage make the work which their food puts on their already overstrained cardiovascular system as light as possible by such dietetic prophylaxis.

In concluding these remarks, I should like to emphasize the following points:

1. The most important thing in the treatment of cardiovascular disease is the regulation of the diet.

2. The diet should be regulated so as to supply the maximum of nutrition with the minimum of work for the crippled cardiovascular system.

3. Such regulation means the restriction of the quantity of food to the minimum health ration or less, and the selection of articles which meet the indications presented by the kidneys, the liver, the heart, the gastrointestinal tract, and the general condition and habits of the patient.

4. The diet in cardiovascular disease should be antiputrefactive, it should be to a large extent purin free, from it should be excluded the more fermentable carbohydrates, particularly cane sugar, it should be easily digestible, and it should be sufficiently laxative.

5. The evening meal should always be a light one, and no food or drink should be taken near the time of sleeping.

6. A prophylactic treatment of cardiovascular disease is possible, and consists largely in the regulation, according to the principles above laid down, of the diet of those whose family history or ways of life point to premature cardiovascular degeneration.

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PNEUMONIA AS A COMPLICATION,

Illustrated by Some Cases of Interest.

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It is held by many authorities that primary uncomplicated pneumonia is a self limited disease, tending to end in recovery; others have stated that in such cases the mortality should be nil. But for pneumonia complicating other preexisting diseases, no such prognosis is given. It seems, however, to the present writer, that even in the latter cases when fatalities result, these are due not to the pneumonia, which, when properly treated should always end in recovery, but solely to the underlying conditions.

For example, cases treated for pneumonia complicating cirrhosis of the liver or kidney, Hodgkin's disease, hemiplegia, grave myocarditis, diabetes, carcinoma, advanced senile arteriosclerosis, or extensive pulmonary tuberculosis, when resulting in death, the fatal issue, it seems, was always due, not to the pneumonia, but to the preexisting conditions. But when pneumonia occurred in the course of an otherwise nonfatal, acute or chronic malady, the pneumonia in itself did not render the prognosis unfavorable and such cases always terminated in recovery. A few case histories will illustrate this point:

Case I. *Pneumonia complicating erysipelas.* B., male, about fifty-five years of age, Hebrew, native of Russia; short and muscular, coal man by trade; previous history has no bearing on this case. Alcohol used in great moderation only. I first saw this case, February 27, 1909. The patient was then in the second week of his illness.

I was told that the patient took sick with facial erysipelas nine days before my call. The erysipelas shifted from one part of the face to another and in that manner had travelled all over the scalp, forehead, both ears, and neck; that the patient was continually getting worse; that his temperature range was very high, frequently reaching 106° F.

I was also told that a day prior to my visit, the attending physician declared that the case was hopeless, called in a consultant, and both had advised the immediate removal of the patient to Bellevue Hospital. Upon examination I found marked erysipelatous inflammation covering one half the face and the anterior part of the scalp. Temperature 105° F., pulse, scarcely perceptible, 110; left side of the chest, posteriorly and laterally, flat on percussion. There was also some dullness under the left clavicle, where fine, moist râles were heard; but over the lower part of the lung posteriorly, many large bubbling râles could be plainly heard. The patient lay in a semidelirious condition from which he would come out when loudly spoken to; he vomited several times; he coughed considerably, and although the cough was a productive one, he raised but little sputum for sheer lack of strength.

The diagnosis of the case was, erysipelas complicated by pneumonia and threatening pulmonary edema. The outlook, to be sure, was not a particularly bright one, still I felt that the patient had a fighting chance if his native strength would carry him for a few days longer. I ordered all fever powders to be discontinued, ice applied to the head, with frequent sponge baths; saline enemata, and the frequent administration of small quantities of milk and broth. I prescribed the ethereal tincture of ferric chloride to be given twenty drops every two hours in water, also minute quantities of pilocarpine hydrochloride with drachm doses of infusion of digitalis every two hours. Early next morning, I found the patient in the same condition. I gave him hypodermically, ten c. c. of antistreptococcic serum and 500 units of antitoxine, in addition to the drugs ordered before.

I saw the patient on March 1st. He had sweated profusely, was extremely weak, but fully rational. The erysipelas did not spread, in fact, it seemed to recede, as did also the pneumonic process; his temperature was 102° F. in the morning, but toward evening dropped to 97.8° F.; there were fine crepitant râles to be heard at the posterior surface of the lower left lung, but the large, bubbling râles disappeared. The patient was so weak as to be unable to speak above a whisper, or to move a limb. I prescribed moderate doses of caffeine sodium benzoate and minute doses of nitroglycerin, to be given every two hours.

On the following day, the patient's condition began decidedly to improve; the edema of the face and scalp seemed to decrease markedly both in extent and intensity; the area of dullness receded considerably and the moist râles began to disappear; his temperature ran between 97.8° and 99° F.; his pulse was 60 to 75, but fuller and more regular in rhythm and force. He sweated again during the latter part of the night, which weakened him considerably. He vomited several times, and a feeling of faintness came over him a few times that day, but he did not really faint. The patient also noticed that when he lay on either side, the recumbent cheek and ear became edematous and tender. The doses of the drugs were being gradually reduced.

On March 3d, his temperature was 98° F., his pulse 56. There was dullness under the angle of the left scapula and the moist râles were few, but there was bronchial breathing over that area. There was rusty sputum frequently streaked with blood; the faint spells ceased. The patient for a while experienced difficulty in passing urine but this soon disappeared. On the following day, the patient, except for his weakness, exhibited no condition for which any drug whatsoever was indicated, and so, with strict orders on hygiene, rest, and diet, he was discharged. I saw the patient several months later in my office. He was, as far as he felt and as far as a physical examination could disclose, a man of ordinary, average health.

I feel that a few remarks about the use of pilocarpine in such cases and in any other cases where it is indicated are pertinent. Pilocarpine is a life saving drug when properly used; when the indications and counterindications are thoroughly understood; when the dose is well gauged; when the condition of the patient's myocardium is thoroughly understood. If, however, used carelessly or by the unskilled, disastrous results are likely to follow. Here is a case in point:

Case II. One night, about five years ago, I was called to see a young man about twenty-six years of age. He was suffering from chronic rheumatism, and having read somewhat about medicines, he quite naturally thought he knew all about them; now, he had heard or read somewhere that pilocarpine was useful in rheumatism; accordingly, he took a quarter of a grain of pilocarpine hydrochloride thirty-six hours before I saw him. I examined the man; his aspect was that of one in respiratory agony. He had a loud blowing murmur at the apex with the systole, and a short loud murmur above the apex with the diastole; the apex beat was to the left of the nipple line. At both bases of the lungs there were many moist, bubbling râles of pulmonary edema. A colleague saw him a few hours after my visit and took him to a hospital, where in spite

of all that was done for him, he succumbed in less than forty-eight hours after admission.

I have seen serious though not fatal consequences following one sixth of a grain of pilocarpine given to a patient with myocarditis. Hence, whoever uses pilocarpine must use it with considerable tincture of gray matter or not at all; also must the drug be let alone whenever careful surveillance of the patient cannot be practised. But when properly used, under proper indications and with proper care, pilocarpine will frequently prove to be a life saving drug.

Case III. *Scarlet fever, pneumonia, and scarlatinal pseudorelapse.* Robert F., an unfortunate deaf mute boy and an only child at that, six years old. I was called to see him March 16, 1909. Because there was a sudden rise in temperature to 103.5° F., vomiting, and congestion of the tongue, tonsils, and buccal membranes, I felt inclined to make a tentative diagnosis of scarlet fever. On the 17th, the characteristic scarlatinal rash appeared on the back and on the thighs of the patient and the diagnosis was no more in doubt. I gave the patient hypodermically, ten c.c. of antistreptococcic serum, and prescribed full doses of the infusion of digitalis with small doses of aconitine at frequent intervals. On the next day I gave him hypodermically, 500 units of antitoxine. The fever commenced gradually to subside till the twenty-first day of the month, when the temperature suddenly rose from 100.5° to 104° F. On examining the patient, I found that the left upper pulmonary lobe was consolidated. I prescribed dry cupping, kept up the medical treatment as before, and advised such hygienic measures as could be enforced under the circumstances. The child started to recover again, when on the 26th of the month, the temperature rose again from 101° to 103° F., and the scarlatinal rash which disappeared by the 21st of the month, suddenly returned in all its exuberance. On the 27th, Doctor Koplik saw the case in consultation. On the 28th there appeared a severe aphthous stomatitis. On the 30th I injected the child again, ten c.c. antistreptococcic serum; the child made a good recovery and was discharged April 2d, as well on the way of convalescence.

Case IV. *Chronic rheumatic endocarditis, pneumonia, puerperal sapremia.* Patient, Mrs. B., multipara. I was called to see this patient on July 17, 1908, sixth day *post partum.* She was confined by a midwife and seemed to have been doing well the first three days after delivery. On the fourth day *post partum,* she had a chill and her temperature rose to 103° F., and since then she continued to be chilly, with a temperature between 102° and 103° F. Upon examination I found her uterus rather larger than the normal, and tender. The cervix was wide open and the examining finger encountered masses of organized tissue that filled the uterine cavity and encroached upon the cervical canal.

The patient gave a history of rheumatic attacks since childhood, and, of late, of experiencing severe dispnea on going up stairs and of frequent attacks of palpitation.

There was a loud mitral systolic murmur at the apex radiating toward the axilla; the apex beat was considerably displaced to the left. There was also an area of dullness under the left clavicle, where occasional moist râles could be heard; there was marked dullness, amounting in spots to flatness, all over the lower part of the posterior aspect of the right side of the chest. Moist râles of various calibre could be heard all over that area. The diagnosis was, chronic rheumatic endocarditis, puerperal sapremia, with pneumonia of the right lower lobe, and some congestion at the left apex.

I introduced my hand into the vagina, and without anesthesia removed as much of placental tissue and clots as the patient permitted; but when through, I felt sure that the uterus was not all clear of foreign matter. I ordered ice to the patient's head and abdomen, drachm doses of the fluid extract of ergot every three hours, full doses of the infusion of digitalis and minute doses of aconitine given every few hours. I saw this patient again on the 19th. Her condition was worse, if anything; temperature 104° F.; abdomen distended; frequent lapses into a condition of delirium with hallucinations of vision and hearing. As, in my judgment, these alarming symptoms were largely due to her sapremia, I reintroduced my fingers into her uterus and removed thence all the foreign tissue that could be dislodged. Hallucinations of hearing and smell continued at intervals during that day. On the 20th she sweated profusely; her temperature came down to 101° F., pulse to 60; her abdomen remained considerably distended, but delirium did not return, and the involution of the uterus and the resolution of her pneumonia went on uneventfully to a favorable termination. I learned later that the patient had gone safely through another confinement since.

This is not the place to discuss the treatment of puerperal sapremia, but it is pertinent to mention that in the removal of retained placental tissue (which in my experience is the usual cause of puerperal fever) great care must be exercised to cause as little traumatism as possible; as in these cases of sapremia of moderate severity, the traumatism caused by the physician is frequently of greater prognostic significance than is the original condition itself. ,

Case V. *Measles and bronchopneumonia.* Tony D., native, of Italian parentage, two years old. Previous history had no bearing on the case. I saw this child June 11, 1908, which was the second or third day of his present illness. The child presented the characteristic appearance of measles, the rash covering his whole face and trunk; both eyes were closed, and the whole aspect was typical of morbilli. He lay in a stupor and was mildly delirious when aroused; pulse rapid, temperature 104.5° F. The whole of the left side of the chest posteriorly and a small space under the left clavicle were dull. The right side was normal, except for a few rough râles, heard here and there. Over the left side there were many scattered areas, where crepitant râles could be heard. I put the child on moderate doses of the infusion of digitalis and on minute doses of aconite to be given regularly at frequent intervals. I injected five c.c. of antistreptococcic serum and a few hours later 500 units of diphtheritic antitoxine. The next day there seemed to be no change, but the child was not getting worse; the right side did not become infected, and in the left side no edematous râles appeared, as was feared. The temperature on that day ranged from 103° to 105° F. and the general aspect of the stuporous child was still very alarming. On the 13th I administered another dose of 500 units of antitoxine; the mind of the child did not seem to become clearer. The temperature range for that day was lower, i. e., between 102° and 104° F. On the 14th the temperature was only 101° F.; the child's mind became completely cleared.

After that day I was not called to see the child, but two weeks later the mother reported to me that she had continued the medicine for a few days after my last visit, and that the child made a good recovery.

Case VI. *Measles, convulsions, and pneumonia.* Patient, Harry A., ten months old. Five or six days prior to my first visit, the rooms were fumigated by the officers of the health department after an older child's recovery from measles. On Tuesday, September 5, 1911, this child felt ill. On that day a physician diagnosticated the case as one of morbilli. In the evening of that day, the child had a convulsive seizure. After this, convulsions occurred from every half to every one hour during the night and the whole of the following day. I saw this child on September 6th about 11 p. m. His face and body were covered profusely with characteristic exanthem, and the whole aspect of the child was characteristic of measles. On examining the child, no meningeal symptoms could be discovered. The child was breast fed, and no marked signs of rickets could be found. On going over the chest, dullness, rough breathing, and crepitant râles were found over the lower half of the left chest posteriorly and laterally. Ice was ordered to the patient's head, and sponge baths. The child was ordered to be put into a mustard bath during the convulsions, and three grains of bromides to be given every two hours; minute doses of aconitine and moderate doses of the infusion of digitalis to be given at frequent intervals. The child did not seem to improve

and the convulsions recurred. The doses of the drugs were doubled. The convulsions recurred no more, and during the following seventy-two hours the child's condition greatly improved until complete recovery.

Case VII. Baby R., two years old. I saw this case in my office on August 15, 1911. The child was hoarse and coughed croupily for two days prior, and was treated for pseudocroup with calomel and fresh air. There was stridulous breathing, marked receding of the parts above the suprasternal notch and under the xiphoid cartilage on inspiration, croupy cough and occasional rough croupy inspiration. The diagnosis was diphtheritic croup, which diagnosis was later sustained by the bacteriological findings of the health department which continued positive for about three weeks. The child was ordered to bed and antitoxine was advised, which was administered by the medical officers of the health department. I prescribed an emetic, followed by an ammonium carbonate mixture, small doses of apomorphine and pilocarpine to be given at regular frequent intervals. The child was not getting worse, but on the 16th, in the evening, the temperature went up to 104° F. The respiratory difficulty did not get worse, although the respirations became more rapid. An inspection of the throat gave negative results, but the left apex, both anteriorly and posteriorly, revealed on percussion an area of dullness where many fine, moist râles were heard. The child was put on minute doses of aconitine (crystals) and full doses of digitalis, which were given at frequent intervals. As it was held that the pulmonary inflammation was not due to an extension of the diphtheritic process, but was rather of independent origin, and probably due to exposure during the few days of fresh air treatment, further antitoxine administration was not urged which brought down some well meant criticism. However, under the instituted treatment, the child made an uneventful recovery from the pneumonic condition. The croupy symptoms also gradually abated until the child made a full recovery.

Case VIII. Patient, T., male, age about thirty-eight years, druggist. People's Hospital. On July 26, 1911, this patient was operated upon for appendicitis. Two or three days later, when left alone for awhile by the nurse, the patient, I was told, walked off the bed; the yet unhealed incision opened and parts of the intestines and omentum protruded; the temperature went up to 106° F. and the patient collapsed. Dr. G. I. Miller was called in and operated, repairing the injury. But the patient was not doing well; he was running continually a moderately high temperature; his pulse continued rapid, and his general condition did not seem to improve. I was first called in to see this patient August 15, 1911. He was cyanotic; there was marked dyspnea; his pulse was 110, small, rather irregular; temperature 103° F. The patient was so weak that it was with apprehension that he was either turned or sat up; the wound was healing nicely; there was no gross cardiac lesion, but the apex beat deviated about one inch to the left. Percussion elicited an area of dullness two fingers wide under the left clavicle. There was dullness all over the right axillary space merging into flatness toward the posterior axillary border. The whole posterior surface of the right chest, with the exception of a small area above the scapula, was dull, the lower two thirds of this space being more or less flat. There were fine, moist râles scattered all over this space, with the exception of an area of about two inches in diameter at the angle of the scapula, where there was tubular breathing. On coughing, crackling and suction râles could be heard at the angle of the scapula; the sputum was frequently blood streaked. The question of diagnosis came up. Phrenic abscess is extremely difficult to exclude in such cases; but there was no tumor or tenderness along the diaphragmatic insertion; no pain or tenderness below the diaphragm at any point; the patient complained of severe cutting pain on deep inspiration and on coughing, felt at the region of the angle of the scapula only; the movements of the diaphragm seemed to be absolutely unhampered, so it appeared that subdiaphragmatic or supradiaphragmatic abscess could reasonably be excluded. Embolism was insisted upon by one of the gentlemen of the staff, but the fact that nothing was touched during the operation except the appendix, whence the venous tributaries go through the portal circulation, where large emboli would be arrested; while small emboli from this source, if ever reaching the pulmonary circulation, would probably cause no symptoms at all; and that emboli from any source that would suddenly block up the pulmonary branches supplying the whole of the lower, and a great part of the middle lobe would in all probability cause instant death, these points made it fairly reasonable to exclude embolism from this case. The diagnosis, therefore, was pleuropneumonia of the lower and middle lobes and congestion of the left apex, with threatening pulmonary edema. The patient was put on minute doses of aconitine, and full doses of the infusion of digitalis, to be given regularly every two hours, and later every hour, also moderate doses of caffeine-sodium benzoate were given every two or four hours. As the condition of the patient remained unchanged, his relatives demanded a consultation, which took place on the following evening between the surgeon, a prominent practitioner from the Jewish Hospital of Brooklyn, and the present writer. The condition was thoroughly gone over and the possibility of empyema was suggested. It was advised that a needle be put in and if pus was found, dissection of a rib or two be done. The writer, however, insisted that if he were to have charge of the case, no exploratory needle would be inserted, at least not for the present. The following were the reasons submitted:

There was no evidence of pus in the pleura. If there was fluid, the amount was very small, as it gave no characteristic signs, hence its mechanical interference with respiration was inconsequential; that the patient was in a condition where any considerable shock at all might prove fatal, as all agreed; and even if there was pus, the patient was at that moment not in a condition to undergo an operation upon his chest. Therefore, absolutely nothing of benefit to the patient could be accomplished, either by the insertion of the exploratory needle or by an operation. The consultants agreeing, the writer remained in charge of the case. The patient was fed up to the limit of toleration; the administration of the drugs was under the careful supervision of Doctor Goldberg, of our staff; these were doubled and later, even trebled. Two days later, ten c.c. of antistreptococcic serum and 500 units of antitoxine were administered hypodermically.

After four days of treatment, the large, bubbling râles disappeared from the left upper axillary space and the area of dullness of the right side began to recede toward the middle lobe; simultaneously, the pulse improved in rate and in quality; the temperature ranged between 99° F. and 101.2° F. The patient also began to feel better. There was less dyspnea; the sense of pectoral oppression, which was very great in the beginning, gradually disappeared, until the cutting pain about the right scapula on coughing was the only subjestive symptom left. An attempt was made several times to withdraw the drugs, but invariably the symptoms recurred, and so the treatment had to be persistently kept up until September 2d. It was then gradually withdrawn and the patient was discharged from the hospital and sent back to his family physician on a fairly sure way to complete recovery.

Case IX. Patient, A. I., Slav, native of Russia, aged thirty-one years. Tailor by occupation. Family history negative, except for marked alcoholism with periodic excesses. I saw this patient in my office August 27, 1911. He had severe cramps and vomited; there was resistance and great tenderness over the McBurney region; temperature was 102° F. He was advised to go to a hospital and be operated upon for appendicitis. He went to People's Hospital under Doctor Kennedy's service where he was operated upon. I saw him at Doctor Kennedy's request at the hospital on September 3d, two days after the operation and found that he had a temperature of 103° F., rapid pulse and respiration, dullness, and bronchophony over the left lower pulmonary lobe.

I treated this patient on more or less similar lines as the former patient. The patient recovered by lysis in less than one week.

In closing, I wish to emphasize that all the remarks made above in reference to the necessary care when using pilocarpine apply even with greater emphasis to aconitine.

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THE RAPIDLY FATAL INSTITUTIONAL FORM OF ACUTE POLIOMYELITIS.

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Epidemic poliomyelitis, which is known to the public under the name of infantile paralysis, is a disease which exerts a destructive action on any or all parts of our most important mechanism of life, the nervous system. It usually attacks and destroys some of the motor nerve cells in the spinal cord, and the muscles which were supplied with energy by those cells become paralyzed, and then wither. A man or woman, with a shortened and withered leg, or arm, is a victim of this commonest form of poliomyelitis. There are seven other forms of the disease, which are classified according to the part of the brain or cord attacked; three of these forms have a very high mortality, and in one of them, the child that lives may be left a mental defective, as well as a cripple for life.

The various forms of this disease were carefully studied and first classified by Dr. Ivar Wickman, of Sweden, in 1908. Beginning at that time and a year previous, we have had in North America repeated pandemics of this disease, and the author's studies have led to a reclassification of this disease. This classification, with the symptomatology of all types of the disease, appeared in full in the *American Journal of Obstetrics and Diseases of Women and Children* for March and April.

All of these forms of poliomyelitis begin with the same acute onset and serious symptoms: Sometimes the disease stops at the onset, and the person gets well. Dr. Wickman called these *abortive forms* of the disease. We know now that if that person is indiscreet and lowers his resistance by exposure or overwork, the sickness may return and a paralysis may develop, or he may die; for this reason I have called these cases *arrested forms* of poliomyelitis and given them first place in the new classification. This form, although least harmful of all to the patient, may be most harmful to the community if it goes unrecognized, for the patient is an ambulant carrier of the germ that causes the disease.

Reclassification of Types of Acute Epidemic Poliomyelitis (Manning).

(*A Modification from Dr. Ivar Wickman and Dr. Reginald Miller.*)

I. *The arrested type* (most frequent; abortive, old classification).

II. *The spinal paralytic type.*

III. *The ascending spinal paralytic type* (arbitrary division; spinal origin).

IV. *The acute bulbar type* (paralysis of face, tongue, hearing, or eye muscles and fatal paralysis of respiration and heart).

V. *The encephalic type.* Cerebrum, blindness, mental defectives, epilepsy, and spastic paralysis. Cerebellum (the little brain), acute ataxia (uncertain locomotion). Midbrain, acute tremor (shaking palsy).

VI. *The meningeal type* (with or without paralysis).

VII. *The neural type.* Acute multiple neuritis. Herpes zoster.

VIII. *The rapidly fatal institutional type.*

The relationship between all these types is shown most clearly during the early stages of the disease, for all types present a nearly similar onset. The aura of onset, or warning, is felt by a change in disposition, a feeling of apprehension, tremor, and incoordination of gait. The child, too young to analyze his sensations, will be peevish, will stumble, and have unaccustomed falls, and will present quivering eyelids, or a trembling chin. The adult may experience a feeling of impending danger. The onset is announced by a simultaneous rise in pulse, temperature, and respiration, an immediate paresis of digestion, evidenced by vomiting and intractable constipation, pain in the back of the head, stiff neck, and severe backache, twitching muscles, paralysis of bladder, bleeding from the nose, and a rash that looks like that of one of the eruptive fevers (measles, chickenpox, scarlet fever, etc.).

A case with the *arrested* form terminates promptly.

In a case with the *spinal paralytic* form (Type II) a paralysis develops of an arm or leg, or perhaps both arms or both legs, or all four extremities, because the disease has become localized about the motor cells in the spinal cord. If the cells are completely destroyed, the paralysis will remain; sometimes the nerve cells are only badly harassed by the congestion and pressure, and when they recover from the squeezing, and secure a fresh pure blood supply, they recover, and the paralysis in the muscles they supply disappears.

In the third type of *ascending spinal paralysis,* the case may begin with a paralysis of the legs only, but the paralysis extends upward hour by hour, until the abdomen, back, and both arms are paralyzed, then the diaphragm, and intercostal muscles and the muscles of the throat become helpless, and the patient dies of suffocation. Type three is a very bad form of type two.

In type four, the *acute bulbar type,* the destruction begins in the brain stem, which is the expansion of the top of the spinal cord, and where the vital centres of life are, as well as the motor cells of the nerves which supply the tongue, the eye, the ear, and most of the muscles of facial expression. When the disease begins here, there are difficult speech, paralysis of the face, of hearing, and strabismus, and in addition in a majority of cases there is speedy death from paralysis of both heart and respiration, due to involvement of the great pneumogastric and phrenic nerves.

In the fifth, or *encephalic type,* the disease process is most active in the brain: if it is the cerebrum which is attacked, it may result in sudden complete blindness, mental deficiency, epilepsy, or a certain form of paralysis with contractures, which we call spastic paralysis. If the little brain, or cerebellum, is most highly inflamed, the patient will be left with the staggering gait which we call an ataxia. These cases are rare; I have a report of one such case from Dr. John Batte, of Cincinnati, of a little, twelve year old Kentucky girl; she was sick in July last summer, and at first her mother did not call a doctor; when she was taken to the Ohio medical college clinic, she had such a spasmodic gait, that, in view of other symptoms, a diagnosis of brain tumor or basilar meningitis was made, and the real cause of the trouble was not discovered until three other members of her family came down with poliomyelitis with paralysis.

Still another portion of the brain may be attacked, the mid brain, resulting in the acute tremor which we know as shaking palsy.

The disease may attack the wrappings of the cord and brain, and it is this form of the disease which is known as the *meningeal type*, or type six. This form of the disease is very painful, and as there may be no paralysis, it is often confused with cerebrospinal meningitis.

In type seven, *neural type*, all the mischief seems to be limited to the nerves themselves as they leave the spinal cord to supply the muscles, and there may be a most exquisitely painful condition of all these nerves of the periphery as we call them, or an acute multiple neuritis. On the other hand, the inflammation may be confined to the root of one nerve trunk only, but of so severe a degree, and with an involvement of the trophic (nutritive nerve fibre) branch, that the painful condition known as herpes zoster follows. This is a form oftenest seen in elderly and somewhat enfeebled women.

A disease which varies so widely in forms of manifestation might be expected to also vary in the degree of severity or virulence of attack. So it does. The degree of paralysis may vary from a mild and transient paresis to one with atrophy of muscles and contractures which produce the most extreme and pathetic deformities. The mortality in human beings has varied in different areas in various outbreaks from four to fifty-nine per cent. The mortality percentage among a series of monkeys in which the disease was artificially induced, which began at about fifty per cent., became steadily higher with an enhancement of the virulence of the virus, until the fatalities reached 100 per cent.

Poliomyelitis, starting in Scandinavia as an epidemic, in 1902, has now been pandemic for ten years. It is not dying out, for in the territory in which it began ten years ago, there were 900 cases during the summer of 1911. Norway's 900 cases, during 1911, taken with Denmark's 250 cases the same summer, and England's 150, makes a total of 1,300 reported cases of epidemic poliomyelitis in a small circle with a radius of twelve or fifteen hundred miles, during the past summer.

It was in England they first recognized the last type of this disease, *rapidly fatal institutional type*, in which poliomyelitis appears in the form of sudden and deadly asphyxia. Hospitals and institutions were affected seriously with epidemics of this disorder, and an official blue book on the subject was published. The cases tended to occur in small epidemics, in which, after a few hours' illness, death occurred suddenly with the signs of acute asphyxia. The cases were supposed to be occasioned by an inflammation of the cord and brain, in which the vital centres in the brain stem were first attacked.

As this form of the disease has not yet been confirmed or negatived by autopsy and pathological examination, it must be considered hypothetical. This should not interfere with prophylaxis of these outbreaks, and the same methods should be advocated and made use of that would be used were the pathological relations established. Obscure knowledge concerning these outbreaks has led to guesswork that would tend to nullify any reasonable method of checking the spread of the disease.

A German physician has attributed to butterine (!) poisoning an outbreak of an epidemic near Berlin, in 1911, in which the victims complained of a "feeling of hemiplegia" or paralysis, plainly an epidemic of the mildest form of poliomyelitis occasioned by a diluted virus. The sudden deaths in the Berlin night shelters are still fresh in mind.

A leading news item in the New York city papers of February 23d related to the sudden and unexplained deaths of eight babies in a Brooklyn institution. A child with chickenpox was brought into this institution. The rash of poliomyelitis is frequently mistaken for that of measles and chickenpox. The sister of this child and seven other inmates suddenly died, with stiff neck, convulsions, and asphyxia. Cervical rigidity, convulsions, and paralysis of respiration, as we have seen, are the cardinal symptoms of the acute bulbar type of epidemic poliomyelitis. But the acute bulbar type occurring here and there as isolated cases during an epidemic, usually takes from three to seven days for its development.

It seems evident, that for the kindling of this fire we must have, not only the fuel and the match, but the fuel must have been rendered especially inflammable, to make ignition so nearly approach an explosion. To leave the figure of speech, children and adults in institutions live a highly artificial life; the child is susceptible to such crowding in inverse proportion to its age; the adult seeks the shelter of a lodging house with his resistance to disease impaired by undernourishment, exposure, and fatigue. It is under similar conditions that any transmissible disease may become suddenly malignant in its manifestations.

Poliomyelitis is proved to be a transmissible disease. It has been transmitted artificially from man to monkey through many series of such transmissions by inoculation. The virus of poliomyelitis, transmitted from man to the monkey made susceptible by a highly artificial mode of life, altered rapidly in potency, until the mortality rate in monkeys reached 100 per cent. (Flexner.) The virus of poliomyelitis transmitted from man to man through a series of human hosts with lessened resistance and increased susceptibility, would tend to produce, under given circumstances, the form of poliomyelitis classified as type eight, the rapidly fatal institutional type under discussion.

151 Lafayette Avenue, Brooklyn.

SOME FACTS SUGGESTED BY THE EXAMINATION OF THE CHILDREN OF TUBERCULOUS PATIENTS.*

By Charlotte Blum, M. D.,
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It has long been recognized by all who are engaged in the tuberculosis crusade, that the most important measures to be carried out are the prevention of infection and the early recognition of the disease. The infection for the most part occurs in

*Presented at staff meeting, Gouverneur Tuberculosis Clinic, February, 1911.

the family through carelessness and ignorance of the patients, and it is the children and infants who are most exposed as well as most susceptible.

At the request of the Association of Tuberculosis Clinics an attempt was made to examine all children directly exposed to the infection. At the suggestion of the chief of clinics, Dr. J. H. Huddleston, the following method was pursued at the Gouverneur Tuberculosis Clinic: The nurse selected positive cases from the district and sent in the children of those cases on appointed days. To avoid overcrowding in the early afternoon, and interference with school hours, examinations were conducted after the regular clinic. The physician examined the chest and abdomen and inspected the skin, scalp, eyes, ears, and throat. In doubtful cases tests with tuberculin were also made. In a few cases the sputum was examined. In infants this was obtained by swabbing the throat. In all these cases the examination of sputum was negative.

Up to November, 1910, 196 children were examined at the Gouverneur clinic. Of these, forty (20.4 per cent.) were found to be infected, as shown by the following table, and were admitted to the clinic for treatment.

Families in which	Families		Children
1 was examined...	68	(found positive 27) (found negative 41).....	68
2 were examined..	19	(both found positive 2) (both found negative 14) (1 negative and 1 positive 3).....	38
3 were examined..	16	(3 found negative 13) (2 found negative and 1 positive 2) (1 found negative and 2 positive 1)	48
4 were examined..	4	(2 found negative and 2 positive 1) (4 found negative and 3 positive)...	16
5 were examined..	4	(all found negative).....	20
6 were examined..	1	(all found negative).....	6
	112		196

One hundred and fifty-six children were apparently not infected; of these eighty-two were boys and seventy-four girls. The ages were distributed as follows: Under two years, four; between two and five years, twenty; between five and ten years, fifty-six; over ten years, sixty-five, and not stated, eleven. In seventy-one cases the father had pulmonary tuberculosis, in forty-nine the mother; in twelve both parents were affected, and in twenty-four the sex of the infected parent was not stated on the charts.

The previous history included pneumonia in twenty-two cases; whooping cough in twenty-nine; cervical adenitis in eleven; and in ninety-four the previous history was negative. Measles, however, had occurred in nearly every case. Of the entire number eighty-five presented no complaint; fifty-nine had a cough; six complained of nervousness; two of hoarseness, one of pain, and two of indigestion. Only one was notably undersized. A tuberculin test was made on thirty-two of these children; the cutaneous test was negative in twenty-one, and positive in four; the ophthalmic test was negative in twenty-two, doubtful in six, and positive in four. Conditions needing treatment were met in 113 children with the following diagnoses: Nasal obstruction, fifty; this includes forty-two adenoids and hypertrophied tonsils, and eight with only hypertrophied tonsils. Bronchitis, twenty-three; chronic endocarditis, fifteen; rhachitis, two; cervical adenitis, two; spondylitis with kyphosis, two; chorea, two; epilepsy, one; anemia, one; doubtful, fifteen.

It should be noted that the apparently uninfected 156 children were examined only once. The insufficient staff, the rapidly growing clinic, and the lack of available space all combined to render the medical work of the examination of these children unsatisfactory.

Since the increase of the medical staff from three to six physicians and the increase of the clinic time from three to six days a week, it is possible for us to examine more children in the families of our positive cases, and to do this more carefully. No child is now discharged after one physical examination. In doubtful cases thorough and repeated examinations are made, and the patient is kept under observation until a diagnosis can be reached.

Since the chief object in examining the exposed cases was to discover early infection, a sufficient period of observation in doubtful cases, and thorough and repeated examinations with all the approved methods, should be an essential. Such care is important, not only that positive cases may be brought to light and treated early, but also that negative cases which are merely suspicious may not be hastily branded as tuberculous.

Of the apparently uninfected 156 cases, which form the main subject of this paper, 113 children needed medical or surgical treatment; hence it is evident that the importance of examining these children lies not only in detecting every possible sign of tuberculosis and in instituting early treatment, but also in the detection of any tendency to that disease, including everything that lowers the child's resistance, as anatomical abnormities, vicious habits, etc.

The correction of such defects as thoracic malformations, the removal of obstructions to the air passages, which cause deficient oxygenation and give rise to imperfect metabolism, may to a great extent modify a bad heredity and give the child a chance to grow into a vigorous and useful individual.

To neglect these precautions, or to dismiss the uninfected children of tuberculous parents regardless of these conditions, may be to invite the development of consumption at a later age.

It is to be regretted that the clinic is not yet in a position to examine all the exposed cases in the district. According to the nurse's last report, October, 1910, not less than 540 children are so exposed.

The relation between the health of the boy or girl of to-day and the health of the man or woman of the future, is that of cause and effect, and the result of thorough and systematic work in the investigation of exposed cases must become evident in the coming generation through the decreased prevalence of tuberculosis.

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Correspondence.

LETTER FROM EDINBURGH.

The Statistics of Cancer in Scotland.

Edinburgh, *May 30, 1912.*

At a recent meeting of the Royal Society, Edinburgh, Sir George T. Beatson, M. D., K. C. B., surgeon to the Glasgow Cancer Hospital, read an interesting communication on The Cancer Statistics

of Scotland for the Years 1861-1900, and Their Indications as to the Prevalence, Age Incidence, and Distribution of the Disease in Scotland. He submitted a number of tables showing that about four per cent. of the total deaths during that period had been due to cancer. Taking the four decades separately he showed how the disease had been on the increase in Scotland, the death rate per 10,000 having been 3.96, 4.7, 5.82, and 7.27 during these four periods. Even allowing for better diagnosis and an improved system of death certificates, we must admit that the increase is appallingly rapid. As regards age and sex incidence, the total number of deaths was greater among females, but the increase was more rapid among men. A curious feature of the statistics was the fact that below the age of sixty-five years females suffered more than males; above that age the male death rate rapidly overtook that of the female, until at the age of eighty years it stood at the ratio of 62 male to 58 female. Cancer was thus really a disease of adult life; it affected women more than men, except in the more advanced ages, when men appeared to be more subject. Sarcoma was included in the official returns as cancer, and as this was more common among men, it might account for the extra male death rate. A curious and interesting table showed the relative death rate for the various counties. Edinburgh was easily first, with a death rate one third above the average; Dumfries, Forfar, and Selkirk came next, while the small and remote county of Nairn also showed a very high figure. The maps used showed isolated black patches whose location could not be accounted for by geographical, climatic, or any other known feature, thus adding to the already baffling character of the disease. Sir George added that statistics, as was well known, always entailed a maximum of labor and yielded a minimum of return, but he thought his work was not entirely thrown away. The cause of cancer was still unknown; many theories had been advanced, but one might as well put its increase down to electric cars or picture post cards as adopt some of the theories held. The statistics given brought out certain facts, which might or might not be useful now, but for further investigations these facts were available. Cancer seemed to be a disease, not of old age, but of the end of reproductive life; for uterine and mammary cancer were the commonest forms, and occurred after these organs had ceased to act. Sir George advocated more research laboratories for investigating the disease, and suggested that compulsory notification might serve as an aid to prophylaxis.

In the discussion that followed, Dr. Aitchison Robertson, whose work on cancer is well known, said that when he went into the subject some years ago he was struck with the remarkable difference in the death rates of the various counties of Scotland. It occurred to him that in some of the counties where the death rate was heaviest there were hospitals, and people who died there did not really belong to the counties, although the deaths had been registered as taking place there. He therefore set to work to correct the registrar general's returns by ascertaining the homes of such patients and referring the death to its proper county. Under this treatment the statistics underwent a marvellous transformation and were levelled up, Edinburgh coming out as having an almost normal death rate. The only county he could not account for was the small one of Nairn, in which the death rate was actually increased by this treatment.

Professor Cargill Knott said that, as a mathematician, he knew that percentage statistics were most misleading and unreliable until we got into tens or hundreds of thousands. In a county like Nairn, with its small population, the percentage was bound to come out high, but that did not necessarily mean that the county was a bed of cancer. If its total death rate was small, the percentage of cancer deaths would be proportionately higher. He put this suggestion forward by way of warning, for although he was not a medical man, he had had considerable experience of the inconclusiveness and futility of percentage statistics when applied to small figures.

It is a curious coincidence that an editorial article in your issue for May 11th, just to hand, deals with the subject of Cancer Statistics, and a companion of the foregoing report with your article may prove interesting to your readers.

Therapeutical Notes.

A Diuretic Mixture.—Rowntree and Geraghty, in *Archives of Internal Medicine* for March, 1912, mention the following mixture as being in constant use for diuretic purposes at the Johns Hopkins Hospital:

℞ Tincturæ scillæ, ...3iii;
Potassii acetatis, ...
Spiritus ætheris nitrosi, } .....āā 3iv;
Aquæ, ...q. s. ad ℥iv.
M. Sig.: One dessertspoonful three times a day.

Treatment of Chronic Catarrhal Conjunctivitis.—Roemer, of Greifswald, in the recently issued translation of his *Textbook of Ophthalmology*, by M. L. Foster, of New Rochelle, N. Y., states that the first step in the treatment of this condition should be the correction of refractive errors by suitable glasses. Changes in the skin and margins of the lids, or affections of the lacrymal passages and nasal mucous membranes, must also receive attention from the start. For the cleansing of the eyes and lid margins collyria of 2 to 3 per cent. boric acid, 3 per cent. borax, one to 5,000 mercury oxycyanate or one to 10,000 mercury bichloride, may be used. In the actual treatment of the conjunctivitis, however, astringents are preferable to antiseptics. In diplobacillus conjunctivitis, a solution of zinc sulphate or sozoiodolate, of 0.25 to 0.50 per cent. strength, is peculiarly suitable. Another useful remedy in simple chronic conjunctival catarrh is the collyrium astringens of the Austrian Pharmacopeia, to which a few drops of one to 1,000 epinephrin may with advantage be added. The eyes should be washed out with a lotion upon arising, and a drop of the collyrium instilled after breakfast and again toward evening; just before retiring the eyes are again washed, or an ointment is applied. Often, especially where single follicles are to be

seen, the alum pencil is of good service. As the Meibomian glands are in many cases surcharged with secretions, Roemer advises that after cocainization a thick, oiled glass rod be passed beneath the lid and the margin of the latter pressed firmly upon it with the thumb, causing the whitish secretion to exude in great masses. Redness of lid margins may thus be caused quickly to disappear.

In some cases the conjunctiva becomes excessively dry. Here daily massage of the conjunctival sac with the following ointment recommended by Peters may give excellent results:

℞ Ichthyolis, ...0.15 gramme;
Zinci oxidi, ...5.0 grammes;
Petrolati albi, ...15.0 grammes.
M. Fiat exactissime ferendo unguentum.

If the trouble does not yield to this, the lid may be everted, after cocainization, and the epithelium removed from its tarsal surface with a scarificator. Slight irritation and increase of secretion ensue, and very often in a few days marked benefit is noted. Where tumefaction of the conjunctiva is greater, numerous little incisions may instead be made with a small knife in the hypertrophic membrane, parallel to the lid margin, causing profuse bleeding. Improvement thus obtained may last for months.

Where the conjunctival catarrh is accompanied by marked sensitiveness of the supraorbital nerve, with severe radiating pains, Peters recommends the following:

℞ Ergotæ, ...1.0 gramme;
Quininæ hydrochloridi, ...2.0 grammes;
Ferri sulphatis, ...3.0 grammes.
Extracti gentianæ, ...q. s.
Fiant pilulæ No. C. Sig.: Two pills three times a day.

Instead of this, one half to one teaspoonful of tincture of eucalyptus may be taken in a glassful of water after meals.

Treatment of Phlyctenular Conjunctivitis.—J. Herbert Parsons, in the recently issued second edition of his manual on *Diseases of the Eye,* states, in referring to local treatment, that the eyes should be bathed frequently with hot boric or sublimate lotion. Yellow oxide of mercury ointment, grs. iv-viii to the ounce, should also be used, a piece the size of a hempseed being placed within the lids, three times a day. The ointment is best applied on a glass rod, and the eye should then be gently massaged by a finger placed upon the upper lid, the latter being moved over the globe. If there is any corneal complication, or evidence of its imminence, atropine, 4 grains to the ounce, should be combined with the ointment. Finely powdered calomel, dusted into the eye from a camel's hair brush, will often produce a remarkable improvement in intractable cases, but must not be used if iodides are being given internally.

Soddening of the skin with tears and wrinkling through blepharospasm frequently lead, in phlyctenular conjunctivitis, to excoriations—rhagadæ—at the outer canthus. They increase the blepharospasm and should always be looked for, and treated. By far the most efficient remedy is solid silver nitrate or the mitigated stick.

Photophobia is best treated, when severe, in the following manner. The child's face should be plunged in cold water and the mouth and nose kept under until he struggles for breath; this is repeated three or four times—daily if necessary. The treatment is useless if not carried out ruthlessly, but no other method is so efficacious. A single application not uncommonly renders further treatment of the photophobia unnecessary.

Treatment of Erysipelas.—A. P. Biddle, in the *Journal of the Michigan State Medical Society* for May, 1912, states that it is doubtful whether the antiseptics used externally in erysipelas can penetrate into the lymph spaces and destroy the microorganisms associated with the disease. Their application probably does not do more than prevent mixed infection. Among the antiseptics which may be used is ichthyol in ointment or aqueous solution of 10 to 50 per cent. strength, either painted on, or applied thickly spread on lint or gauze, which should be changed frequently to prevent drying or sticking. Similarly, there may be applied gauze saturated with a solution of phenol (one to two per cent.), boric acid (saturated solution), picric acid (one per cent.), sodium salicylate (5 per cent.), resorcin (2 to 5 per cent.), mercury bichloride (one to 5,000), lead and opium wash, magnesium sulphate, alcohol, or simply cold water. A bolder method is the injection of antiseptic solutions a little outside of the margin of the advancing inflammatory process, e. g., a 2 per cent. solution of phenol, or solutions of the bichloride or biniodide of mercury. Biddle's favorite procedure in combating severe cases, however, is the continuous application of ice to the inflamed area. The parts are enveloped as thoroughly as possible, and where an extremity is involved, it is placed in a trough of cracked ice for several days.

Treatment of Acute Pulmonary Edema.—Albert Robin, in the *Medical Press and Circular* for February 21, recommends the following combination of drugs for reducing the blood pressure in the presence of edema of the lungs:

℞ Sodium nitrite, ...1 gramme;
Sodium lactate, ...4 grammes;
Sodium silicate, ...2 grammes;
Potassium bicarbonate, ...8 grammes;
Distilled water, ...120 grammes.
M. Sig.: Three or four tablespoonfuls of this are to be given every hour for four hours.

Treatment of Vomiting in Tuberculosis.—Plicque, in *Paris médical* for February 3, 1912, suggests the use of one of the following measures:

1. Application to the throat of

℞ Potassium bromide, ... 2.5 grammes;
Neutral glycerin, ...20.0 grammes;
Cherry laurel water, ...5.0 grammes.

2. Insufflations of

℞ Diiodoform (ethylene tetraiodide), ..10.0 grammes;
Cocaine hydrochloride, ...0.1 gramme;
Morphine hydrochloride, ...0.05 gramme.

3. Internal administration of

℞ Tincture of iodine, ..
Phenol (crystallized), } .....of each, 4.0 grammes.
Alcohol, ...
M. Sig.: Five drops in hot water before each meal.

4. Internal administration of

℞ Menthol, ...0.05 gramme;
Tincture of sarsaparilla, ...5.0 grammes;
Flavored acacia emulsion, ...120.0 grammes.
M. Sig.: Take in tablespoonful doses as required.

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NEW YORK, SATURDAY, JUNE 22, 1912.

THE NEED IN NEW YORK OF A HOSPITAL FOR NERVOUS DISEASES.

For years the profession has felt that there should be in New York a special hospital for nervous diseases. Long ago it was estimated that in the various general hospitals of the city, more particularly in the large municipal hospitals, there were scattered between six and eight hundred cases of nervous disorder. Distributed, as these are, in various wards devoted to internal diseases, they do not and cannot receive the special attention such cases require, partly because the general practitioner is not interested in this class of maladies, and partly because general hospitals are not equipped with the methods and apparatus demanded for their betterment or cure. The field of internal medicine has become so enormously extended, that the physician's whole time must necessarily be taken up in keeping abreast with the general progress of internal medicine; hence the neglect of the functional and organic nervous diseases in hospitals as well as in outside practice. Probably nearly all the many hundreds of nervous cases distributed among our general hospitals are of organic nature. The functional cases of nervous disease, such as the fatigue neuroses, hysteria, neurasthenia, psychasthenia, retardations, and the like, which outnumber by far the organic cases, are still more neglected, for unfortunately hospital treatment of any kind is practically denied them altogether. The general hospitals refuse them, and their only opportunity for examination and treatment is at outdoor dispensaries, which afford even less facility for nerve therapy than the hospitals. The flocking of patients afflicted with nervous diseases, both organic and functional, to the outdoor clinics is phenomenal, and is doubtless due to the general increase of nervous diseases in this country, as in other countries, the natural result of concentration of population in cities, the intenser struggle for existence, the ferment of new ideas, and the greater complexity of modern life.

These are the factors which contribute particularly to the development of the functional neuroses, and, through the lack of proper medical care in and out of hospitals, to the drift of this class in throngs to the Christian Science churches, new thought charlatans, Emmanuel movement centres, and to healers of motley description who devise new psychic and physical schemes for their exploitation. Where can the worn out artisan, the tired shop girl, or the neurasthenic workman or workwoman of the shops, sweatshops, and factories go for treatment or recuperation? Are there hospitals in the city to receive them, or sanatoria in the country? For the rich there are innumerable rest houses and private pavilions of general hospitals in the city, as well as exercise and occupation cures and sanatoria in the country. We have now at the expense of State, municipality, or private beneficence many institutions for special cases, mostly chronic and incurable, for the tuberculous, for the cancerous, for the ruptured and crippled, for the inebriate, for the insane, for the mentally defective, and for the epileptic. But for the purely nervous patients, the great majority of whom can be restored to active participation in the work of the world in a comparatively short time, there is absolutely no institution in existence.

To provide for this growing class of nervous disorders, both functional and organic, there should be built a large hospital in the city, and combined with it there should be a country department on the colony system. Such a hospital should have several hundred beds, as well as large space for an outdoor department. In it should be complete clinical, pathological, and psychological laboratories, and the roofs should be used for sleeping accommodations and gardens. The special features required by a hospital for nervous diseases, which no general hospital can fully provide, are the rooms and appliances for thermotherapy, electrotherapy, heliotherapy, hydrotherapy, and psychotherapy; a Zander institute for mechanical exercise; a gymnasium for Fraenkel and other exercises and for reeduca-

tion of movement; and rooms for occupation therapy (arts and crafts shop, etc.). That there should he a department for social service and facilities for the teaching of medical students and nurses, goes without saying. The country department should provide the same facilities for treatment, and might have, in addition, numerous kinds of indoor and outdoor work and exercise, provided by individual gardens, squash courts, tennis, etc.

The needs of New York are no greater in these respects than the needs of all the great cities of the world, but in this country, where the needs are probably greater than abroad, almost nothing is being done, while in Europe the movement in this direction has been going on for some time.

The National Hospital, in London, is one of the oldest institutions for nervous disorders in Europe, indeed almost the only one if we except the various small neurological hospitals attached to the German universities, and the recently established occupation cures for the neurological poor in country districts outside of Berlin and other German cities.

In New York the needs of the community have been barely touched by the Neurological Institute with its eighty beds, but the institute is an admirable demonstration of the real demand for a hospital of this kind, for in its two years of existence it has treated three thousand patients in the hospital proper and has extended help to seven thousand in its well equipped outdoor department.

THE TREATMENT OF UTERINE HEMORRHAGE AND FIBROMATA BY MAMMARY OPOTHERAPY.

The thesis that Lunçz published last year on mammary opotherapy, based on researches carried out in Dalché's clinic, contains much that is interesting. Mammary preparations as galactagogues have been found disappointing, but they have given excellent results in uterine hemorrhage and fibroids. Lunçz points out that, except in hemorrhage due to retained placenta or that from intramucous fibromata, or an endometritis with pronounced lesions of the mucosa, which are purely surgical, in dyscrasic metrorrhagia or uterine carcinoma, in all other instances of uterine hemorrhage mammary opotherapy has its indications. The most marked results will be obtained in the treatment of menorrhagia and metrorrhagia of puberty and those of the menopause. The esential metrorrhagias of arthritic subjects and of uterine sclerosis are also favorably influenced by this treatment. The exhibition of mammary extract is quite inoffensive, but it must be admitted that the results vary and that the therapeutic effect obtained is not constant.

One should employ the mammary gland of the cow or sheep in full period of lactation and all other tissue should be eliminated. The gland is then finely chopped and dried in a vacuum at a low temperature. A dose of fifty centigrammes corresponds to three and one half grammes of the fresh gland and one may give two grammes or more during the period of the hemorrhage. Should gastric disturbance occur, the treatment must be discontinued.

In menstrual disturbances the treatment should be begun ten days before the advent of the menses and should be again given after the third day until the end of menstruation. The same applies to fibromata, but should one desire to procure regression of the neoplasm the extract must be administered almost without interruption. Lunçz lays stress on the fact that this treatment is devoid of danger and points out in proof of this that Nekenttschiantz has given it with hardly any interruption for a year or eighteen months without observing any untoward effect.

LEPROSY IN THE UNITED STATES.

Relying upon letters received from the health authorities of the States, Territories, and insular possessions, the *Public Health Report* for June 14th discusses the existence of leprosy in the United States, and gives the number of lepers on January 1, 1912. We observe that there were on this date 146 cases of leprosy in the continental United States, of which number forty were new cases, coming first under official recognition during the year 1911. It must be remembered, however, that this number represents only a part of the total, as in many States the disease is not notifiable and in others the requirement of notification is for various reasons difficult to enforce. We have complete returns from only eighteen States and the District of Columbia: Alabama, 0; California, no report; Connecticut, 1; District of Columbia, 0; Florida, 2; Idaho, 0; Illinois, 0; Indiana, 1; Iowa, 0; Massachusetts, 13; Nebraska, 0; New Jersey, 0; New York, 5; Oregon, 0; Pennsylvania, 3; South Carolina, 0; Utah, 1; Washington, 2; Wisconsin, 1. Leprosy is also notifiable in Hawaii (696), Philippine Islands (2,754), and Porto Rico (28). In comparing this number of 146 lepers reported on January 1, 1912, with the report of 1901, in which the commission mentioned 278 lepers, 145 of whom were born in the United States, 120 in foreign countries, and 13 in places unknown, it should not be inferred that there is a lessening prevalence of the disease, as the cases reported in 1912 were, with one or two exceptions, under the control of State or local authorities, and no outsiders were men-

tioned, while of the report of 1901 only seventy-two lepers were isolated and provided for by the States or cities in which they lived.

PRUSSIAN MEDICAL CHAMBERS.

The Prussian *Aerztekammern* celebrated the twenty-fifth anniversary of their existence last month. These official medical chambers—for each of the provinces of the kingdom one chamber—were created upon the application of physicians who wished for national representation supported by the government. The sphere of the chambers is quite a large one. It includes, for example, a department which cares for the needy widows and orphans of physicians, it pays special attention to the public health, and exercises the prerogative of a court of honor over physicians, thus uplifting the ethical conscience and promoting a higher standard of collegiate fellowship. The officers are elected by the members of the medical profession who are supported in their duties by the government.

AURICULAR FIBRILLATION.

Heard (*Journal of the American Medical Association,* June 1, 1912) says that in any disorder of the heart the chief considerations, diagnostic, prognostic, and therapeutic, are based upon the state of the myocardium. The recently acquired exact knowledge in regard to the condition known as fibrillation of the auricle is most important and should receive general recognition by the profession.

It may be well, as giving a clear idea of the nature of auricular fibrillation, that we consider a brief summary of the generally accepted facts of the mechanism of the normal heart beat. The heart beat originates at a node near the junction of the superior vena cava with the auricle. Contraction moves from this point over the walls of the auricle, an impulse being transmitted to the ventricle and originating a contraction in the latter. This impulse travels through a bundle of junctional tissue known as the auriculoventricular bundle or bundle of His. When the conductivity of this bundle is interfered with there may result a prolongation of the interval between the contraction of the auricle and that of the ventricle, or an occasional or constant inability of the impulse to reach the lower chamber. As a result, we may have contractions of the ventricle in response only to certain contractions of the auricle. This is known as a "partial block"; when no impulses are transmitted, and the ventricle assumes a slower rate of its own which has no relation with that of the auricle, we have a "complete block."

Through the use of the electrocardiograph and the polygraph, among other things, we now know that the "mitralized pulse" and the frequently circulatory breakdown are due to fibrillation of the auricle, which is a condition in which the auricles no longer contract coordinately, but remain constantly in a state of diastole. Individual groups of fibres are, however, in ceaseless activity, with resulting frequent but disorderly impulses transmitted to the ventricle. The ventricle responds by contracting, with an absolute disregard of rhythm, with no relation between the length or height of the resulting individual arterial pulse waves. Mackenzie estimates that from sixty to seventy per cent. of all cases of heart failure are directly traceable to auricular fibrillation or are aggravated by it.

ACUTE INDIGESTION AS A SYMPTOM OF NEPHRITIS.

We have more than once called attention editorially to the frequency with which acute indigestion is given as a cause of sudden death where the underlying condition was probably one of chronic nephritis. Seymour (*Boston Medical and Surgical Journal,* June 6, 1912) now directs attention to the frequently overlooked evidences of renal involvement in cases of acute indigestion. Little is to be found in the urine in cases of chronic interstitial nephritis, and few cases show even the slightest trace of albumin on the most careful analysis, the amount rarely going above a slight trace with the nitric acid contact test. The mild symptoms of uremia or toxemia that probably result from retained poisons due to faulty metabolic changes may be so slight, and the increase in their severity so slow, that the individual does not believe his condition to be serious. He considers himself a chronic dyspeptic; he often has nausea and an aversion to food, especially meat. Occasionally he has a "frightful bilious headache," accompanied by nausea, vomiting, and severe epigastric pain, which is often mistaken for ptomaine poisoning. The true condition, however, may be shown by a decreased amount of urine, the presence of a larger quantity of albumin, the character of the sediment, and the increase in specific gravity. Seymour urges that the use of loose diagnostic terms, like acute indigestion and ptomaine poisoning, should be avoided, that more care should be exercised in finding a possible cause of gastroenteric disturbances, especially of indigestion and dyspepsia, that carelessness in uranalysis may be dangerous to both physician and patient, that no albumin does not mean no nephritis, and that an increased twenty-four hour output of urine, with persistent low gravity associated with gastric disturbances, should strongly suggest involvement of the kidneys.

ARSENIC AND MENSTRUATION.

Dr. Marie Ries and Dr. Julius Ries contributed a short article to the *Münchener medizinische Wochenschrift* for May 14, 1912, on the ability of the uterine glands to store arsenic as a cause of menstruation. They review briefly the most important works on this subject, among which may be mentioned that of Armand Gautier, who demonstrated that the thyroidal arsenic was discharged in the menstrual blood, where he found 0.28 milligramme to the kilo, while the normal blood did not contain arsenic. His researches were confirmed by Hertoghe, who also showed that sometimes the premen-

strual secretion discharged more arsenic than the menstrual blood, while the secretion after the menses never contained arsenic. Dr. M. Ries and Dr. J. Ries come to the conclusion that the arsenic discharged in the menstrual blood does not come from the thyroid, but from uterine glands, which act specifically as repositories for arsenic, similarly to the thyroid. They found also that the mobility of the spermatozoa of amphibia, as well as of mammals, is immediately suspended when they are placed in distilled water, while, when placed in a weak solution of arsenic their vitality seems to be much increased; the solution varies between 0.5 and one per cent. The mucous membrane never discharged such a strong solution of arsenic. Our writers are of the opinion, therefore, that the glands of the mucous membrane of the uterus will produce and store up a certain amount of arsenic which is to be used in fecundation, but if this supply is too large the arsenic begins to act as a toxine, affecting the mucous membrane and the bloodvessels, which then will produce the menses, during which period the sacs of the glands empty their stored up secretion, and after the close of the menses the process recommences.

ACID AND BASE FORMING ELEMENTS IN FOODS.

Sherman and Gettler estimated the balance of acid and base forming elements in the ash of forty-seven different kinds of food and reported their results in the *Journal of Biological Chemistry* for May, 1912. Meats, including fish, showed a decided predominance of acid forming elements; the results were very similar for the lean flesh of different species, or of young and mature animals of the same species. In eggs the acid forming elements also predominated, though to a less extent than in lean meats, and grain products showed a much smaller predominance of acid forming elements than did meat and eggs. Milk showed a slight predominance of base forming elements, while vegetables and fruits showed a predominance usually much greater than in milk. Experiments of several days' duration upon healthy men showed that where foods with preponderance of acid forming elements were substituted for others with base forming elements, the increase of ammonia excretion in the urine accounted only for one fourth to one third of the acid involved. In one experiment the acidity of the urine increased about fifty-one per cent. and was found to account for a greater proportion of the acid than was accounted for by the ammonia elimination.

Medical Law.

II. PUBLIC HEALTH REGULATIONS.

Under the laws of New Hampshire, the board of health is required to assist quarantined persons, and all expenses, it is provided, are "deemed an expenditure for the protection of the public health."

In the case of Crier v. Town of Fitzwilliam, 83 Atlantic Rep. 128, it appeared that a boarder in plaintiff's family became afflicted with smallpox. A physician, who was also a member of the board of health of the town, was first called to treat him, and subsequently the patient was quarantined by the board in the plaintiff's house. A nurse and medical treatment were provided by the board of health. The plaintiff's wife assisted in caring for the patient, but the board made no contract with her or her husband to employ her or to pay for her services. The board of health also destroyed the bedding used by the patient.

Crier demanded compensation from the town for the services rendered by his wife, and also for the bedding destroyed. When his demand was refused, he sued to recover, but the court held that he was not entitled to compensation for his wife's services because she was not employed by the health officer in charge of the case, and the board had not decided that any part of this expense should be "deemed a legitimate expenditure for the protection of the public health."

As to the liability of the town for the loss resulting from the destruction of the bedding, Mr. Justice Walker said:

> When the officer destroyed the infected bedding, he was not acting as the agent of the town, but as a public officer, under legislative authority, for the benefit and protection of the public. He was as much a public officer as highway surveyors, police officers, and firemen . . . for whose act while in the discharge of a public or governmental duty, even if wrongful, the town is not responsible, in the absence of a statute making it responsible therefor.

The plaintiff was therefore unable to recover in either cause of action.

X. THE PHYSICIAN AS WITNESS.

In the case of Albrecht v. Morris, 136 Northwestern Rep. 48, the action was commenced by an administratrix to recover for injuries resulting in the death of her descendant. Upon the trial of the case the physician who attended the deceased was permitted to testify to exclamations and statements as to the location of pain he was suffering. The trial judge, referring to this evidence, instructed the jury "that certain evidence was introduced by certain witnesses as to exclamations and statements of the deceased as to his physical condition. Such elements were introduced and received for the purpose only of showing his physical condition and pain and suffering at the time of such exclamations and statements, and as pertaining to the question whether or not the injuries complained of caused or were proximate to the death of the deceased."

Upon appeal an objection to this charge was urged for the reason that it allowed the jury to consider the "exclamations and statements" of deceased "as pertaining to the vital question in the case, to wit, the proximate cause of his death."

The Supreme Court of Nebraska was not seriously impressed by this objection. Mr. Justice Sedgwick, speaking for the court, said:

> There seems to be no ground for this objection. All statements of the deceased in regard to the cause of the accident were rigidly excluded by the court. In his examination by the physician, the deceased made statements as to the location of the pain which he suffered, and similar statements which were admitted as a part of the physical examination made by the physician. If these tended to show the extent of his injuries, they would pertain to the question whether such injuries were of such a nature and degree as to be regarded as the proximate cause of his death. The instruction was necessary to the interest of the defendants, and was not prejudicially erroneous.

News Items.

Changes of Address.—Dr. Charles F. Bolduan, to The Avoca, 251 Washington Avenue, corner of 170th Street, New York.

Dr. Byron G. Clark, to 251 West Seventy-fifth street, New York.

A Hospital for Appendix Cases.—It is reported that a hospital, to be devoted exclusively to the treatment of diseases of the appendix vermiformis, will be established in Boston in the near future. Dr. William Brooks, Jr., will be at the head of the institution, and with him will be associated Dr. George Oliver Clark.

Alumni Association of Jefferson Medical College.—At the annual meeting of this association, held in Philadelphia on June 2d, the following officers were elected: President, Dr. S. MacCuen Smith, of Philadelphia; vice-presidents, Dr. John W. West and Dr. M. B. Dwight, of Philadelphia, Dr. Charles F. McBurney, of Altoona, Pa., and Dr. G. T. Matlack, of Wilkesbarre, Pa.; recording secretary, Dr. Henry K. Gaskill, of Philadelphia; corresponding secretary, Dr. Edward J. Klopp, of Philadelphia; treasurer, Dr. Alfred Heinsberg, of Philadelphia.

Northern Medical Society.—A regular meeting of this society will take place on Friday, June 28th, at 8.30 p. m., at the Bronx Hospital Dispensary Building, 1385 Fulton Avenue (near 170th Street). The following papers will be read: 1. Dreams as an Aid to Diagnosis and Treatment, by Dr. A. A. Brill; 2. Hormones and Opotherapy, by Dr. M. Aronson; 3. Demonstration (on living animal) of the Direct Method of Blood Transfusion, by Dr. A. L. Soresi; 4. Tics and Their Treatment; Education vs. Hypnosis, by Dr. J. H. Leiner. There will also be a demonstration of patients, new instruments, etc. A cordial invitation is extended to all members of the medical profession.

Personal.—Dr. Samuel Amberg, of Baltimore, associate clinical professor of pediatrics at Johns Hopkins University has severed his connection with that institution and will go to Chicago in the near future to take up work in a hospital for children. His work in Baltimore will be carried on by his associate, Dr. J. H. Mason Knox.

Dr. Franz Boas, professor of anthropology at Columbia University, has received the degree of doctor of science from Oxford University.

Professor Carl von Noorden, of Vienna University, who is coming to New York in September at the invitation of the Post-Graduate Medical School, to deliver a series of lectures, will subsequently go to Washington to take part in the International Hygienic Congress as the official delegate of the Austrian Government. It is said that he has also accepted invitations to lecture in a number of other American cities, on the progress made in the treatment and cure of diabetes and kidney disorders as well as the science of dietetics.

National Organization of Anesthetists.—On June 6th, at Atlantic City, during the meeting of the American Medical Association and following a symposium on anesthesia, the National Society of Anesthetists was organized. Professor Yandel Henderson, of Yale University, chairman of the commission on anesthesia of the American Medical Association occupying the chair, those assembled for the symposium acting as a committee of the whole, proceeded to organization and elected the following officers for the ensuing year: President, Dr. James T. Gwathmey, of New York; vice-presidents, Dr. Charles K. Teter, of Cleveland, Dr. F. H. McMeechen, of Cincinnati, Dr. Yandel Henderson, of New Haven; secretary, Dr. William C. Woolsey, 88 Lafayette Avenue, Brooklyn; treasurer, Dr. Harold A. Sanders, of Brooklyn.

The constitution and by-laws were ordered to be drawn by the executive committee and submitted to the society at its next meeting; all names submitted for membership, if qualified in the estimation of the executive committee, shall be considered as those of charter members, if presented within a period of sixty days and accompanied by the levied due of three dollars.

The National Society of Anesthetists in this notice calls all those who are actively interested in this work to join its ranks and assist in the development of anesthesia to greater perfection and more uniform safety.

A Contagious Disease Hospital in the Bronx.—The immediate erection of a hospital for contagious diseases in the Bronx is urged upon the Board of Estimate by the public health, hospital, and budget committee of the New York Academy of Medicine. It was pointed out by this committee that the Bronx had a population of nearly half a million and was in great need of such an institution. Patients are now sent either to the Willard Parker Hospital or to the Kingston Avenue Hospital, Brooklyn, both of which are crowded. The use of North Brother Island as a site for a contagious disease hospital is opposed by the Academy of Medicine, which recommends that the site now owned by the Department of Health opposite the Westchester Station of the N. Y., N. H. & H. R. R. be used for the purpose.

Banquet of College of Physicians and Surgeons, of Baltimore.—The annual banquet of the Tri-State Chapter, Alumni College of Physicians and Surgeons, of Baltimore, Md., was held at the Manhattan Hotel on May 25th. Dr. H. B. Sheffield, of New York, read the paper of the evening on Appendicitis in Children. The college was represented by Dean Charles F. Bevan. Dr. W. E. Fitch, of New York, presided, and toasts were responded to by Dr. George O'Hanlon, superintendent of Bellevue and Allied Hospitals; Dr. K. Arvid Enlind, of New York; Dr. Hugh F. Cook, of Newark; Dr. William J. A. O'Hara, of Bridgeport; Dr. John H. Carman, of Plainfield; Dr. F. M. Luther, of New York; Dr. T. Richard Paganelli, of Hoboken; Dr. A. C. Palmateer, of New York; Dr. J. G. Callison, of New York, and others. Doctor Paganelli represented the Tri-State Chapter at the annual banquet of the alumni in Baltimore.

American Therapeutic Society.—At the thirteenth annual meeting of this society, held in Montreal, May 31st and June 1st, under the auspices of McGill University, officers to serve for the ensuing year were elected as follows: President, Dr. Noble P. Barnes, of Washington, D. C.; first vice-president, Dr. Howard Van Rensselaer, of Albany, N. Y.; second vice-President, Dr. Robert T. Morris, of New York; third vice-president, Dr. Francis M. Pottenger, of Los Angeles; secretary, Dr. Lewis H. Taylor, of Washington, D. C.; treasurer, Dr. A. Ernest Gallant, of New York; chairman of the council, Dr. Reynold Webb Wilcox, of New York; members of the council, Dr. James C. Wilson, of Philadelphia, Dr. Alexander A. Blackader, of Montreal, and Dr. J. Madison Taylor, of Philadelphia; committee on admissions, Dr. Frederic H. Gerrish, of Portland, Me., Dr. R. D. Rudolf, of Toronto, and Dr. Philip King Brown, of San Francisco; Committee on Competitive Therapeutic Research, Dr. Reynold Webb Wilcox, Dr. Thomas E. Satterthwaite, of New York, and Dr. Spencer L. Dawes, of Albany, N. Y.; editor of *Transactions*, Dr. P. Brynberg Porter, of New York. The next meeting will be held in Washington, D. C., in May, 1913.

Proposed New Public Health Bill.—Senator Smoot, of Utah, has offered a bill to establish a public health service which would quite materially revise existing conditions in that branch of the government. The bill requires:

That the Public Health and Marine Hospital Service of the United States shall hereafter be known and designated as the United States Public Health Service, and in addition to the administrative divisions now authorized by law there is hereby creat d a Division of Sanitary Engineering, and the Division of Vital Statistics of the Bureau of the Census is hereby transferred from the Department of Commerce and Labor and made a division of the United States Public Health Service: *Provided*, That nothing in this act contained shall be held or construed to discharge or reduce in rank, grade, or pay any officer or employee of the Public Health and Marine Hospital Service or the Division of Vital Statistics of the Bureau of the Census.

Sections 3 and 4 are as follows:

That the United States Public Health Service shall, under the Secretary of the Treasury, be under the charge of the surgeon general of the aforesaid service, who shall be appointed as now provided by law and regulations, and the several divisions of the said service, with the exception of the Division of Sanitary Engineering, shall each be in charge of an assistant surgeon general, as now provided by law for the Public Health and Marine Hospital Service: *Provided*, That the present Chief of the Division of Vital Statistics of the Bureau of the Census shall be appointed by the President, by and with the advice and consent of the Senate, as a surgeon in the United States Public Health Service.

That all matters relating to personnel and accounts of the United States Public Health Service shall be administered by the Division of Personnel and Accounts of the said service, and all accounts of moneys received and moneys expended on account of the said service shall be examined by the auditor of the treasury and so certified by that officer: *Provided*, That there may be employed in the United States Public Health Service such help as may be provided for from time to time by Congress.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

June 6, 1912.

1. JOSEPH H. PRATT: Method of Science in Clinical Training.
2. JOHN STAIGE DAVIS: Hastening Wound Healing by Skin Grafting and Use of Certain Organic Coloring Matters.
3. MALCOLM SEYMOUR: Chronic Interstitial Nephritis. Acute Indigestion as Important Symptom.
4. ANTHONY BASSLER: Posttyphoid Dyspepsia.
5. H. W. MARSHALL: Causes for Failures in Treatments of Chronic Joint Diseases; Suggestions How Greater Successes Can Be Attained (*Concluded*).

3. Acute Indigestion an Important Symptom of Chronic Interstitial Nephritis.—See editorial article, page 1329.

5. Treatment of Chronic Joint Diseases.—Marshall presents the following summary of important hygienic principles which should be used, not simply remembered as sounding interesting or reasonable: 1. Recollection that hygienic measures are physiological, applicable in every case, and the only effective treatments for some types of arthritis; 2, that health of joints is a matter of physiological balance between local joint resistances and external factors acting upon them; that ratios of one to the other have more significance in maintenance of health than independent degrees of tissue resistance, or total sums alone of combined external stimuli; that amounts of individual factors contributing to the total sum of external ones which are stimulating the joints also are dependent upon ratios. For example, that healthy vascular balance depends upon relative amounts of absorptions and of eliminations, upon amounts of metabolism in comparison to eliminations rather than upon absorptions, metabolism, or eliminations independently; 3, that avoidance of overdoses and fatigue effects, from too many or too frequent applications of remedies, is necessary; 4, that overstimulations and straining of vital resistances from simultaneous applications of several remedies in depleted conditions, when there are several defects to be corrected, also must be guarded against; 5, that proper alternations of rest and stimulation never must be neglected; 6, that sequence of events in personal histories and in development of arthritic lesions must be kept in mind; 7, that no long course of treatments should be prescribed without first experimentally finding out the resistances and reactions of each individual, because these cannot be predicted beforehand with certainty; 8, that one step at a time should be taken in an intelligent way, and accurate observations made of the effects of each step; then the next one determined from judgment of the preceding. Estimation of the probable significance of the results observed at each step must depend upon previous knowledge of the physiological factors known to control health of joints.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

June 8, 1912.

1. ABRAHAM JACOBI: Combating Infant Mortality.
2. CAMILLO BOZZOLO: Treatment of Ankylostoma Anemia with Thymol.
3. GEORGE PARKER: Treatment of Tetanus with Magnesium Sulphate.
4. STEVENS T. HARRIS: Diagnostic Tender Spot in Pulmonary Tuberculosis.
5. JOHN F. ANDERSON: Some Recent Contributions by United States Public Health and Marine Hospital Service to Preventive Medicine.
6. PEYTON ROUX, JAMES B. MURPHY, and W. H. TYTLER: Rôle of Injury in Production of Chicken Sarcoma by Filterable Agent.
7. JOSEPH Y. PORTER, JR.: Inhaler for Gas Oxygen, Gas Oxygen Ether, Gas Ether, Ether, or Chloroform.
8. JAMES D. HEARD: Auricular Fibrillation.
9. GEORGE W. VANDEGRIFT: Successful Treatment of Gonorrheal Choroiditis by Vaccines.
10. EDMUND L. GROS: Antiseptic Thermometer Case.
11. HILBERT F. DAY: Unilateral Cervical Adenitis.
12. FRANK VAN DER BOGERT: Simple Device for Collecting Urine from Female Infants.
13. JESSE S. WYLER: Epilepsy? and Refraction.

1. Infant Mortality.—See this JOURNAL for June 8th.

2. Treatment of Ankylostoma Anemia (Uncinariasis, Hookworm Disease) with Thymol.—Bozzolo states that the former Porto Rico anemia commission cured 4,474 cases of uncinariasis with thymol, and later, in 1911, the cure of 47,000 patients was reported. As much as twelve grammes have been given in twelve hours, two grammes every two hours, always well enveloped in capsules, and no serious disturbance was noted; in one case the dose was increased to fifteen grammes. Where after treatment, and when examination of the feces showed an absence of ova, the patient remained anemic on discontinuing treatment, the hemoglobin content increased rapidly when fresh doses of thymol were given. This absence of ova in the feces is due either to the inability of the female parasites still in the intestines, but under the poisonous influence of the thymol, to renew the eggs, or because all female worms have been expelled and a few male parasites still persist, which seems to prove that the female hookworms are first expelled because most readily affected by the anthelmintic. Treatment continued, even in small and repeated doses, affects the remaining parasites, which gradually detach themselves from the mucosa and may even be then digested by the intestines (usually the ankylostoma occupy the duodenum) and be voided. The author advises twelve grammes of thymol, for an adult, in two equal parts, well enveloped in capsules, to be taken at two hour intervals, followed by a small glassful of strong wine or some alcoholic mixture. The thymol may be given in fine powder mixed with powdered sugar, or with precipitated chalk.

3. Treatment of Tetanus with Magnesium Sulphate.—Parker reports three cases of cure following the use of this remedy and preceded by antitetanic serum to neutralize any toxine in the system not already combined with the motor ganglions. In a patient, aged eleven years, he gave eight drachms of a twenty-five per cent. solution of magnesium sulphate subcutaneously. Injections continued every two hours until spasms ceased, than once daily for one week. To a baby, twenty months old, he gave doses of four drachms of the same solution, and to an adult ten drachms. The prompt relaxation after the injections shows the value of the remedy. It has no specific action, but by quieting the excessive muscular action it allows the patient to rest and to take food, thus tiding him over while he is preparing his own antitoxine.

4. Diagnostic Tender Spot in Pulmonary Tuberculosis.—Harris has noticed that in pulmonary tuberculosis there is a degenerative change in the musculature of the body, especially marked in the upper thorax. He has discovered, in addition to the atrophy of the scapular muscles, their hyperirritability and fibrillation, the existence of a hypersen-

sitive or painful spot immediately above the tip of the superior angle of the scapula at the insertion of the levator anguli scapulæ. The trapezius muscle also covers it. It may be found by palpating the tip of the superior angle of the scapula with the finger and riding over it with more or less inward pressure. It is best to palpate both sides at the same time, exerting the same degree of pressure, but not enough to produce pain in a normal person. The pain may be very severe, making the patient object or wince, or it may differ only in degree from that on the opposite side. Myalgia, neuritis, and rheumatism must be excluded. By this method the author has never failed to select the affected lung, or the more diseased lung if both were involved.

5. Some Recent Contributions by the United States Public Health and Marine Hospital Service to Preventive Medicine.—(See abstract, June 8, p. 1218—Section in Pathology and Physiology of the annual meeting of American Medical Association.)

8. Auricular Fibrillation.—See editorial article, page 1329.

MEDICAL RECORD.

June 8, 1912.

1. Abraham Jacobi: Combating Infant Mortality.
2. Gertrude Austin: Heliotherapy in Surgical Tuberculosis.
3. James D. Morgan: Relation of Clinical Professor to Hospital, Community, Medical School, and Profession.
4. E. S. Goodhue: Thermohydropathic Treatment of Typhoid Fever and Other Inflammatory Conditions.
5. A. E. Austin: Significance of Ratio of Free Hydrochloric Acid to Total Acidity in Determining Impaired Motility of Stomach.
6. Samuel Floersheim: Influence of Sodium Chloride upon Hydrochloric Acid of Gastric Juice.

1. Infant Mortality.—See this Journal for June 8th.

2. Heliotherapy in Surgical Tuberculosis.—Gertrude Austin relates her visit to Doctor Rollier's hospital at Leysin, Switzerland, where little tuberculous children are exposed for hours daily without clothing of any kind to the sun's rays in midwinter at an altitude of 5,000 feet. The body of the patient is exposed to the sun's rays in galleries opening into the wards and facing due south. The actual seat of the disease is uncovered for five minutes only, the first day, that the skin may not be burned or blistered; the next day the region is treated for two periods of five minutes each, separated by an interval of half an hour; and on the third day these exposures are extended to fifteen or twenty minutes. Each time a larger area of skin is exposed, so that by the end of a week or ten days the entire body, the head excepted, is lying nude in the sun; later, the head, too, is uncovered. The large windows of the steam heated wards are never closed, even at night. A carefully studied diet aids the building up process. Of 369 cases of surgical tuberculosis treated by heliotherapy, 284 (seventy-eight per cent.) ended in recovery; forty-eight in improvement; twenty-one remained stationary; sixteen (four per cent.) ended fatally. Rollier does not concentrate any one ray (Finsen), but uses diffuse white light just as it comes from the sun.

5. Significance of Ratio of Free Hydrochloric Acid to Total Acidity in Determining Impaired Motility of the Stomach.—A. E. Austin observes that when one says the motility of a stomach is delayed, the statement is valueless unless he can learn to what extent this retardation exists. The presence of food residue in the stomach twelve hours after the evening meal is important because it is almost diagnostic of a narrowed pylorus, but the absence of food does not exclude the possibility of a minor degree of impaired motility. In the detection and measurement of the lesser stages of this condition with some accuracy, several methods are used, which are fallacious. In hyperacidity the alkalies and belladonna only relieve the symptoms; the underlying cause being impaired motility, effort should be made to hasten the emptying of the stomach. Small frequent meals, hydrotherapy, nux vomica, massage, and possibly faradaization, and postural treatment (lying on the right side after meals). The latter two, although probably acting by suggestion, have yielded better results than alkalies and belladonna, in nonfermentative gastric hyperacidity. As oils delay the emptying of the stomach, they should never be used except where examination has demonstrated a narrowing of the pylorus.

6. Influence of Sodium Chloride upon Hydrochloric Acid of the Gastric Juice.—Floersheim remarks that it is popularly believed that sodium chloride taken into the system increases the production of hydrochloric acid in the stomach. A salt free diet would, therefore, be followed by a material diminution of the hydrochloric acid or the gastric juice, while a salty diet would be followed by increased acidity. To prove or disprove this theory the author has conducted a series of experiments, from which he concludes that apparently the introduction of sodium chloride into the system has no special influence upon the production of hydrochloric acid by the stomach. In the treatment of deficiency or excess of hydrochloric acid, the author does not advise a change in the usual salt content of the food.

BRITISH MEDICAL JOURNAL.

June 1, 1912.

1. A. C. Jordan: Duodenum and Appendix in Intestinal Stasis.
2. H. W. Crowe: Autoinoculation Test in Tuberculosis.
3. J. R. Mackenzie: Paths of Rheumatic Infection.
4. C. R. Marshall and J. K. Wood: Standardization of Indian Hemp.
5. E. A. Cooper: Bactericidal Action of Cresols and Allied Bodies.

2. Autoinoculation Test in Tuberculosis.—Crowe applies the postulate of Wright to the diagnosis of tuberculosis and the determination of the degree of improvement of any case under continuous observation. This postulate is to the effect that increased movement and bodily exercise in disease results in an increased flow of blood through the entire organism and thus washes out of the diseased focus a larger amount of the toxic matter than is usually present in the circulation; the result is that there is a corresponding increase in the production of the immune substances with an increase in the opsonic index. This autoinoculation test is carried out by estimating the tuberculoopsonic index of a given patient while at rest and then, after a measured amount of exercise, making a second estimation. If the second is higher than the first, and on repetition of the pair of tests this same still holds true, then it is to be concluded that tuberculosis is

present. If after a course of treatment the second test is not raised by even the severest form of exercise, the disease may be considered to be cured. He believes that any test to be of real value should conform to the following requirements: First, it must be harmless; second, it must confine itself to pointing out the presence of active or smouldering tubercle—it must not be too penetrative; third, the answer given by it must be unmistakable; fourth, it must be universally applicable; fifth, it must be simple; sixth, it should be practicable after treatment to determine the time when cure is complete; and, last, the ideal test must be infallible. As a result of a series of sixty-one of these tests he believes that the requirements are fulfilled by the test, with the single exception that it is not universally applicable.

3. The Paths of Rheumatic Infection.—Mackenzie accepts *Micrococcus rheumaticus* as the causative agent of rheumatism, and believes that it may enter the body by one of the following channels: 1. The throat; 2, the bronchial mucosa; 3, the gastrointestinal tract. In any case, there is always at least a mild catarrh produced at the port of entry. He is of the opinion that this organism may give rise to disease of other tissues than the joints and heart; among these he mentions rheumatic enteritis, peritonitis, bronchitis, and appendicitis.

5. Bactericidal Action of the Cresols.—Cooper uses a modification of the Rideal-Walker carbolic coefficient test for germicidal power and finds that the solubilities of the several substances has much to do with the bactericidal powers. In aqueous solution the cresols are nearly equal in power and are considerably more powerful than phenol. Thymol is twenty-five times as powerful as phenol, in the absence of organic matter. When this is present there is a slight reduction in the coefficients of the cresols. Saponification of the cresols with fats and an alkali gives a product of much greater solubility in water. The best means of preparing a soap of a cresol seems to be by the use of castor oil and caustic potash. The cresols thus prepared yielded compounds of higher cresol content, and hence of higher germicidal efficiency than those described by the several pharmacopeias; they could be diluted with tap water with the production of much less turbidity; and, finally, the preparations were cheaper than any of the others now in use which are efficient. If alkali and resin are used as emulsifacients, the resulting preparations are a little weaker than those from castor oil, because they contain less of the cresols in proportion to the total of the preparation. When thymol is emulsified it still has a very great activity, but this becomes much depreciated in the presence of organic matter. It was found that tap water had no depreciating effect on the activity of saponified cresol. Halogens can be introduced into the phenols and the germicidal action of the products is very much greater than that of phenol itself. This increases in proportion to the number of halogen atoms in the ring. The disadvantages of these substances is that they are quite insoluble in suitable media and they are not subject to emulsification. Cooper will continue the report of his findings.

LANCET.

June 1, 1912.

1. G. S. Woodhead: Relations between Human and Bovine Tubercle Bacillus.
2. P. Mayer: Medical Treatment of Cholelithiasis.
3. C. Russ: Improved Method for Opsonic Index Estimations.
4. J. M. Clarke: Generalized Infection by Influenza Bacillus.
5. E. K. Campbell and G. F. Alexander: Operative Treatment of Concomitant Strabismus.
6. A. J. Hall: Two Cases of Mercurial Poisoning.
7. G. W. Watson: Acute Focal Encephalitis.

1. Human and Bovine Tubercle Bacillus.—Woodhead discusses the findings of the British Royal Commission on Tuberculosis and cites their conclusions as follows: 1. The identity or nonidentity of a case of tuberculosis in one animal with that in another must depend upon the identity or nonidentity of the infecting bacilli. The characters which establish the species of the bacilli are, *a*, microscopic morphology; *b*, cultural characteristics; *c*, pathogenic properties in different animals. A study of the infecting bacilli from human and bovine cases reveals only slight cultural differences upon which to base the conclusion that the two types are not identical, and the commission prefers to regard these two types as being but varieties of the same bacillus, and the lesions which they produce, in animals or man, as manifestations of one and the same disease. 2. The commission concludes that mammals and man can be reciprocally infected with tuberculosis. 3. Conditions under which transmission of tuberculosis from animals to man takes place, if at all, are brought into three classes: *a*, The unmodified avian tubercle bacillus is a negligible factor in the production of human tuberculosis. *b*, The animals which are capable of suffering from the human type of tuberculosis in a severe generalized form are relatively few; none of these active multipliers of human tubercle are common food animals, and the cow under natural conditions has never been found to eliminate human tubercle bacilli in her milk; the pig, however, must be regarded as a possible source of infection to man, as the human type of bacillus has been demonstrated in the tuberculous lesions occurring in this animal. *c*. Although only rarely has a pulmonary lesion in man yielded the bovine bacillus, in nearly one half of the cases in young children dying from primary abdominal tuberculosis, the fatal lesion could be referred to the bovine bacillus alone. Also in children and adolescents suffering from cervical gland tuberculosis, a large proportion are the result of infection with the bovine bacillus. Finally, the commissioners are convinced from the studies made that: 1. A considerable proportion of the tuberculosis affecting children is of bovine origin, more particularly that which affects primarily the abdominal organs and the cervical glands; 2, both these forms are often due to ingestion of tuberculous infective material; 3, much of the tuberculosis of childhood must be ascribed to infection with tubercle bacilli of bovine type, transmitted to the children in the food, chiefly the milk of the cow. (See editorial article on Human and Animal Tuberculosis in the Journal for April 20, 1912, page 812.)

3. Opsonic Index Estimation.—Russ has sought to reduce the several elements of error and variation in the previous methods of estimating the opsonic index. In order to provide a more nearly uniform contact between the bacilli and the leu-

cocytes and hence to render the limits of individual variation between the number of ingested bacteria in the individual cells, he has devised a method of collecting leucocytes only, free from red cells. This emulsion of leucocytes is then brought into contact with an emulsion of bacteria of definite microbic content. Further uniformity of contact is secured by means of a continuous mixing, which is accomplished mechanically. In counting, a drop of this mixture of the two emulsions is spread in the usual manner and the contents of 100 cells are enumerated. Russ summarizes the results of his improvements thus: 1. There is a striking reduction in the liability of error of opsonic estimations when repeatedly tested upon the same materials. 2. The error in the new method is about one quarter that in the old, the conditions of experiment being almost comparable. 3. The increased accuracy is associated with a much reduced range of microbic content of the leucocytes. 4. The improved results are to be attributed to the more even distribution of the bacteria among the leucocytes (by the removal of the red cells) and to its maintenance during incubation by continual agitation.

PROCEEDINGS OF THE ROYAL SOCIETY.

May 9, 1912.

1. GEORGE J. BURCH: Confusion Test for Color Blindness.
2. J. F. GEMMILL: Locomotor Function of Lantern in Echinus, with Observations on Other Allied Lantern Activities.
3. HENRY E. ARMSTRONG: Studies on Enzyme Action. XV. Urease: a Selective Enzyme.
4. S. G. SHATTOCK and L. S. DUDGEON: Certain Results of Drying Nonsporing Bacteria in Charcoal Liquid Air Vacuum.
5. CHARLES RUSS: Improved Method for Opsonic Index Estimations, Involving the Separation of Red and White Human Blood Corpuscles.
6. EDWIN GOLDMANN: New Method of Examining Normal and Diseased Tissues by Intra Vitam Staining.
7. H. L. DUKE: Antelope and Their Relation to Trypanosomiasis.

4. Results of Drying Nonsporing Bacteria in a Vacuum.—Shattock and Dudgeon undertook experiments to ascertain whether nonsporing bacteria, dried *in vacuo* and kept *in vacuo,* would survive those dried in and kept in the air, or, on the contrary, would die more rapidly. The action of sunlight and of heat was also tested upon bacteria dried and kept *in vacuo* in order to learn how far such agencies might be lethal upon dried bacteria if the latter were supposed present in a free state in interplanetary space. Death of *Bacillus coli* took place by the fourth day both *in vacuo* and in an air dried film. With *Bacillus typhosus* and *Staphylococcus pyogenes aureus* the results were much the same, the ease of death under the two conditions corresponding closely, though with the last named organism a much longer time—four to fifteen weeks—was required for the destruction of vitality than with the typhoid bacillus. With *Bacillus pyocyaneus,* however, the vitality *in vacuo* was greatly prolonged beyond that in air; in one instance this organism was alive after being kept over seven months in a vacuum tube. This occurrence the authors believe due to the absence in the vacuum of chemical changes, e. g., oxidation, which obtain in the air. The resistance of *Bacillus pyocyaneus* to the action of heat was found not to be heightened by its exposure to this agency in the dried state *in vacuo.* Bright sunlight proved lethal to it within six hours *in vacuo.* The resistance of the dried bacillus to this agency was little if at all exalted under the condition last stated. These results show, the authors point out, that the view sometimes taken of the lethal effect of sunlight upon bacterial cultures as being due to chemical decomposition of the medium on or in which the organism is growing is unnecessary to explain the result. It also becomes evident that dry bacteria, if free in the interplanetary vacuum, would be killed by the solar light and ultraviolet rays. As Sir James Dewar's experiments have demonstrated that the ultraviolet rays will kill undried bacteria while in the frozen condition, at the temperature of liquid air, there is little to support the hypothesis that the living protoplasm on the earth originally immigrated from interplanetary space in a free or unincluded condition.

5. Improved Opsonic Method.—Russ traced the extensive error often present in opsonic estimations—14.7 per cent. of average error above or below the mean value, according to the author's repeated estimations of the opsonin to *Staphylococcus aureus* in normal serum—to two factors, viz.: 1. The presence of a large number of erythrocytes in the blood used in the test, obstructing the phagocytic activities of the relatively few white corpuscles; and, 2, the fact that most of the corpuscles soon settle to the bottom of the glass pipette during the stage of incubation, equality of opportunity to the different cells for phagocytosis being thus destroyed. The first defect was remedied by adopting the following procedure: Blood is shed into a rubber ring (cell) sandwiched between two glass plates. This cell is incubated for twenty minutes, opened, the clot and ring removed, and the plates washed with 1.25 per cent. saline to free them from red corpuscles and serum. The multinuclear leucocytes adhere to the glass. After wiping the ring margin clear of more red corpuscles and dried serum a few drops of cold saline are poured on the leucocyte-laden area of each plate. These are replaced on the metal shelf of the incubator for fifteen minutes; the multinuclears, previously distorted and stretched out, will then be seen under a low objective to have become almost spherical and loose from the plate. With a long glass rod the fluid and floating leucocytes are swept into a small tube and concentrated by the centrifuge at moderate speed. After siphoning off the supernatant fluid a very large number of human multinuclear leucocytes are obtained, which stand incubation with equal volumes of serum and the bacterial emulsion, the latter being made with 1.25 per cent. sodium chloride instead of normal saline. The second defect, that arising from sedimentation of the corpuscles in the pipette, was overcome by the use of a vertically rotating instrument, driven by clockwork, which is placed in the incubator. In the slowly moving wheel it carries, the corpuscles pass up and down in the opsonic fluid owing to the changing positions of the pipette, and settling of the corpuscles is prevented. By means of these improvements the average percentage of error above or below the mean was reduced from 14.7 to four.

BULLETIN DE L'ACADÉMIE DE MÉDECINE.

May 7, 1912.

1. WURTZ: Quinton's Saline Solution in Infantile Diarrhea.
2. H. VINCENT: Antityphoid Vaccination.

1. Quinton's Saline Solution in Infantile Diarrhea.—Wurtz, reporting the opinion of a committee of the Academy of Medicine concerning this

fluid, points out that Quinton's "plasma" consists merely of sea water collected under aseptic conditions and rendered isotonic by the addition of sterile water. It has sometimes given good results when, as the result of profuse diarrhea, the fluid content of the organism has been greatly reduced, but since ordinary physiological salt solution gives analogous results in the same cases, the former cannot be considered either as a specific or panacea in infantile diarrhea.

2. **Antityphoid Vaccination.**—Vincent reports that the number of persons immunized against typhoid fever with its multivalent autolysate vaccine and a bacillary vaccine has now attained over five thousand, including subjects of both sexes and children, from seven to fifteen years old. With the autolysate, but three per cent. of those vaccinated showed any febrile reaction. In the French army operating in Morocco there did not develop a single case of typhoid in the vaccinated, whereas in the nonvaccinated, living under exactly the same conditions—in the same tents, in fact—as the others, typhoid developed in over fourteen per cent. of the men. Vincent lays stress on the fact that there should be no hesitation in vaccinating in times of typhoid epidemic. It has been conclusively shown that multivalent vaccine injected in subjects in the period of incubation does not in any way aggravate the subsequent course of the disease, but rather tends to render it milder and shorter. Two cases under the author's observation are cited in which the prophylactic influence of the vaccine, after the entrance of the organism had already taken place, was strikingly illustrated. The first was that of a young physician who, four months after immunization with the multivalent autolysate, accidentally swallowed a small portion of a typhoid culture. The disease did not appear, though the subject had never had typhoid at any time before. The second case was that of a student in pharmacy who had sucked up and swallowed at least two c.c. of a bouillon culture of the typhoid bacillus. He had never had typhoid fever, nor even any symptoms which might have suggested a mild form of it. Twenty-four hours later the first injection of vaccine was given. It caused no reaction. One week later, there appeared malaise and a slight rise of temperature. The second injection of vaccine was nevertheless given on the next day, and was followed by fever (39.5° C.). Three other injections were then administered without any untoward result, and it became evident that the patient had been enabled to escape the disease, which under other circumstances would surely have developed. Vincent concludes that the "negative phase" is not to be looked upon with apprehension in the use of typhoid vaccine.

JOURNAL DE MÉDECINE DE PARIS.

May 18, 1912.

1. Nigay: Visceral Crises of Tabes.
2. Georges Rosenthal: Respiratory Exercises in Pulmonary Disease.
3. Montfort: Abortive Treatment of Gonorrhea.
4. Dalché: Onion Cure.
5. Weber: Reinfecting Pseudochancre.

May 25, 1912.

6. Jeanselme: Psoriasis and Vaccine.
7. Filliâtre: Extra Rapid Posterior Gastroenterostomy.
8. Dalimier: Atypical Typhoid Fever.

June 1, 1912.

9. L. Pron: Abuse of Milk in Gastrointestinal Disease.
10. Ad. Olivier: Grave Puerperal Infection.
11. Depasse: Typhoid Fever in Children.
12. Bernard: Thyroidectomy.
13. Gabriel Potherat: Intense Varicose Phlebitis.

4. **The Onion Cure.**—Dalché attributes great diuretic power to onions and advises their free use in edema, anasarca, ascites, even in ovarian cysts. Their best effect is obtained by eating them alone, raw or cooked. He details a case of a young girl with a remarkable and complicated history of urticaria, bite by a dog, followed by twenty-one antirabic injections, and two antidiphtheritic injections for a grave angina. Some time later she was seized with generalized pains, and edema developed with anasarca, an enormous quantity of albumin in the urine, and weakness such as to put her to bed. Other treatment proving useless, Dalché put her on a milk diet with onions, which soon reduced the dropsy, which has not returned although albumin persists in the urine.

11. **Typhoid Fever in Children.**—See editorial article in our issue for June 15th, page 1278.

PARIS MÉDICAL.

May 25, 1912.

1. Ratméry: Irregular Intermittent Albuminuria.
2. Rouget: Thrombophlebitis of the Internal Jugular Vein.
3. Piatot: Rapid Diagnosis of Arterial Affections.
4. Gougerot: Lupus Vulgaris.

June 1, 1912.

5. Paul Carnot: Pathology of Liver, Pancreas, and Spleen in 1912.
6. Guillain: Infectious Disease Characterized by Icterus and Meningeal Symptom.
7. Lereboullet: Treatment of Vesicular Colic.
8. Jean-Charles Roux and Goiffon: Pancreatic Insufficiency.
9. Paul Mathieu: Cysts of the Pancreas.
10. P.-Emile Weil: Tuberculosis of the Spleen.
11. Clerc: Indications for Operation in Chronic Disease of the Spleen.

7. **Vesicular (Gallstone) Colic.**—Lereboullet treats a crisis of gallstone colic with absolute rest in bed and hot applications over the site of the gallbladder. Friction with methyl or amyl salicylate is also advised. Skimmed milk diet is indicated, or kefir made with skimmed milk. An enema of antipyrine and laudanum is sometimes useful, as well as antipyrine internally. Finally, if all else fail, morphine must be used hypodermically.

PRESSE MÉDICALE.

May 22, 1912.

1. Paul Reclus: Ludwig's Angina.

May 25, 1912.

2. P. Alglave: Results of Total Resection of Superficial Varices of the Lower Extremities.

May 29, 1912.

3. Kirmisson: Genu Recurvatum.

June 1, 1912.

4. L. Landouzy, H. Gougerot, and H. Salin: Hemolyzing Bacillotuberculosis.
5. E. Demarest: Hydatid Cysts of the Lung.

1. **Ludwig's Angina.**—Reclus observes that the mortality of this phlegmonous inflammation of the floor of the mouth and upper part of the neck, streptococcal infection, and, usually, complication of some other disease (Stedman), rises to eighty per cent. without operation. He obtains capital results from a free incision with the thermocautery under local anesthesia, and thorough painting with tincture of iodine, and details three cases in proof. The disease occurs principally in men between twenty and thirty years of age, presents at first the appearance of a dental abscess, is quiescent for a few days, then develops with such suddenness as to menace life within ten hours.

2. Results of Resecting Varices.—Alglave states that the immediate results of resection are a feeling of lightness in the limb, ability to walk long distances without fatigue, increased stability of equilibrium, disappearance of the pasty edema, and nonrecurrence of ulcers. Subsequent results are so good as to elicit the warmest expressions of gratitude, from laborers especially. Any pain or ulceration merely shows that the operation was improperly or incompletely done.

3. Genu Recurvatum.—Kirmisson's three cases, all in young subjects, were relieved, the first by a cuneiform resection which permitted the removal of an osteofibrous mass in the popliteal space; the second by removal of a wedge shaped mass of bone from the joint; the third by a subcutaneous section of the femur above the condyles without touching the joint at all. The slight condition of flexion resulting from the last operation was perfectly maintained. There are cases on record where the knee joint itself was operated on with subsequent relapse and continued deformity.

5. Pulmonary Hydatid Cysts. — Demarest points out the difficulty in diagnosticating these cysts notwithstanding the use of exploratory puncture, radioscopy, careful laboratory technique, etc. He discusses the possibility of separating, clinically and by radioscopy, cysts in the lung parenchyma, deep cysts opening into the bronchi, and pleuropulmonary cysts, and the advisability of immediate surgical intervention under local anesthesia. The cure of superficial cysts, even large ones, is rapid if care is taken to close the cavity immediately after the operation.

SEMAINE MÉDICALE.

May 29, 1912.

1. L. Bard: Modifications of the Jugular and Esophageal Pulse in Lesions of the Left Heart.

June 5, 1912.

2. Guido Banti: Hemolytic Splenomegaly.

BERLINER KLINISCHE WOCHENSCHRIFT.

May 6, 1912

1. A. Dietrich: Congenital Tuberculosis.
2. G. Kapsenberg: Chemotherapeutics of Tuberculosis.
3. W. Kausch: Hormonal.
4. Max Klotz: Importance of Normal Intestinal Flora.
5. Ludwig Pick and Max Bielschowsky: Histological Findings in Eye and in Central Nervous System of Man in Acute Fatal Poisoning with Methyl Alcohol.
6. W. V. Simon: Myelotic Chloroleuchemia, Demonstrated through Malignant Tumor of Mamma.
7. Carl Lange: Sedimentation of Goldsol through Cerebrospinal Fluid.
8. Hugo Stettiner: Treatment of Pin Worms.
9. H. Coenen: Elephantiasis

4. The Importance of Normal Intestinal Flora.—Klotz reviews our knowledge of the importance of the intestinal flora in adults as follows: The microbes of the intestine are probably necessary to our normal condition, but unquestionably so for the digestion of cellulose. The material which they take away from the body can be easily dispensed with in the metabolism under normal conditions, but pathologically the loss may become very detrimental. Normally, the bacteria are not noxious, but abnormally, especially in pathological conditions, the intestinal microbes may become dangerous. The condition of the organism is of importance to the healthy growth of the bacteria in the intestine, as chemical and physical disturbances in the intestines affect the flora.

5. Histological Findings in the Eye and in the Central Nervous System in Acute Fatal Poisoning with Methyl Alcohol.—Pick and Bielchowsky review the post mortem findings in three persons who died from methyl alcohol poisoning. They found an acute disintegration of the nerve filaments in the optic nerve, but they were not able to find any inflammatory processes which would correspond to the histological condition in animal experimentation. Macroscopically, there existed a severe arterial hyperemia of the fundus oculi, while microscopically there was found an "acute toxic disease of the ganglion cells of the optic nerve in the retina."

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

April 25, 1912.

1. C. A. Ewald: Duodenal Tumors.
2. August Bier: Ulcus Duodeni (*To be concluded*).
3. R. Sommer and Friedrich Dessauer: Improvement of Electromedical Diagnosis and Therapeutics.
4. E. Harnack: Collargol and Colloidal Silver.
5. Krusius: Quantitative Experimental Investigations on Potency of Tuberculin Therapeutics (O. T. and B. E.) in Tuberculosis of Eyes.
6. H. Sowade: Method for Pure Culture of Syphilis Spirochetes.
7. Carl Hart: Plethora Vera.
8. H. Schmidt: Wassermann Reaction in Serum of Cadaver.
9. Albanus: Röntgen Rays in Nose, Mouth, Fauces, Larynx, and Trachea.
10. Adolf Blumenthal: Swellings on Temporal Bone.
11. Gustav Brühl: Ear, Nose, and Throat in Affections of Metabolism (*Concluded*).
12. H. Neumann: Importance of Phenomenon of Facial Nerve in Infancy.
13. Albert Sippel: Infusion of Physiological Salt Solution.

May 2, 1912.

14. Grober: Treatment of Chorea Minor.
15. August Bier: Ulcus Duodeni (*Concluded*).
16. V. Ellermann: Essential Pernicious Anemia.
17. Robert Hanser: Pseudotyphoid Fever in Which *Bacillus fæcalis alcaligenes* Was Found.
18. Erich Zabel: Diagnosis of Diseases of Alimentary Canal by Old Style Röntgen Armamentarium.
19. W. Merkens: Cæcum Mobile.
20. Fritz Hollenbach: Apendicular Inflammation with Total Inversion of Intestines.
21. Hans Reiter: Importance of Vaccine Therapeutics in Urology.
22. Max Strauss: Inflammation of Nail in Candy Makers a Vocational Disease.
23. Adolf Erdös: Meriodin in Treatment of Syphilis.
24. B. Stein: Rheumatism in Diseases of Nose.

1, 2, 15. Duodenal Tumors.—Ewald remarks that the treatment of tumors of the duodenum should be similar to the treatment of tumors of the stomach. Absolute quiet of the upper segment of the intestinal tract is therefore necessary. Nourishment should be given eventually by enema and a diet instituted which affects very little the hydrochloric reaction and which, therefore, must consist mostly of fats and carbohydrates. Internal medicine can have very little effect, as it would be difficult to reach the ulcer; only fluid remedies are available which could be brought to the site of the ulcer directly, with bucket or tube. Pain and hemorrhages must be treated symptomatically. From this is concluded that the only treatment which in the end would be of benefit is an operation.—Bier reviews the treatment of ulcus duodeni as carried out in Germany, England, and America. He cites especially Mayo and Moynahan, and favors posterior gastroenterostomy.

8. Wassermann Reaction in Serum of the Cadaver.—Schmidt takes up the question of the use of the Wassermann reaction in post mortem serum which has been lately discussed to a great extent. He finds that syphilis may be demonstrated in ninety-four per cent. in post mortem examinations.

21. The Importance of Vaccine Therapeutics in Urology.—Reiter observes that vaccine therapeutics will be successful in seventy-five per cent. of gonorrheal complications. In other diseases of the urogenital apparatus a combination of vaccine therapeutics with the old treatment is advisable. Sixty per cent. of cases will show improvement, but a beneficial influence upon acute gonorrheal urethritis will be observed only exceptionally. The author is in favor of autovaccines, and only exceptionally stock vaccine should be used. The treatment should be begun with small doses, but all depends upon the case itself.

22. Inflammation of the Nail in Candy Makers.—Strauss remarks that this vocational disease of the candy maker has been observed in France, where several authors speak of it, while in Germany very little attention has been paid to it. The treatment is usually not successful, although Chaussende advises washing with boric acid water and the use of boric acid petrolatum. Appel had success with local mercurial baths, but the best thing is prophylaxis which consists in absolute cleanliness.

23. Meriodin in the Treatment of Syphilis.—Erdös reports his observations on eight syphilitics treated with meriodin. He says that the therapeutic agent in meriodin is biiodineparaphenolsulphuric acid mercury, of which each tablet contains 0.0083 gramme, corresponding to 0.0025 gramme pure metallic mercury. The author remarks that this remedy is a reliable antisyphilitic in secondary as well as tertiary syphilis, against which neither the stomach nor the intestines revolt. It has no bad influence upon digestion. A cure should be effected in four to six weeks, during which period from 120 to 150 tablets could be taken. The administration is simple and the product is cheap.

MEDIZINISCHE KLINIK.

April 28, 1912.

1. L. Brieger: Physical Treatment of Diseases of Heart and Circulation.
2. K. Sick: Radiological and Clinical Observations Pertaining to Mechanism of Stomach (*To be continued*).
3. Lenzmann: Influence Exerted by Intravenous Salvarsan Injection upon Scarlet Fever.
4. A. Brosch: New Viewpoints in Treatment of Suspected Intestinal Tumors.
5. Neumann-Kneucker: Conduction Anesthesia of the Mandibular Nerve with Cold (Ethyl Chloride).
6. F. Berger: Blenotin, New Antigonorrheic.
7. Axmann: New Simple Pupillometer
8. W. Völtz: Part Played by Ethyl and Methyl Alcohol in Animal Metabolism and Cause of Toxicity of Methyl Alcohol.
9. V. Franz: Sexuality in Animal Kingdom.
10. F. Pinkus: Psoriasis.

May 5, 1912.

11. H. Strauss: Dietary Treatment in Diseases of Heart and Vessels.
12. R. Bárány: My Conservative Radical Operation in Chronic Inflammation of Middle Ear.
13. K. Sick: Radiological and Clinical Observations Pertaining to Mechanism of Stomach (*Concluded*).
14. Edmund Saalfeld: Remedies for Epilation.
15. Wilhelm Karo: Prostatic Hypertrophy and Therapeutics.
16. Bernhard Fuchs: Report on 216 Intramuscular Injections of Salvarsan.
17. W. Wangerin: Mimicry in Animal and Vegetable Kingdoms.
18. F. Pinkus: Psoriasis (*Concluded*).

1 and 11. Treatment of Diseases of Heart and Vessels.—Brieger states that in diseases of the heart and circulation, purely passive motion is the best treatment; that is, treatment by hydrotherapeutics, by hydroelectric baths, electrotherapeutic methods, massage, and mechanical therapeutics. Among the active treatments he places first light gymnastic exercises performed on apparatus; these are to be preferred to Swedish exercises. In exercises on apparatus it is very important to watch the pulse and blood pressure. We know from observation in normal subjects that immediately after such an exercise the blood pressure is increased. This state is followed by a lowering of the blood pressure, which finally returns to normal. Exception from this rule shows that the heart or the myocardium is in an abnormal condition. If, for example, the blood pressure is lowered immediately after the exercise it demonstrates that the exercise was too severe for the heart. Observation on the pulse has demonstrated that the frequency is increased moderately after active exercise, but this increase remains for only a short period.—Strauss remarks that a certain diet will be of great assistance to drugs which exert a tonic effect upon the heart, although a diet cannot be substituted for treatment by drugs. He speaks of the decrease of fluid nutrition. Hand in hand with this should go a decrease in the sodium chlorides. He then refers to the detrimental effect produced in diseases of the heart by ailments of the stomach and the intestines, to which special attention must be paid in such cases. A heavy meal or food which produces gases in the intestines must, therefore, be avoided. Food should be taken often, but in small quantities, and the principal meal should take place in the middle of the day and not in the evening.

3. Scarlet Fever and Salvarsan Injections.—Lenzmann reports twenty cases of scarlet fever treated intravenously with salvarsan, a treatment which he says has been approved by Ehrlich and others. He bases his treatment upon the theory that the so far unknown agent of scarlet fever shows an action somewhat similar to *Spirochæta pallida*. This statement he tries to prove and to augment by the fact that a reaction takes place in scarlet fever analogous to the Wassermann reaction in syphilis, but definite proof of this is lacking. He finally makes the statement that he has been successful with very small doses given intravenously or subcutaneously. He thinks that 0.2 gramme of salvarsan may be given in scarlet fever without danger; in children from three to eight years he has used 0.1 gramme, while in children from eight to fifteen the dose was 0.15 gramme. These doses, he says, are absolutely harmless. Dangerous complications were avoided by salvarsan treatment.

16. Salvarsan.—Fuchs reviews his results in 216 intramuscular injections of salvarsan. He thinks that this method is the best, as it creates a store of arsenic from which the body can draw a remedy against the spirochete. He calls attention to the fact that after such injection salvarsan may be demonstrated in the urine for six months, and, as a prolonged influence of arsenic upon the spirochete is one of the main reasons for salvarsan treatment, the intramuscular injection should be selected. He furthermore states that from such injections, if given under strictest asepsis, no danger will occur.

ZENTRALBLATT FÜR CHIRURGIE.

June 1, 1912.

1. F. Franke: Use of Zinc paraplast in Surgery.
2. Iselin: Covering Mesenteric Stump with Peritoneum in Extensive Resections of Intestine.
3. W. Lewit: Closure of Duodenal Stump after Extensive Resections of Stomach.

3. Closure of the Duodenal Stump after Extensive Resection of the Stomach.—Lewit, after a resection of two thirds of the stomach, closed the duodenum with a double layer of sutures and then fastened the stump to the ascending portion of the duodenum. This procedure differs from that of von Faykiss in that the stump is not fastened to the pancreas.

RIFORMA MEDICA.

May 18, 1912.

1. Augusto Murri: Traumatic Neurosis (*Continued*).
2. M. Dardanelli: Contusions of Abdomen with Subcutaneous Rupture of Wall.

May 25, 1912.

3. D. Giordano: Abscess of Liver.
4. G. Gaglio: Association of Ethyluretan with Quinine Hydrochloride in Hypodermic Medication.
5. M. Dardanelli: Contusions of Abdomen with Rupture of Wall (*Continued*).

1. Traumatic Neurosis.—Murri doubts that there is a real traumatic neurosis, stating that it was unknown before the establishment of insurance against accidents; he reports numerous cases which are extremely interesting and should be known by physicians interested in insurance matters. That the great majority of traumatic neuroses is due to the fact that the injured person is insured against accidents or hopes to collect heavy damages, he proves by the fact that even when all the moral and physical factors determining the so called traumatic neurosis are present, if there is no possibility of financial gain the pathological manifestations are not very severe and do not last long. Thus, immediately after the Messina earthquake, many were insane; two or three months after there were a few suffering from neurosis; five or six months after there was not a single person suffering from neurosis caused by the earthquake. In this occasion, there was lacking the nervous excitement, which often causes, and at times renders incurable the lesions following a railroad accident. Traumatic neurosis is cured very rapidly and even immediately after the accident, provided that the financial side of the accident is settled without delay; it lasts a long time and sometimes becomes incurable when a financial settlement cannot be reached. Murri advises that more precautions be taken before accepting employés liable to be victims of traumatic injuries, because often the injury is not the *causa prima* of the neurosis, but only the factor that brings to the surface a latent nervous lesion.

3. Abscess of Liver.—Giordano states that the classic symptoms of abscess of the liver are very often lacking and therefore not to be relied upon. The important factors leading to diagnosis are inflammation of the pleura with possible effusion, and a spot very painful on pressure, when these accompany the classic symptoms. The author does not attach much importance to the x rays or blood and urine examinations. He warns against the abuse and supposed harmlessness of the exploratory needle, and insists that the diagnosis should be made on the clinical data. As for the surgical procedure, Giordano thinks that in cases of abscess situated on the posterior and superior surface of the liver, resection of a portion of one or more ribs is indicated, care being taken not to injure the pleura. When the diagnosis is doubtful the abscess should be attacked through the abdomen. The abdominal cavity should be well protected with gauze and every abscess opened with blunt instruments, or better with the finger; all cavities should be well cleaned with gauze and not irrigated. The external medication should be changed every six or eight hours; the deep drains should not be changed for a week. Sometimes it is advisable to clean the abscess cavities with gauze soaked in solutions of formaldehyde, hydrogen peroxide, or quinine. The mortality in these patients is still high. Of the cured some are permanently well; recurrence is rare; when this happens, all the patients operated upon a second time recover.

ARCHIVES OF OPHTHALMOLOGY.

May, 1912.

1. John Dunn: Vessel Formation in the Vitreous.
2. R. Granville Waddy: Skiascopic Test.
3. H. H. Tyson and L. Pierce Clark: Eye Syndrome of Dementia Præcox.
4. George H. Knapp: Some Ocular Manifestations of Syphilis and Parasyphilis of the Nervous System.
5. Luther C. Peter: Tuberculosis of Conjunctiva and Sclera, following Removal of Pigmented Papilloma of Conjunctiva.
6. George A. Suffa: My Ocular Muscle Tucking or Shortening Operation.
7. C. Hess: Recent Essays Concerning Pathology of Lens.
8. Walther Loehlein: Successful Method of Corneal Transplantation.

3. Eye Syndrome of Dementia Præcox.—Tyson and Clark describe the ocular signs and symptoms of dementia præcox as observed in 115 consecutive cases, and point out their significance. They divide the fundus changes seen clinically into three groups: 1. Congestion of the discs, hyperemia and edema, dilated, dark colored veins, slightly contracted arteries, and blurring of the edges of the discs, all varying in degree. These changes constitute a low grade of perineuritis of the optic nerve. 2. Congestion of the nasal side, with temporal pallor of the discs, dilated veins, contracted arteries. 3. Pallor of discs, dilated veins, contracted arteries. These changes constitute anemia and partial atrophy of the optic nerve. The pupillary reactions to light and accommodation were sluggish, and the sensory pupillary reflexes negative in a large majority. The sensitiveness of the cornea was diminished in a very large majority. The visual color fields were concentrically contracted in all the cases. The changes in the optic discs, pupils, visual fields, and corneal sensibility form a new syndrome that they did not find in any other form of insanity, imbecility, or idiocy. Their interpretation of these findings is as follows: 1. They indicate that dementia præcox is attended by such an early and constant syndrome of alteration of disc, visual field, pupil, and corneal sensibility as materially to aid in the diagnosis, especially from the manic depressive group, acquired neurasthenia, hysteria, and the various forms of imbecility and constitutional inferiority. 2. The syndrome supports the theory that dementia præcox is an autotoxic disease, and that the poison is primarily vascular, which finally induces neuronic degeneration. It points to a toxine of some sort, which is either a metabolic defect in the tissues (ductless gland defect), or, what seems more probable, a poison generated in the liver or in the gastrointestinal tract. 3. The syndrome is of prognostic value, as the severer grades of eye changes are found in the more rapidly deteriorating cases. 4. The optic nerve lesion is quite in accord with our

best knowledge of the pathological anatomy of dementia præcox in other tracts of the brain. The conclusions of Southard from the examination of the brains of sixty-three patients with dementia præcox are given in full.

NEW YORK STATE JOURNAL OF MEDICINE.

May, 1912.

1. W. B. Cannon: Animal Experimentation; Benefits to Mankind.
2. H. W. Wiley: Services of Sciences to Rational Medicine.
3. J. M. L. Finney: Duty of Family Physician in Management of Surgical Cases.
4. B. White: Anaphylaxis in Relation to Clinical Medicine.
5. R. H. Huvelle: Vaccine Therapeutics in Purulent Diseases of Ear.
6. T. W. Clarke: Vaccine Therapy in Medicine.

PENNSYLVANIA MEDICAL JOURNAL.

May, 1912.

1. W. W. Babcock: Surgery of Kidney.
2. J. Jefferson: Traumatic Surgery of Hand and Foot.
3. H. D. Beyea: Secondary Repair of Perineum by Emmet Method.
4. F. C. Knowles: Herpes Zoster.
5. C. C. Mechling: Mucomembranous Colitis.
6. J. J. King: Adenoids, Their Effects upon the General System.
7. C. C. Turner: Delivery and Treatment of Obstetrical Patient.
8. V. M. Reichard: Reason for Medical Organization.

4. Herpes Zoster.—Knowles has seen 286 cases of this disease among over 21,000 of skin disease. He analyses these and finds that the period of greatest susceptibility to the condition lies in the second and third decades of life and that the male sex is vastly the more susceptible, 205 out of 286. The negro is seldom affected.

SURGERY, GYNECOLGY, AND OBSTETRICS.

April, 1912.

1. B. A. Thomas: Destruction of Tumors of Urinary Bladder by High Frequency Current Effect, Known as Dessication.
2. J. M. T. Finney: Significance of Blood in Stools.
3. R. T. Taylor: Stereoarthrolysis: Experimental Study in Arthroplasty.
4. J. A. Blake: Operative Treatment of Fractures.
5. A. Stein and W. J. Heimann: Esthimene and Secondary Elephantiasis Vulvæ.
6. W. C. Woolsey: Acapnia and Its Relation to Anesthetic Shock.
7. C. N. Dowd: Some Differences between Surgery of Children and Adults.
8. C. H. Mayo: Observations on Thyroid Gland and Its Diseases
9. J. McFarland: Apoplexia Uteri.
10. C. L. Scudder: Congenital Stenosis of Pylorus.

1. The Destruction of Tumors of the Urinary Bladder by High Frequency Current.—Thomas calls attention to the difficulties in determining by endoscopic examination whether or not a vesical papilloma is malignant or benign. He also wisely opposes the practice of removing a portion of the growth for microscopical examination inasmuch as such action may stir up metastases. Likewise on the grounds that such pieces of tissue are of little value to the pathologist, as they come from the top or side of the growth and not from its junction with the mucosa. As the majority of such neoplasms recur after excision the microscopical diagnosis cannot be much relied upon unless it discloses frank malignancy. In order to destroy these growths without subjecting the patient to an extensive operation the author brings about their destruction by employing a high frequency current, thus causing dessication. Four cases are reported in which, as yet, no recurrences have appeared, a year having elapsed in one instance. Thomas concludes that recurrences and metastases promise to be less frequent than by either suprapubic or intravesical incision, and, even should they occur, are far more amenable to a repetition of similar treatment.

2. The Significance of Blood in the Stools.—Finney lays stress upon the danger of omitting details in the examination of a patient and of jumping at conclusions without proper study. The importance of careful laboratory findings is emphasized in that unless the diagnosis is correct the treatment cannot be very effective. He reports a number of instances in which the presence of blood in the stools proved to be of value in assisting in the diagnosis. Without going into the laboratory tests Finney mentions certain conditions in which various substances may be present in the food that may be easily mistaken for blood; among these are the meats, certain vegetables containing oxydases, and drugs containing salts of the heavy metals as iron. In watermelons a substance has also been found which gives to certain chemical tests a reaction similar to that of blood. The conditions in which blood may occur are divided into lesions above and below the cardia of the stomach. The latter are subdivided into four general classes. 1. Trauma. 2. Disorders of the gastrointestinal tract proper, many conditions being included under this heading. 3. This larger group is that in which bleeding is associated with some disease of the organs directly connected with the gastrointestinal tract. 4. A more or less heterogeneous group, consisting of numerous local diseases or conditions which may be associated with gastrointestinal hemorrhage, the most striking subdivision of this group being the diseases of the blood forming organs.

8. Observations on the Thyroid Gland and Its Diseases.—Mayo gives a brief review of those enlargements known as goitre. Discussing first the colloid type, in which there is a decrease in the amount of parenchymatous tissue, he refers to the danger of iodine therapy. Although in this condition there is a diminished function due to loss of iodine, the use of that drug in old, long standing, colloid goitres of middle life may be the cause of degenerative changes, these being due to overstimulation and a deficient ability of natural absorption in such areas, and resulting in degenerations of the heart and eliminating organs. Concerning hyperthyroidism, until something more effective is found it should be considered a surgical disease unless proved otherwise by a rapid improvement under medical treatment. The fear of the mortality has been a great drawback, but a present series of over 160 patients have been operated upon without a death. In some 900 consecutive operations the mortality has been one per cent.

10. Congenital Stenosis of the Pylorus.—Scudder points out the danger of overlooking this condition in infants who are apparently dying from inanition, etc. He believes that surgical measures should be instituted as soon as the diagnosis of congenital pyloric stenosis is made, delay being dangerous because a starving baby rapidly loses its resistance and strength. The estimated mortality from expectant medical treatment is between eighty and ninety per cent. In a total of thirty-three cases operated in, the mortality was nine per cent.

DUBLIN JOURNAL OF MEDICAL SCIENCE.

May, 1912.

1. Henry Moore: Fatal Result Following Injection of "606."
2. G. E. Nesbitt: Clinical Estimation of Blood Pressure.
3. Adams A. McConnell: Volvulus of Spermatic Cord.
4. Robert J. Rowlette: National Insurance Act and State Medicine.
5. John Moore: Nonnotifiable Infectious Diseases as Cause of Mortality in Childhood, with Suggestions for Control.

1. Fatal Result Following Injection of "606."—Moore reports a case in which a man, aged twenty-five years, with syphilitic history and positive Wassermann reaction, suffering from early general paralysis of the insane, received an intravenous injection of 0.5 gramme "606." This produced a rather severe reaction; temperature 103° F., pain in the stomach, vomiting, and diarrhea, but this passed away after a few hours. Rather more than six weeks later he received a second intravenous injection of the same amount. A very few hours later his temperature was 105° F., his pulse weak, almost imperceptible, heart sounds feeble; lips, ears, nose, and nails blue; tremor of the right hand, speech indistinct, severe vomiting and diarrhea, pain in the stomach, head, and limbs, loss of sensation and tingling in the feet, loss of all reflexes, except a slight clonus in the right leg. On the next morning he was much better, but in the afternoon he became worse, and died at 11.30 p. m.

GLASGOW MEDICAL JOURNAL.

May, 1912.

1. JOHN MACPHERSON: Problem of Feeble Minded.
2. WALKER DOWNIE: One Hundred Consecutive Cases of Stricture of Gullet.
3. JAMES KERR LOVE: Syphilis and Deafness.

1. Problem of Feeble Minded.—Macpherson says that extreme mental defect arises in two ways: 1. As a sudden variation in a perfectly healthy stock; 2, as a gradual deterioration of certain members of a tainted stock. The latter is by far the most common. He contends that ordinary normal inheritance is characterized by continuous variations which swing within definite limits around the mean of the species, and that abnormal inheritance is marked by extreme variations which arise suddenly or gradually, which behave for a time as Mendelian characters, but which are ultimately extruded from the stock by two concurrent processes —the regression of the majority of the tainted members toward the normal, and the final extinction of the few members who markedly exhibit the abnormity.

3. Syphilis and Deafness.—Love made the Wassermann test on thirty-seven children who were deaf, and obtained only three positive results.

PRACTITIONER.

May, 1912.

1. MAURICE ABBOT-ANDERSON: Floating or Movable Kidney from Practitioner's Standpoint.
2. MACLEOD YEARSLEY: What Adenoids Really Mean to Children.
3. W. GREENWOOD SUTCLIFFE: Treatment of Tuberculous Glands of Neck in Children.
4. SPENCER SHEILL: Epidemic Gastroenteritis.
5. HUGH T. ASHBY: Anemia Associated with Rickets and Gastro-intestinal Disturbances, Including Splenic Anemia in Children.
6. A. S. COBBLEDICK: Rôle of Eye Strain in General Practice.
7. MEREDITH YOUNG: Diagnosis of Exanthemata and Allied Diseases.
8. G. NORMAN MEACHEN: Treatment of Various Types and Stages of Eczema.
9. SIDNEY BOYD: Diagnosis in Diseases of Joints.
10. VALENTINE ST. JOHN: Appendicular Abscess in Pouch of Douglas.
11. JAMES RUTHERFORD KERR: Thoracoplasty for Chronic Empyema.

1. Floating Kidney.—Abbot-Anderson urges the careful examination for floating kidney in neurotic women in whom some other etiology of their condition has not been made out, and contends that it can often be found and relieved, together with the symptoms. The chief cause in the production of floating kidney is pressure from corsets. This may be termed *vis a tergo,* while *vis a fronte* is the absence of fat about the kidney. The writer has never found a case of floating kidney in a male.

2. Adenoids.—Yearsley, in dealing with the etiology of this affection, says that heredity is a probable factor, for a tendency to their occurrence is well known to run in families. The exanthematous fevers, measles, scarlet fever, and diphtheria, are a fertile cause. The principal cause is a congenital or acquired predisposition. Repeated inflammations of the nose is one of the most frequent. Artificial feeding favors their occurrence, which explains why adenoid cases seem to grow more common and are more frequent in towns and in manufacturing countries than in agricultural districts and in Anglo-Saxon countries than in Spain and Italy. The symptomatology is well depicted, and the mental and physical injuries produced are strongly brought out. "If those who have charge of adenoid children would but remember their own temporary sufferings during a bad head cold, they could better realize the disabilities of children in whom the condition is more or less chronic." The ultimate effects of adenoids in handicapping the child when grown to maturity are briefly but vividly portrayed.

3. Tuberculous Glands of Neck in Children.—Sutcliffe says that in considering the treatment of tuberculous glands in children, especially of the neck, it must be remembered that in many cases spontaneous cure takes place if suitable surroundings are provided and the causes of irritation removed. Perhaps the greater number of the infections of childhood follow tonsillar and pharyngeal disturbances and, though it is doubtful if more than a small proportion of these are primarily tuberculous, it is quite certain that the enlarged glands which follow an attack of tonsillitis furnish a very suitable soil for the propagation of tubercle. It is at this stage, before caseation has taken place, that the best results can be obtained by rest, fresh air, and diet. He has repeatedly noticed large masses of glands in the neck that seemed to require operation, disappear in the course of a few months of treatment. The essential point of treatment is sufficient rest. Tuberculin is not of much service in these cases. The operation for removal of the glands is described minutely. After they have been removed tuberculin is of some slight service.

5. Anemia Associated with Rickets.—Ashby thinks that splenic anemia is simply a secondary anemia due to some such cause as a toxine absorbed from the intestinal tract; he is unable to find any connection with congenital syphilis.

6. Eye Strain.—See editorial article in this JOURNAL for May 25th, on page 1004.

CANADIAN MEDICAL ASSOCIATION JOURNAL.

May, 1912.

1. OSKAR KLOTZ: Inflammatory Cysts and Cancer of Breast.
2. HERBERT A. BRUCE: Acute Abdominal Emergencies.
3. W. L. CONNELL: Disinfection in and after Infectious Diseases.
4. R. P. CAMPBELL and F. S. PATCH: Present Status of Wassermann Reaction.
5. COLIN K. RUSSEL: Tabes Dorsalis: Exhaustion Theory with Experimental Evidence.
6. JOHN G. HUNT: Bronchoscopy.

2. Acute Abdominal Emergencies.—Bruce says that the sudden onset of acute abdominal pain, with, or even without rigidity of the abdominal

muscles, but with tenderness on pressure, indicates the presence of an acute lesion and calls for immediate surgical intervention. These acute emergencies are dependent on preexisting disease and therefore should be preventable by an early diagnosis and suitable treatment. The careful consideration of the early symptoms and observation of the site of greatest tenderness and rigidity are most important in making the diagnosis. Shock is not of necessity associated with perforation, as the condition of the pulse may remain practically normal for some hours after its occurrence. It is imperative in all cases of abdominal pain that purgatives should not be given, especially to children.

5. Tabes Dorsalis; Exhaustion Theory.—Russel takes the ground that it is reasonable to suppose that if a cell is not getting proper nutrition and yet continues to function, the catabolic changes will gradually overbalance the anabolic, and the cell will sooner or later reach a condition of exhaustion; and if this exhaustive process proceeds very slowly it will lead to a condition of atrophy. The cell in its efforts to survive would sacrifice first its most distal extremities, just as in the plant that has not been watered enough for some time, and so we should have in the cell an atrophy, not a degeneration, in the part of the axis cylinder most distal from the cell body, just as has been described in tabes. The fact that the intramedullary parts of the neurones have no neurilemma sheath, while the peripheral fibres have, is probably sufficient reason for the relatively greater affection of the former part of the neurone, although degeneration of the peripheral part of the neurone does occur as well. We should not expect to find any marked changes in the nerve itself, because once its fibres have atrophied and been replaced by connective tissue, it no longer functions and consequently, the cause of a catabolic change being to a large extent removed, the cell regains a more or less normal appearance, which explains the absence of lesion in the posterior ganglia. With the biochemical change in the blood noted by Virchow and others, the anabolic changes must be retarded more or less and when the catabolic changes are continually greater than the anabolic, the cell must suffer in the same way as a plant that does not get enough water. Where all the cells of the nervous system are under the same nutritive conditions all might be expected to suffer alike, but some are almost constantly active, while others are not. Thus the neurones that subserve the function of maintaining the tone of the muscles, and those that convey the sense of position of the muscles function continuously and would be expected to suffer first, as they do in very early tabes. The theory is worked out still more thoroughly, and experimental evidence is adduced in its support.

REVUE DE CHIRURGIE

April, 1912.

1. J. Lucas-Championnière: Lord Lister (1827-1912).
2. P. Delbet, A. Herrenschmidt and A. Beauvy: Chloroform Anesthesia and Adrenal Glands.
3. E. Quénu and P. Mathieu: Fracture at Ankle.
4. L. Bérard and H. Alamartine: Anatomical Classification of Thyroid Tumors.
5. Pierre Nadal: Significance of Mixed Tumors.
6. I. M. Glasstein: Treatment of Gangrene of Lower Limbs due to Arteriosclerosis by Means of Arteriovenous Anastomosis.

4. Classification of Thyroid Tumors.—Bérard and Alamartine give a historical review of this subject, discuss the embryology of the thyroid, and propose a new classification of thyroid growths based upon the recently acquired knowledge of the development of the thyroid and related structures. They divide thyroid tumors into those of the mesobranchial type, which originate from the thyroglossal duct or its derivatives, and those of the branchial type, arising from the branchial clefts. Among the first class are: 1. Tumors which arise from the thyroglossal duct itself: (a) Cysts and congenital fistulas of the middle of the neck and the malignant tumors which may result from their degeneration; (b) goitres of the cylinder cell type and perhaps myxedematous goitres. 2. Tumors arising from the thyroid itself: (a) Benign goitres; (b) malignant goitres. 3. Tumors arising from aberrant thyroid tissue: (a) Benign; (b) malignant. In the second or branchial class of tumors are: 1. Tumors of ectodermic source (groups of residual epithelial cells included at the level of the precervical sinus), thyroid cancers of pavement cell type. 2. Tumors of endodermic origin: (a) From the third branchial cleft, dorsal portion, benign and malignant parathyroidomas (iii); ventral portion, benign or malignant tumors of thymic type. (b) From the fourth branchial cleft, dorsal portion, benign or malignant parathyroidomas (iv). (c) From the fifth branchial cleft: Ventral portion, postbranchial or ultimobranchial strumas, ordinarily malignant. Cysts or fistulas arising from endodermic pockets, and capable by degeneration of giving rise to malignant growths, are also to be included in this group. 3. Tumors arising from a branchiomere: Branchiomas, mixed tumors, thyroid teratomas. Stress is laid on the parathyroid tumors or "parastromas," carefully studied by Langhans, of Berne, in 1907. They are classified, according to their situation, into the endothyroid, parathyroid, and aberrant types. Histologically, they are practically, if not wholly, all of epithelial origin. Some contain thyroid elements mixed in with the parathyroid constituents, either in an intimate admixture or in distinct lobules.

5. Mixed Tumors.—Nadal discusses at length Bard's theory of the origin of mixed tumors, viz., that they arise from persistent and previously quiescent nodal or "multivalent" cells—cells at so low a stage in the process of differentiation from the egg to the full grown organism, that they still have the power to produce several kinds of tissue. The more primitive, i. e., the more multivalent the cells giving rise to the tumor, the more complex will be the constitution of the latter. The author considers this theory more rational than any hitherto advanced, and shows that it is capable of elucidating observed facts otherwise inexplicable.

6. Arteriovenous Anastomosis for Gangrene.—Glasstein reports a case of threatening gangrene of the right leg—with dark red spots already present on the great toe—in a man thirty-eight years of age, in which end to end anastomosis of the femoral artery with the femoral vein yielded a completely successful result. On the day after the operation the color of the foot had considerably improved and the pain diminished. Two months later

the pain was entirely gone, and free movements of the limb could be freely executed. Six and a half months after the operation the limb was still in good condition. The left leg of this patient had been amputated three years before for gangrene.

MONATSCHRIFT FUR KINDERHEILKUNDE.

April 30, 1912.

1. P. P. Eminet: Answer to Article by Giovanni Zanetti, Enturale ed Artificiale del Lattante.
2. J. A. Schabad and R. F. Sorochowitsch: Codliver Oil and Rhachitis.
3. Max Kloitz: Digestion of Flour.
4. E. Moro: Diet of Scrofulous.
5. E. Weinrich: Urotropin and Hydrocephalus.

2. Codliver Oil in Rhachitis.—Schabad and Sorochowitsch considered the question whether or not the good effects observed in treating rhachitis with codliver oil were due to a ferment contained in the oil. It had previously been shown that olive oil and other oils did not have the same favorable effect on calcium retention as codliver oil. Codliver oil was heated to 100° C., and numerous metabolism experiments were conducted on infants. It was shown that after heating to 100° C. (which destroys all ferments) the same favorable effect in regard to calcium retention was observed as with codliver oil that had not been heated. In this way it was shown that the good effects of the codliver oil are not due to any ferment.

4. Diet of the Scrofulous.—Moro reports very favorable results in a diet composed exclusively of large amounts of milk and eggs in scrofulous children, about three years of age. Light, air, sun, and abundant good nourishing food are necessary to cure scrofulosis. A diet rich in fats and proteids and poor in carbohydrates is the best in the treatment of these cases.

INDIAN MEDICAL GAZETTE.

May, 1912.

1. Surgical Work at the Prince of Wales Hospital, Calcutta.
2. C. C. Barry and A. Fenton: Early Tuberculous Disease of Cecum.
3. T. H. Symons: Surgical Cases.
4. Chares Milne: Vital Statistics.
5. U. N. Brahmachari Bahadur: New Anophelines of Calcutta; Seasonal Prevalence and Variations of *Anopheline fuliginosus*.
6. H. Hooton: *Lamblia intestinalis* and Its Possible Connection with Poona Diarrhea.

2. Early Tuberculous Disease of the Cecum.—Barry and Fenton report four cases operated in for chronic appendicitis, in three of which the operation failed to relieve the symptoms and tuberculosis developed in the patients shortly afterward. In the fourth case an indurated patch was found at the base of the appendix together with some enlarged glands in the iliocecal mesentery, and a considerable piece of the ileum and ascending colon was excised together with the cecum.

Proceedings of Societies.

AMERICAN ACADEMY OF MEDICINE.

Annual Meeting, Held at Lehigh University, South Bethlehem, Pa., April 3 and 4, 1912.

The President, Dr. Alexander R. Craig, of Chicago, in the Chair.

(*Continued from page 1172.*)

The Teacher's Point of View.—Dr. Percy Hughes, of South Bethlehem, said that the teacher might consider "what should be taught" as a matter of ideals to be cherished, habits to be formed, a power of judgment developed, or information imparted. What should be taught was in the first place an ideal of complete living, realized as far as might be under the conditions of the school room. During the first six years of the school life, hygiene should be taught as incidental to the art of doing and living efficiently, of obtaining those scholastic and social aims which a true school life made prominent. If it was recognized that education was at every stage a preparation for life, only in so far as it was itself a complete living, according to the stage of development of the child, then the child would learn in such a school an ideal of efficient and joyous living which would remain with him. In the seventh or eighth grade, at the dawn of adolescence, the rules of health, and some of the most evident data of physiology might be summarized, with special reference, not so much to the child himself as to the social and civic life of the community into which he must now feel he was entering. There seemed to be every reason why in the high school something of both physiology and hygiene should be taught; and doubtless the hygiene should rest more directly upon physiology, but the considerations which varied in every school would determine how the instruction should be given. To bring the whole school life to bear in the formation of hygienic habits and ideals of living required a teacher of at least a good high school training supplemented by a normal school course in which much of the work had been brought directly to bear upon just this purpose.

Mr. F. D. Raub thought that, if in the schools, the pupils could be imbued with the importance of maintaining a certain manner of life conducive to good health, much would be accomplished toward making the child a useful member of the community. In the primary grades some of the features introduced were care of the body, including correct position in sitting, standing, walking, etc. The kind of food necessary and the avoidance of such that was unnecessary and unwholesome must be taken into account. The use of the special senses and the care of certain sense organs could be judiciously dwelt upon. These facts and others could readily be taught in the primary grade, but in the grammar grades, more of technical detail could be presented, bearing in mind always the necessity of inculcating good health habits and impressing upon the pupils the fact that much of their happiness and success in life was dependent upon the formation of correct habits of breathing, eating, exercise. In the grammar and high schools, instruction should be given concerning the different organs of the body, including a general knowledge of their structure and function.

Doctor Groszmann considered of great importance this coordination of the physical care and the training in proper hygienic habits which reflected upon the mental and moral attitude.

Dr. Helen C. Putnam thought it did no good to talk about hygiene in educational institutions under unhygienic conditions. Our public schools and our colleges,—and universities to some extent, were hotbeds of tuberculosis. She had visited many

scores of public schools and the dust was something we should not allow for the children in any well kept home. The tuberculosis death rate among teachers was higher than in any other profession Then too, with one or two exceptions, in the hundreds of schools she had visited she had never found the temperature under 72° F. and frequently found it up in the eighties. The janitors of our public schools should be subjected to examination, and they should be dismissed if they did not practise the requirements.

Dr. J. K. Weaver, of Norristown, was impressed with the fact that the lack of practical knowledge on the part of teachers was a grave fault in our teaching of hygiene in schools.

Mr. W. S. Steele, of Harrisburg, remarked that when he was a boy no one had told him that old age was merely the hardening of the arteries. If we could bring boys and girls to see that physical exercise was necessary in order to keep these arteries from hardening, that overstraining the heart was not good physical exercise, that to eat and drink too much was simply to overwork the organs of elimination and thus bring on various ills; if we could teach the youth how to live physically, we were not only making him a more efficient engine in the great factory of life, but we were creating a disposition that would be agreeable to associate with, and might, perhaps, prepare a better field than we realized for the dropping of spiritual seed. At what age the boy came to the full knowledge of himself and the full vow that he would cultivate and conserve himself must depend, first, upon the boy; and, second, upon his teachers, whether in the school, in the house, or elsewhere in his environment.

Improvements Suggested in the Teaching of Hygiene.—Mr. Louis Nusbaum, of Philadelphia, averred that the most vital factor in the teaching of hygiene was the teacher. She must, in no ordinary degree, have faith and enthusiasm in her work. So far as school life permitted, she must be the exemplification of her teaching. If we would relate our teaching to the child's daily acts so that he breathed correctly, took the proper amount of exercise, slept at reasonable hours, and in a well ventilated room; so that his body and clothing were always clean; if we could persuade him to be temperate and modest in all things, we should be giving a kind of training which would result, not only in personal health and happiness, but ultimately in increased health, happiness, and efficiency, and an improved morality of the entire community. We should be laying up golden treasure in our future fathers and mothers.

Mr. James S. Grim, of Kutztown, Pa., was sure that the average training teacher in this work was ready to proceed toward better things when the medical profession and superintendents of schools created a sentiment for a different type of examiner, a man who put health first and anatomical details second. Microscopic minutiæ as an end would part company with interest unless the teacher was not only unusually strong but a trained biologist as well. An examination in hygiene of a prospective teacher should in some way include the bodily habits of the applicant, in carriage, the vitality, the sanitary ideals actualized in practice. Action must follow discussion. The will must be moved toward better things. The teacher must be able to point to cleaner and better bodies as a result of the instruction in hygiene. We had been spending too much time on the human mechanism and too little time on the child's environment. If children saw how and where the house fly breeds and what it did they would soon be interested in its extermination. The new course of study of physiology and hygiene for the Pennsylvania State Normal schools had now this subject where it ought to have been long ago,—after botany and zoology. We should therefore be in a better position to take our part in conserving child life.

Miss Sara Phillips Thomas, of Philadelphia, thought that we had come to a period in the history of our nation, when we must give to the children the knowledge that would conserve their natural forces for the best development of the physical, intellectual, and spiritual of their natures. Our part in this great work was to bring the many valuable helps to the teaching force whenever and wherever we had the opportunity. It was not intended to impose new burdens upon the teachers, but to lighten those already present, by bringing to them this knowledge through the medium of sane, practical helps at our command. This department of scientific temperance instruction was trying to help equip the teacher in a sympathetic way for the work that the law required and which many of the normal schools failed to do. We should urge a definite course of instruction for those now studying in the normal schools and for those teachers already in the field, suitable courses in our Summer schools, such as the University of Pennsylvania had recently established, and the University of Tennessee had successfully supported for a number of years.

(*To be concluded.*)

Letters to the Editor.

TREATMENT WITH BACTERINS.

Portland, Oregon, *June 6, 1912.*

To the Editor:

During the month of March, 1912, with the assistance of Professor E. F. Pernot, I began doing blood culture work in diseases in which the etiological factors are not entirely satisfactory.

An organism was cultivated in six cases of arthritis deformans and a bacterin was prepared and administered. Two patients were markedly improved; three patients have not been treated long enough to report the history; one patient is not benefited.

A diplococcus was cultivated from the blood of an apparently healthy man with pyorrhœa alveolaris. Pus was flowing from the gums around all the teeth and the lower front teeth were loose. The teeth were scaled by the dentist, blood obtained from the median vein April 17th, and a bacterin prepared and administered April 25th, 28th, and May 7th. The dentist examined him May 18th and pronounced him cured.

Organisms were found in three cases of melan-

cholia; it is still too early to report results of treatment.

The acne bacillus was found in the blood in two cases of acne.

A man, sixty-nine years old, had a blood pressure of 220 mm. Hg. Diplococci were found in three different specimens of blood.

A man, forty years old, suffered with a severe attack of sciatica for ten days. An organism was isolated from the blood and a bacterin prepared, he received 250 million June 3d and 500 million June 5th. He told me that he slept well and was completely relieved.

Three epileptics showed organisms which were apparently the same in each case, a small micrococcus that did not stain and a large diplococcus. These cocci were nonpathogenic to the guineapig. A bacterin was prepared for one case, a man, aged twenty-eight years, in whom developed epilepsy four years ago. He had attacks every five days if he did not take bromides and on an average of every ten days or two weeks if he did. He had had as many as four attacks in one day. He received 250 million bacterins, April 26th; 500 million April 30th; 500 million May 3d; 500 million May 7th. On May 8th he had six convulsions, all severe, and I decided to give no more bacterins until he had another fit. He had three attacks of petit mal May 26th, on the 27th I gave 500 million, June 3d 500 million. He has had no attacks since May 26th to date, June 6th. The patient says he is better.

H. M. GREENE, M. D.,
602 Medical Building.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

The Sexual Life of the Child. By ALBERT MOLL. Translated from the German by Dr. EDEN PAUL. London: George Allen & Company, Ltd., 1912. Pp. ix-339. (Price, 15 s.)

Publishers and translator alike have rendered a great service to the medical profession by placing before a restricted circle of readers—"members of the medical, scholastic, legal, and clerical professions"—a translation of Moll's well known book. The author ranks among the foremost writers on the subject of sexuality. His works on hypnotism and sexual perversion have been translated into several languages, among them English. While Baron Krafft-Ebing, Havelock, Ellis, Forel, and Parke have produced important volumes on the sexual question, their books are too voluminous and are overburdened with case histories, making them very interesting and instructive to the specialist alone. This cannot be said of Moll's book, with its clear and concise text; undoubtedly he gives a few short histories—we do not think they number a hundred in all—to exemplify his statements and observations, but they are condensed and absolutely to the point.

After a short introduction and historical sketch, the author speaks of the sexual organs and impulse, and treats in the two following chapters sexual differentiation in childhood and symptomatology. This chapter is followed by pathology, etiology, and diagnosis, and the importance of the sexual life of the child. The last two chapters treat the child as an object of sexual practices and sexual education. The short synopsis; based upon the contents of the chapters, gives hardly a proper idea of the importance of the book. Thus, for example, in the second chapter the author speaks of the two functions of testicles, the production of the spermatozoa, and of the internal secretion. The "constituents of this internal secretion, having been poured into the general circulation, are supposed to give rise to the specific masculine sexual development, and, in particular, to lead to the appearance of the secondary sexual characters." Some French physicians go even so far (p. 108) as to say "that the testicle is not a single gland, but two glands," one for the preparation of the spermatozoa, the other the interstitial gland. Similarly, in the female, the ovaries "do not only produce ova; they also, like the testicles, furnish an internal secretion, and the absorption and distribution of this secretion by the blood are supposed to cause the development of the secondary sexual characters in women." Very interesting is what the author remarks about the exponents of the "women's rights" or suffragettes, who "prefer to maintain that such sexually differential inclinations"—of boys and girls—"result solely from differences in individual education," by which the activity of the will produces an "overwhelmingly powerful influence upon the development of the organs subserving the intellect, and, secondarily, also upon that of the other organs of the body; and thus certain association tracts in the brain are developed. But against this theory speaks the well established fact that even in childhood notable sexual differences make their appearance, mentally and physically, which sexual distinction is much more pronounced in the adults.

We learn that homosexuality is the rule in children during the second stage of development; the boy has a boy friend, the girl a girl friend. Only after puberty, or somewhat earlier, is friendship transferred to the other sex. Interesting also are the observations on castration in the male and its effects.

These few quotations and remarks may suffice to show how profoundly the subject is treated. Many other items of interest could be cited, especially from the sexual education.

Here is an important remark, on page 288: "The sexual enlightenment of the child is advisable. The biological processes of sex in the vegetable and lower animal world may be taught in school as early as the second period of childhood. A warning against the dangers of venereal infection may be given at school to the senior pupils shortly before they leave. . . . But for effecting enlightenment regarding the processes of individual sexual life, the school is unsuitable; this matter can best be undertaken by some private person, above all, the mother. . . ."

Before closing, we wish to call the attention of the translator to a statement which, in our opinion, is an error (p. 59, footnote): The German word *kitzel* does not signify itching, but only tickling; *jucken* in German means itching in English.

On the whole, however, the translation is exceedingly well done, and the translator has taken great pains to render the characteristically German text into idiomatic English, adding instructive footnotes, and in a few cases substituting lines from Longfellow for those of Storm, in a translation of whose poem the proper point would have been lost.

Atlas typischer Röntgenbilder vom normalen Menschen, ausgewählt und erklärt nach chirurgisch-praktischen Gesichtspunkten, mit Berücksichtigung der Varietäten und Fehlerquellen, sowie der Aufnahmetechnik. Von Dr. med. RUDOLF GRASHEY, a. o. Universitätsprofessor, Assistenzarzt der k. chirurgischen Klinik in München. Zweite, bedeutend erweiterte Auflage. Mit 207 Tafelbildern (Autotypien) in Originalgrösse und 201 Textabbildungen (Konturzeichnungen, Situationsskizzen, u. a.). München: J. F. Lehmann, 1912. Pp. xii-214.

The science of Röntgen photography has made such progress that a second edition of Grashey's atlas has become necessary seven years after the appearance of the first edition. The number of plates is increased from ninety-seven to 207 and many new sketches are added. The volume fulfills the original object of the author, to present pictures of normal structures so that the reader may become thoroughly familiar with the normal outlines, shadows, etc., before attempting to judge pictures of pathological conditions. The book furnishes a collection

of normal plates of different parts of the skeleton, particularly in the neighborhood of the large joints, taken from individuals of different ages and from various directions. The normal outlines, shadows, and landmarks are marked on the photographs, and the accompanying text gives in full a description of the same. The plates are reproduced in an extremely clear manner, and the number taken from each region is sufficient to include all the necessary variations dependent upon individual peculiarities, directions, and age of the subject. The accompanying sketches and text make the plates still more plain. The collection is of immense value, not only to the specialist in this work, but also to the general surgeon and practitioner who has not sufficient time to make his own normal pictures for comparison with the pathological. It is an excellent reference book for familiarizing oneself with the appearance of the normal and for furnishing an immediate comparison with any supposedly pathological plate. Among the best reproductions may be cited those of the upper and lower jaw, the thorax, and the pelvis. The insertion on the opposite pages of plates from standard anatomies, such as Merkel's, Sobotta's, and others, is of very material help in interpreting the Röntgen plates. In this way a practical x ray anatomical atlas is produced which compares very favorably in clearness with the usual collection of anatomical plates taken from dissected specimens of bones and joints. The book is unique and will have a permanent place in Röntgen ray literature.

The Ocular Muscles. A Practical Handbook on the Muscular Anomalies of the Eye. By Howard F. Hansell, A. M., M. D., Professor of Ophthalmology in the Jefferson Medical College, Emeritus Professor of Diseases of the Eye, Philadelphia Polyclinic and College for Graduates in Medicine, etc., and Wendell Reber, M. D., Professor of Ophthalmology in the Medical Department of Temple University, Professor of Diseases of the Eye, Philadelphia Polyclinic and College for Graduates in Medicine, Ophthalmologist to the Philadelphia General Hospital, etc. With Three Plates and Eighty-two Other Illustrations. Second Edition, Rewritten and Enlarged. Philadelphia: P. Blakiston's Son & Co., 1912. Pp. viii-223. (Price, $2.50.)

It is a pleasure to read a book devoted to the muscles of the eyes in which we find no labored effort to maintain a doubtful position, no straining for something new, but a plain, succinct statement of what is known to be true. The only fault we are inclined to find with it is that the subject is not elaborated as fully as it should be by authors who are so plainly its masters. To take a single example, the study of the etiology of the paralysis of the oculomotor nerve taken in conjunction with its symptoms would bring out with more definiteness the intimate connection that exists between this condition and certain diseases of the central nervous system, than does the general consideration of the causation of ocular palsies. Such an elaboration would increase the size of the book considerably, but it seems as though it would make it even more valuable than it is at present, which is saying a good deal. One thing that deserves commendation is the prominence given to the conservative treatment of heterophoria. Unquestionably similar remarks are made in similar writings on this subject, but it makes a great difference where the emphasis is placed. None of them say that an operation should be the first resort, but few leave the impression that there is much else to be done, and yet there are many things that may be done successfully to relieve patients suffering from muscular asthenopia. When these have failed, the advisability of an operation should first be taken into consideration. These are not the words of the book, they are an attempt to express the impression given by the emphasis.

NEW PUBLICATIONS.

Lowry, E. B.—False Modesty that Protects Vice by Ignorance. Chicago: Forbes & Co., 1912. Pp. 110.

Moll, Albert.—The Sexual Life of the Child. Translated from the German by Dr. Eden Paul. London: George Allen & Co., Ltd., 1912. Pp. ix-339. (Price, 15s.)

Anglo-Saxon Leechcraft. An Historical Sketch of Early English Medicine. Lecture Memoranda, American Medical Association, Atlantic City, 1912. London and New York: Burroughs Wellcome & Co., 1912. Pp. 262.

Hollingsworth, H. L.—The Influence of Caffeine on Mental and Motor Efficiency. Archives of Psychology, Edited by R. S. Woodworth, April, 1912. New York: The Science Press, 1912. Pp. 166.

Thirty-ninth Annual Report of the State Board of Charities and Nineteenth Annual Report of the State Commission in Lunacy, for the Year Ending September 30, 1911. New York: State Charities Aid Association, 1912. Pp. 208.

Sixth Annual Report of the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis, for the Year Ending February 1, 1910. Philadelphia: University of Pennsylvania, 1912. Pp. 37.

Handbook of Information Regarding the Routine Procedure of the Division of Communicable Diseases of the Department of Health of the City of New York. New York: The J. B. Pratt Company, 1912. Pp. 191.

Still, George Frederic.—Common Disorders and Diseases of Childhood. Second Edition. London: Henry Frowde (Oxford University Press) and Hodder & Stoughton, 1912. Pp. xiv-813.

Brunings, W.—Direct Laryngoscopy, Bronchoscopy, and Œsophagoscopy. Translated and Edited by W. G. Howarth, M. A., M. B., B. C. Camb., F. R. C. S. Eng., Surgeon in Charge of the Throat Department at St. Thomas' Hospital, etc. New York: William Wood & Co., 1912. Pp. xiv-370. (Price, $5.)

Giles, Arthur E.—Gynecological Nursing. With Forty-one Illustrations. New York: William Wood & Co., 1912. Pp. xiii-187. (Price, $1.50.)

Harman, N. Bishop.—Aids to Ophthalmology. With 100 Illustrations. Fifth Edition. New York: William Wood & Co., 1912. Pp. viii-216. (Price, $1.)

Goodall, Alexander.—Aids to Histology. New York: William Wood & Co., 1912. Pp. viii-135. (Price, $1.)

Dennett, Roger H.—The Healthy Baby. The Care and Feeding of Infants in Sickness and in Health. New York: The Macmillan Company, 1912. Pp. xv-235. (Price, $1.)

Billings, Frank, and Salisbury, J. H.—General Medicine. Volume I, Practical Medicine Series for 1912. Under the General Editorial Charge of Gustavus P. Head, M. D., and Charles L. Mix, A. M., M. D. Chicago: The Year Book Publishers, 1912. Pp. 404. (Price, $1.50.)

Murphy, John B.—General Surgery. Volume II, The Practical Medicine Series for 1912. Under the General Editorial Charge of Gustavus P. Head, M. D., and Charles L. Mix, A. M., M. D. Chicago: Year Book Publishers, 1912. Pp. 616. (Price, $2.)

Parsons, F. G., and Wright, William.—Practical Anatomy. The Student's Dissecting Manual. In Two Volumes. Volume I: The Head and Neck; The Lower Extremity. Volume II: The Thorax, Abdomen, Pelvis, Upper Extremity. New York: Longmans, Green, & Co.; London: Edward Arnold, 1912. Pp. Volume I, xvi-467; Volume II, vii-382. (Price, $2.40 a volume.)

Griffis, Frank C.—The Hospital Corps Quiz Compend. A Manual for the Hospital Corps, the U. S. Army Hospital Corps, National Guard, Red Cross Association, and for Students and Practitioners. Columbus: Ohio: The Edward T. Miller Company, 1912. Pp. 218.

Bref och Skrifvelser af och till Carl von Linné. Med Understöd af Svenska Staten Utgifna af Upsala Universitet. Första Afdelningen. Del VI. Stockholm: Aktiebolaget Ljus, 1912. Pp. ii-445.

Studies from the Department of Pathology of the College of Physicians and Surgeons. Columbia University, N. Y. Volume XII. For the Collegiate Years 1909-1911. Reprints.

Hookworm Infection in Foreign Countries. Publication No. 6 of the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease. Washington, D. C.: Offices of the Commission, 1911. Pp. 87.

Report of the Administrative Secretary of the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease. Washington, D. C.: Offices of the Commission, 1910. Pp. 38.

Second Annual Report of the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease. Publication No. 5. Washington, D. C.: Offices of the Commission, 1911. Pp. 140.

Report from the Pathological Department and the De-

partment of Clinical Psychiatry of the Central Indiana Hospital for the Insane. 1909-1910 and 1910-1911. Volume IV. Pp. 344.

Miscellany.

The Relations of Dentistry to Medicine.—A leading article in the June issue of the *Old Dominion Medical Journal*, edited by by Dr. Beverley R. Tucker, reopens the discussion of the relations between dentistry and medicine which was begun in the April issue. The writer says:

In our editorial article in the April issue of the *Old Dominion Medical Journal* we called attention to the close relationship, or the inseparableness of medicine and dentistry. Since that writing several things have come to our notice which seems to us to strengthen our argument that dentistry should be placed upon a higher plane and made a part and parcel of medicine itself. We cannot but hope that the medical profession and the dental profession will take up this matter until it is pushed to a consummation that will amalgamate the two.

In the April issue of the *Archives of Internal Medicine*, than which no medical journal of higher standard is published in this country, we find an article by Thomas L. Gilmer, M. D., on Chronic Oral Infection. Gilmer calls attention to the fact that in most mouths may be found tubercle bacilli among other dangerous bacteria. He also draws attention to the fact that deep pockets which harbor bacteria are found in the crowns and bridges made as substitutes for lost teeth and their faulty adjustment. He also states that he thinks it is a safe estimate to say that one fourth of the human jaws have suppurating cavities and quotes Odenthal, who found glandular swellings in ninety-nine per cent. of all children who suffered from badly decayed teeth and makes a strong insinuation that chronic alveolar abscess, though without pain, swelling, rigors, or fever which are found in acute abscesses, is the more dangerous of the two. He calls attention to the marked general improvement in health which follows proper attention to the teeth in many cases, and quotes Osler as saying that in twenty cases of pernicious anemia, pyorrhœa alveolaris was present in more than half. Certain types of nephritis are also believed to be due to oral infection.

In the same number of the same journal Frank Billings, M. D., of Chicago, in a paper entitled Chronic Focal Infections and Their Etiological Relations to Arthritis and Nephritis, states that abscesses of the gums and alveolar sockets, pyorrhœa alveolaris, and septic types of gingivitis may cause systemic diseases of various types and advises skilled dental attention in arthritic and nephritic cases.

In the May issue of the *Old Dominion Medical Journal*, La Roque has to say that Daland is very sure that the condition of the teeth and mouth among other things has immediate causative relation to gastroenteric disorders, and quotes Osler as saying that more deaths are caused in the United States by unhealthy mouths than by alcohol.

Thus we are awaking to the importance of the mouth cavity as the cause of both medical and surgical disease, and the sooner we dignify the profession of dentistry, which treats these diseases primarily, the sooner we shall get better results in preventive medicine and in preventive surgery. We hope that this question of making dentistry a part of medicine will be actively taken up. We suggest that a committee from the American Medical Association confer with a committee from a national dental association with this end in view.

Meetings of Local Medical Societies.

TUESDAY, *June 25th.*—New York Psychoanalytical Society; Valentine Mott Medical Society, New York (annual); Washington Heights Medical Society, New York; Alumni Association of Seney Hospital, Brooklyn; Buffalo Academy of Medicine (Section in Pathology); Rome, N. Y., Medical Society.

WEDNESDAY, *June 26th.*—Medical Union, Buffalo.

THURSDAY, *June 27th.*—Bronx Medical Association; New York Physicians' Association; New York Celtic Society.

FRIDAY, *June 28th.*—Audubon Medical Society, New York.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending June 14, 1912:

CHOLERA—FOREIGN: *Dutch East Indies*, March 10, 5 cases, 2 deaths; *India*, April 7-May 4, 64 cases, 323 deaths; (Madras Presidency), April 1-30, 2,458 cases, 1,523 deaths; *Indo China*, April 23-29, 12 cases, 12 deaths; *Turkey* (Adana), April 16-May 13, 125 cases, 48 deaths; (Aleppo), May 12-18, 2 cases, 1 death.

YELLOW FEVER—FOREIGN: *Ecuador*, April 1-30, 72 cases, 33 deaths; *Mexico*, June 9, 1 case; *Venezuela*, April 1-May 31, 4 cases, 2 deaths.

PLAGUE—FOREIGN: *Chile* (Iquique), April 21-May 4, 5 cases, 2 deaths; *China* (Hongkong), April 21-May 4, 273 cases, 235 deaths; *Egypt*, March 29-May 16, 160 cases, 69 deaths; (Alexandria), March 23-May 10, 2 cases, 2 deaths; (Cairo), March 26-May 14, 2 cases, 1 death; *India*, March 1-May 4, 162 cases, 681 deaths; *Indo China*, April 23-29, 4 cases, 3 deaths; *Java*, April 14-20, 5 cases, 5 deaths; *Turkey* (Jidda), April 1-May 6, 5 cases, 4 deaths.

SMALLPOX—UNITED STATES: *Alabama* (Montgomery), May 26-June 1, 1 case; *Colorado*, May 1-31, 51 cases; *New Jersey*, May 1-31, 1 case; *New York*, April 1-30, 33 cases; *South Dakota*, April 1-30, 44 cases; *Tennessee*, May 1-June 1, 22 cases; *Vermont*, May 1-31, 11 cases.

SMALLPOX—FOREIGN: *Algeria*, April 1-30, 1 death; *Austria Hungary*, April 28-May 11, 13 cases; *Canada*, May 8-June 1, 6 cases; *China* (Hongkong), April 21-May 4, 23 cases, 16 deaths; *Germany*, May 5-18, 20 cases; *India*, March 1-May 4, 296 cases, 126 deaths; *Indo China*, April 23-29, 2 cases; *Italy*, May 12-18, 9 cases, 6 deaths; *Java*, April 14-20, 3 cases, 2 deaths; *Korea*, Jan. 1-April 30, 843 cases; *Mexico*, April 21-June 1, 16 cases, 10 deaths; *Portugal* (Lisbon), May 12-18, 3 cases; *Russia*, April 21-May 12, 20 cases, 7 deaths; *Spain* (Barcelona), May 12-18, 18 cases, 1 death; *Straits Settlements*, April 14-20, 1 case; *Turkey* (Beirut), May 5-11, 15 cases.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending June 12, 1912:

Altree, G. H., Acting Assistant Surgeon. Granted thirty days' leave of absence, without pay, from June 20, 1912. **Alvino,** Guirino, Acting Assistant Surgeon. Granted four days' leave of absence from June 7, 1912. **Branham,** H. M., Acting Assistant Surgeon. Granted five days' leave of absence, without pay, from June 3, 1912. **Brooks,** Simon P., Acting Assistant Surgeon. Granted seven days' extension of annual leave on account of sickness, from May 20, 1912. **Collins,** G. L., Passed Assistant Surgeon. Relieved from duty at Ellis Island, N. Y., and directed to proceed to South Baltimore, Md., and report to the Commanding Officer, Revenue Cutter *Unalga*, for duty. **Frost,** W. H., Passed Assistant Surgeon. Detailed to represent the Service at the second annual conference of State Health Officers, at Lawrence, Kansas, June 10 to 15, 1912. **Hollman,** H. T., Acting Assistant Surgeon. Granted thirty days' leave of absence, from June 12, 1912. **Lumsden,** L. L., Passed Assistant Surgeon. Granted ten days' leave of absence from June 10, 1912. **Mason,** W. C., Acting Assistant Surgeon. Granted nine days' leave of absence, without pay, from June 13, 1912. **Morse,** J. F., Acting Assistant Surgeon. Granted three months' leave of absence, without pay, from June 1, 1912. **Porter,** J. Y., Quarantine Inspector. Granted ten days' leave of absence, from June 7, 1912. **Ramus,** Carl, Passed Assistant Surgeon. Granted seven days' leave of absence en route to station. **Rodman,** J. C., Acting Assistant Surgeon. Granted fourteen days' leave of absence, without pay, from June 9, 1912. **Stimson,** A. M., Passed Assistant Surgeon. Granted two days' leave of absence, June 5th and 6th, under paragraph 191, Service Regulations. **Stoner,** J. B., Surgeon. Granted seven days' leave of absence, from June 12, 1912. **Warren,** B. S., Passed Assistant Surgeon. Detailed to represent the Service at the annual meeting of the State Board of Health of New Jersey and the Pediatric Society of the State of New Jersey, at Spring Lake, N. J., June 10, 1912.

Resignation.

Pharmacist Julius E. Beck resigned, effective June 7, 1912.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending June 15, 1912:

Beeuwkes, Henry, Lieutenant, Medical Corps. Granted fourteen days' leave of absence. **Bispham,** William N., Major, Medical Corps. Detailed for duty at the Army Service School, Fort Leavenworth, Kansas. **Craig,** Charles F., Captain, Medical Corps. Granted thirty days' leave of absence, to take effect about July 5, 1912. **Duncan,** Louis C., Captain, Medical Corps. Granted thirty days' leave of absence. **Hall,** William E., First Lieutenant, Medical Reserve Corps. Granted leave of absence for two months with permission to apply for an extension of one month and twenty days. **Hathaway,** L. M., Captain, Medical Corps. Granted ten days' leave of absence. **Howell,** Walter C., First Lieutenant, Medical Reserve Corps. Relieved from duty at Schofield Barracks, H. T.; granted two months' and twenty-six days' leave of absence; at expiration of which, to be relieved from active duty in the Medical Reserve Corps. **McLellan,** George H., Lieutenant, Medical Corps. Left Fort McDowell, Cal., on two months' leave of absence with permission to apply for one month's extension. **Michie,** Henry C., Jr., Lieutenant, Medical Corps. Orders relieving him from duty at Fort Missoula, Mont., and to report for duty at Fort Flagler, Wash.. revoked. **Mitchell,** Leopold, First Lieutenant, Medical Reserve Corps. Granted ten days' leave of absence. **Munson,** Edward L., Major, Medical Corps. Relieved from duty at the Army Service School, Fort Leavenworth, Kansas, and ordered to Presidio of San Francisco, Cal., for duty. **Owen,** Leartus J., Captain, Medical Corps. Relieved from duty at Fort Benjamin Harrison, Ind., and ordered to Schofield Barracks, H. T., for duty. **Page,** Henry, Major, Medical Corps. Ordered to camp of organized militia, Moorhead City, N. C., from June 3d to 12th and July 16th to 25th, for duty as inspector instructor of North Carolina militia. **Raymond,** Thomas U., Lieutenant Colonel, Medical Corps. Now on leave of absence in the United States, is relieved from duty in the Philippines Division, to take effect upon expiration of said leave, and will then proceed to Fort Slocum, N..Y., for duty. **Scherer,** Carl A., First Lieutenant, Medical Reserve Corps. Resignation accepted, June 5, 1912. **Scott,** George H., Captain, Medical Corps. Leave of absence extended twenty days. **Thornburgh,** R. M., Major, Medical Corps. Granted fourteen days' leave of absence. **Wheate,** J. H., First Lieutenant, Medical Reserve Corps. Reported for temporary duty at the Presidio of San Francisco, Cal.; left Boise Barracks, Idaho, on June 2, 1912. **Wild,** William F., First Lieutenant, Medical Reserve Corps. Resignation accepted on June 11th. **Willis,** John M., Lieutenant, Medical Corps. Left Fort Snelling, Minn., on June 11th, on thirty days' leave of absence. **Woodruff,** Charles E., Lieutenant Colonel, Medical Corps. Granted thirty days' leave of absence.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending June 15, 1912:

Baker, M. W., Surgeon. Detached from the receiving ship at Mare Island, Cal., granted leave for one month; and resignation accepted to take effect on July 19, 1912. **Clark,** G. F., Passed Assistant Surgeon. Detached from the *Solace* and ordered to the Naval Medical School, Washington, D. C. **McMullin,** J. J. A., Assistant Surgeon. Detached from the *North Carolina* and ordered to the *North Dakota.* **Rose,** M. E., Acting Assistant Surgeon. Detached from the Marine Recruiting Station, Memphis, Tenn., and ordered to the Marine Recruiting Station at St. Louis, Mo. **Vickery,** E. A., Passed Assistant Surgeon. Detached from the *Maryland* and ordered to the *St. Louis.* **Whitmore,** G. B., Passed Assistant Surgeon. Ordered to the Naval Recruiting Station, Des Moines, Iowa.

Births, Marriages, and Deaths.

Born.

Allen.—In New York, on Sunday, June 16th, to Dr. and Mrs. Dell B. Allen, a daughter.

Married.

Bakes—McCaw.—In New York, on Thursday, June 6th, Dr. Frederick C. Bakes, of Albuquerque, New Mexico, and Mrs. Katherine L. McDougall McCaw. **Baron—Lefkowitz.**—In Philadelphia, on Sunday, June 9th, Dr. Samuel Lincoln Baron and Miss Ida Lefkowitz. **Barr—Huntley.**—In Cleveland, Ohio, on Thursday, June 6th, Dr. Winfield E. Barr and Miss Louise Huntley. **Hartnett—Gaskin.**—In Kingston, Canada, on Wednesday, June 5th, Major Eugene H. Hartnett, Medical Corps, United States Army, and Miss Margaret Burton Gaskin. **Lassell—Lyon.**—In Redlands, Cal., on Wednesday, June 5th, Dr. Sidney R. Lassell, of Hainau, China, and Miss Ruth Lyon. **Lassen—O'Hara.**—In Denver, Colo., on Thursday, June 6th, Dr. Fritz Lassen, of Pueblo, and Miss Margaret O'Hara. **Milbank—Weatherbee.**—In Mamaroneck, N. Y., on Saturday, June 15th, Dr. Samuel Milbank, of New York, and Miss May A. Weatherbee. **Phy—Daniels.**—In Spokane, Wash., on Saturday, June 1st, Dr. William Thomas Phy and Miss Grace F. Daniels. **Pillsbury—Wood.**—In Jefferson Barracks, Mo., on Wednesday, June 5th, Captain Henry C. Pillsbury, Medical Corps, United States Army, and Miss Janet Wood. **Scott—Gilhooly.**—In Elizabeth, N. J., on Wednesday, June 12th, Dr. George Orville Scott, of Ottawa, Canada, and Miss Helen Gilhooly. **Smith—Crozer.**—In Ellicott City, Md., on Wednesday, May 22d, Dr. Houghton Currier Smith, of Trenton, N. J., and Miss Ethel M. Crozer. **Soule—Kerwin.**—In Owosso, Mich., on Saturday, June 8th, Dr. Glenn Taylor Soule, of Ann Arbor, and Miss Marie Kerwin. **Spaeder—Schoonover.**—In Philadelphia, on Friday, June 7th, Dr. Philip J. Spaeder, of York, Pa., and Miss Marie L. Schoonover. **Talbott—Lackland.**—In Washington, D. C., on Wednesday, June 5th, Dr. John Allan Talbott and Miss Roberta Willis Lackland. **Tomlinson—Griffin.**—In Scranton, Pa., on Monday, June 3d, Dr. Charles S. Tomlinson and Miss Valedia Griffin. **Tomlinson—Jahn.**—In Plainfield, N. J., on Saturday, June 8th, Dr. Roland Davis Tomlinson, of New York, and Miss Marion Jahn. **Wells—Painter.**—In Fort Wayne, Ind., on Saturday, June 1st, Dr. Henry O. Wells and Miss Zepha Painter. **Wolfe—Palmer.**—In Dubuque, Iowa, on Wednesday, June 5th, Dr. John L. Wolfe, of Cedar Falls, and Mrs. Mary Palmer. **Wright—Kelly.**—In Far Rockaway, N. Y., on Saturday, June 8th, Dr. Glenn Elmore Wright, of Chicago, and Miss Anna V. Kelly.

Died.

Boggs.—In Huntingdon, Pa., on Saturday, June 7th, Dr. William H. Boggs, aged forty-five years. **Bready.**—In Dubuque, Iowa, on Wednesday, June 5th, Dr. John Ely Bready, aged seventy-two years. **Carleton.**—In New York, on Saturday, June 15th, Dr. Edmund Carleton, aged seventy-three years. **Fairbanks.**—In Amsterdam, N. Y., on Friday, June 14th, Dr. James R. Fairbanks, aged sixty-nine years. **Herbert.**—In Hanoverton, Ohio, on Saturday, June 1st, Dr. John L. Herbert, aged fifty-five years. **Kerr.**—In Pittsburgh, Pa., on Wednesday, June 5th, Dr. Boyle Kerr, aged eighty-two years. **Parsons.**—In Thompsonville, Conn., on Thursday, June 13th, Dr. Edward Field Parsons, aged seventy-nine years. **Perry.**—In Greenville, S. C., on Sunday, June 9th, Dr. H. M. Perry. **Rowley.**—In Berkeley, Cal., on Tuesday, June 4th, Dr. Milton M. Rowley, aged sixty-one years. **Satcher.**—In Many, La., on Monday, June 3d, Dr. Thomas Jefferson Satcher. **Short.**—In Flint, Mich., on Sunday, June 2d, Dr. John L. Short, aged sixty-nine years. **Strowbridge.**—On Friday, May 31st, Dr. George H. Strowbridge, aged forty-five years. **Topham.**—In Brooklyn, N. Y., on Saturday, June 15th, Dr. Thomas W. Topham, aged sixty- six years. **Wright.**—In Grand Rapids, Mich., on Friday, June 7th, Dr. Fred W. Wright, aged fifty-three years.

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PRIMARY SOURCES OF TUBERCULOUS INFECTION, THEIR RELATION TO EUGENICS, AND THE COST OF TUBERCULOSIS.*

BY S. ADOLPHUS KNOPF, M. D.,

New York,

Professor of Medicine, Department of Phthisiotherapy, of the Post-graduate Medical School and Hospital.

In this city, a month ago, I appeared before a legislative committee in order to plead for relief from the fearful congestion which to my mind is responsible in not a small measure for the prevalence of tuberculosis, for its still altogether too great morbidity, and its high mortality.

To impress the legislators before whom I appeared with the futility of spending money for the cure of tuberculosis as long as they allow the present congestion to exist in our tenements, I had prepared the following table, which, thanks to the courtesy of the various gentlemen at the heads of the institutions enumerated, I believe I have been able to make as accurate as possible:

The Health Department's Division of Communicable Diseases spends annually $432,000, of which two thirds go toward the prevention and cure of tuberculous disease (nine dispensaries, school boats, registration, supervision, disinfection, district nursing), two thirds of $432,000	$288,000.00	
Riverside Hospital-Sanatorium, North Brother Island	215,000.00	
Municipal Tuberculosis Sanatorium, Otisville	200,000.00	
Total		$703,000.00
The Department of Charities, taking care of advanced cases, expends annually on the Metropolitan Tuberculosis Hospital	$290,000.00	
For early cases sent to Raybrook	16,102.17[1]	
For patients sent to Seton Hospital	52,700.00	
For patients sent to Nazarean Branch	47,000.00	
Total		405,802.17
The Department of Bellevue and Allied Hospitals spends for its tuberculosis work annually		30,000.00
The Charity Organization Society spends for its committee on the Prevention of Tuberculosis	$21,929.08	
And for its Association of Tuberculosis Clinics	5,143.33	
Total		27,072.41
The New York Association for Improving the Condition of the Poor spends for its Sea Breeze Hospital	$21,412.37	
For relief work among tuberculous families	27,312.24	
For Home Hospital, 23 tuberculous families	23,480.00	
Total		72,204.61
The United Hebrew Charites granted to families in which tuberculosis was a cause of distress	$45,570.00	
For the same cause by the sisterhoods affiliated with that society	13,895.65	
The Social Service Department of the Free Synagogue	5,342.89	
Total		65,008.54
The committee on the Prevention of Tuberculosis of the Brooklyn Bureau of Charities spent last year, including $2,000 for dental work essential in the prevention of tuberculosis		16,393.33
The House of Rest for Consumptives, at Inwood on the Hudson, spent in the year 1911		40,555.39
St. Joseph's Hospital spends on its free beds for the tuberculous annually		100,000.00
The Montefiore Country Sanatorium, at Bedford Station, spent last year	$95,150.83	
The Ladies' Auxiliary, additional for clothing, etc.	3,000.00	
The Montefiore Home, for its tuberculous patients in the same institution, spends for the treatment of cases from the city, additional	18,000.00	
Total		101,150.83
The New York Throat, Nose, and Lung Hospital spends annually on its tuberculosis work		5,000.00
Flower Hospital Tuberculosis Dispensary		1,000.00
The Presbyterian Hospital Dispensary		[illegible]
The Good Samaritan Dispensary		5,700.00
The Vanderbilt Clinic		5,167.48
German Hospital Tuberculosis Dispensary		3,660.00
St. Bartholomew's Clinic		1,200.00
St. George's Tuberculosis Class		1,200.00
Morgagni Clinic		2,400.00

*Read before the Medical Society of the State of New York, Section in Mental and Nervous Diseases and Eugenics, at Albany, April 18, 1912.

[1]The superintendent of the State Hospital adds this information: "This amount was spent by the city for 103 patients from New York last year. The State paid $11,672.51, which makes a total of $27,774.68. The cost of maintenance a week for each patient has been $9.03. The city pays $5 per week, for transportation, also medical examination and minor incidental clothing; the State pays the remainder."

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Mount Sinai Hospital Tuberculosis Clinic	10,000.00
Tuberculosis Preventorium for children, spent last year	15,000.00
The Loomis Sanatorium at Liberty estimates the amount of money spent annually for the benefit of patients from the city	22,239.99
The Adirondack Cottage Sanatorium at Trudeau, N. Y., spends for the same purpose	25,000.00
The Stony Wold Sanatorium at Lake Kushaqua, N. Y.	66,981.91
Society of St. Vincent de Paul estimated expenses for tuberculosis work	75,000.00
Estimated cost of individual philanthropy for the tuberculous poor	200,000.00
	$2,014,005 57

You will see from this that we are spending annually about two million dollars in the city of New York alone for the tuberculosis cause; and when you consider the many relapses which occur, because a large majority of those who are cured or whose disease is arrested in our public institutions fall victims to the disease anew, shortly after their return to their former environments, you will grant that a good portion of this two million dollars is spent in vain. Again, you must consider that we not only have a great many relapses because the cured patient on his return from the sanatorium finds exactly the same environments as those in which the disease was contracted or developed, but that these environments are such that the children of a tuberculous father or mother are almost sure to become infected.

Is it a wonder then that we have to-day in the city of New York, according to some authorities 45,000, and according to others 60,000, tuberculous individuals? While neither one of these estimates may be exact, we know that in spite of the combined agencies the health department's statistics for last year show a loss of 10,258 individuals by death from tuberculosis; and naturally you all know that because of the chronicity of this disease it causes more mental and physical suffering and individual financial sacrifice on the part of the poor than any other known affliction. Thus, I am sure you will agree with me that it is time to pause and ask ourselves, is this expenditure on the part of the commonwealth and the individual worth while? Is it practical, is it economical, is it just, is it humane to make these financial sacrifices for such relatively small returns?

What applies to New York applies virtually to the whole country. The National Association for the Study and Prevention of Tuberculosis reports that more than $14,500,000 was spent in fighting tuberculosis during the year 1911. By far the largest item of expense was that for sanatoria and hospitals. For the erection of institutions of this kind, more than $11,800,000 were spent. Dispensaries for the examination and treatment of tuberculosis spent $850,000, and associations and committees in their educational campaign against tuberculosis spent $500,000. The remaining $1,300,000 was spent for treatment in open air schools, prisons, and hospitals for the insane. Appropriations of more than $10,000,000 for tuberculosis work in 1912 have already been made by State legislatures and municipal and county bodies.

To say that at least $50,000,000 are invested in buildings and equipments in the United States by State, municipal, and private philanthropy for the sole purpose of caring for the tuberculous poor would indeed be a low estimate, and in this sum is not included the money invested in sanatoria for the well to do. The $15,000,000 above mentioned for running expenses does likewise not include the actual money expended for the care of the consumptives outside of institutions; still less does it include the economic loss to our country by the premature death of tuberculous individuals.

Of the estimated 150,000 who die annually from tuberculosis in the United States, I venture to say 50,000 have been bread winners, and estimating the value of such a single life to the community at only about $1,500, this makes a loss of $75,000,000 each year. Another third, I venture to say, represent the children at school age. They have died without having been able to give to their parents and to the community any return. Making the average duration of their young life only 7.5 years, and estimating the cost to parents and the community at only $200 per annum, the community loses another $75,000,000 because it has not prevented a preventable and curable disease in childhood.

I am not figuring in dollars and cents the cost of little babes who die in infancy. The suffering thus caused to parents can no more be calculated than the suffering, misery, tears, and agony of those afflicted with the disease itself. But I trust that the cold figures I have given showing the economic loss, and our knowledge of the suffering which is caused in body and mind to untold numbers because of this disease, will inspire you and me to look a little more closely into the origin of tuberculosis, the primary sources of infection, and their relation to eugenics; and, if possible, to inaugurate more efficacious prophylactic measures, so that we may have more frequent cures and fewer relapses.

In order to study these problems carefully, let me now for a moment trace the life history of a few tuberculous individuals and see whether we cannot learn something bearing on the subject of Primary Sources of Infection and Their Relation to Eugenics. We may, perhaps, thus also get a more rational explanation of the prevalence of tuberculosis in our present state of civilization, or let me say regretfully, *in spite of* our present state of civilization.

A young man and a young woman meet, love, and marry. Neither knows anything of the other's physical condition. The law in most of our States does not demand a certificate of health prior to entering the matrimonial state. The young woman may have worked in a shop or factory from the age at which the law permitted her to work (in some States this age is the age of childhood). The young man, a laborer, a skilled artisan, or clerk, with a modest income owing to high rents and the high cost of living, must take his bride to crowded quarters and when, in the natural course of events, children arrive, what are the chances of these children if either of the parents happens to be tuberculous? It is a sad chance these children have.

According to a careful study of Dr. James Alexander Miller and Dr. J. Ogden Woodruff, of New York (*Journal of the American Medical Association*, March 27, 1909), children of tuberculous parents who live in close association with such parents have been found to be positively tuberculous in fifty-one per cent. of cases.

When we now consider the statistics of Biggs, Brouardel, Naegeli, and a great many others, who assert that the vast majority of city people, working or living in confined quarters, have or have had an active or latent or healed tuberculosis, I believe I am safe to say that at least twenty-five per cent. more of the children of the masses have an undiscovered tuberculous focus. This focus may heal, as it doubtless does in many instances, but when it does not heal entirely and a girl grows up to womanhood, marries, and bears children, the chances are very much against her, and an acute tuberculosis will most likely develop. The child is born; if the woman has been fortunate enough to have had the disease discovered she will probably not give the child the breast; if she does nurse the child herself she will decline more rapidly. In either event this child is surely born with a physiological poverty not ready to resist later sources of infection.

From the very interesting work of my associate, Dr. Bertram H. Waters, senior instructor in phthisiotherapy of the New York Post-Graduate Medical School and Hospital, and chief of the health department's clinics, entitled, *An Experimental Study of a New Remedial Agent and of its Effects in Pulmonary Tuberculosis*, I have selected a number of cases of tuberculous women to show the vast difference in the constitution of the blood from that of the normal woman. In the normal individual there should be in the female in each cubic millimetre 4,500,000 erythrocytes, about 8,000 leucocytes, 0.95 hemoglobin, and 20.25 lymphocytes. Following is a careful analysis of the condition of the blood of six tuberculous women:

Case V, that of a tuberculous woman, eighteen years of age, in the earlier stage of the disease, showed on examination 4,100,000 red blood cells, 9,200 white blood cells, 0.81 hemoglobin, and 21.5 lymphocytes.

Case VI, that of a woman of twenty-four years, likewise with relatively early lesions, showed on examination 4,100,000 erythrocytes, 10,100 leucocytes, 0.75 hemoglobin, and 17.4 lymphocytes.

Case VII, in a woman twenty-four years of age, with the disease of about one year's standing, showed a blood count of 4,400,000 erythrocytes, 7,800 leucocytes, 0.86 hemoglobin, and 19.6 lymphocytes.

Case VIII, in a woman thirty-four years of age, in the latter stage of the disease, showed at repeated examinations so low a count as 3,620,000 erythrocytes, 16,920 leucocytes, 0.81 hemoglobin, and 20.4 lymphocytes.

Case XVIII, in a woman twenty-five years of age, afflicted with the disease for about two years, revealed the interesting fact that, at about the time she left the institution where she had the best hygienic care, and in addition the terpisone treatment, she had a blood count of 4,480,000 erythrocytes and 18,100 leucocytes. Four weeks' renewed sojourn in her congested home reduced the red blood corpuscles to 3,952,000 with a count of 34,200 white cells, 0.77 hemoglobin, and 10.0 lymphocytes.

Case XIX, in a young girl fourteen years of age, in the latter stage of the disease, but of relatively short duration, showed 4,360,000 erythrocytes, 28,300 leucocytes, 0.79 hemoglobin, and 6.0 lymphocytes.

You will thus readily see why the child of a tuberculous mother lacks that physiological vigor which should be the heritage of every one. Unless the child is taken from its tuberculous parent and put in an ideal environment, or the mother and child are enabled to leave the unhygienic environment and be placed in such conditions as surely and lastingly to cure the mother's tuberculous trouble and the child's inherited predisposition, the morbidity and mortality statistics of tuberculosis will be increased by two.

If the father is the tuberculous parent, and the mother is unusually vigorous and has resisted infection, the chances are that the child is free from tuberculosis; but its chances of becoming infected by close contact with the tuberculous father are obviously great, as the danger of postnatal infection is always present when an infant is cared for by, and comes often in close proximity to a tuberculous individual.

We come now to another of the primary causes of tuberculous predisposition, the basic reason for which may be social as well as physiological. In taking the history of tuberculous patients I have made it a practice for years always to ascertain the size of the family from which the individual comes and whether he was the first, second, third, fourth, fifth, etc., born of the family. This careful history taking has revealed the fact that the great majority of tuberculous individuals coming from large families were the younger. It is nearly always the later born who contract tuberculosis.

There is no doubt in my mind that perhaps the age of the father, but most frequently the system of the mother worn out by repeated pregnancies, has contributed to the physiological poverty of that later born child. This child comes to the world handicapped physiologically. In many instances when the family, because of the number of children, has been reduced to a state of relative poverty, the later born children cannot receive, or have not received either the good care or the good food which was given to the first born at a time when there were not so many mouths to feed. This condition might be considered the sociological reason of the child's predisposition to tuberculosis, added to the physiological causes above described. I have in my records a number of such later born individuals who had become tuberculous in adult life when there was no tuberculosis in their family, but the personal history revealed always a state of health below par from early childhood.

It would not do, before an audience of this kind, to deny the possibility of direct bacillary transmission through the placenta. These cases are rare, it is true, but they occur, and they occur perhaps more frequently than our statistics seem to indicate. Osler, in his *Practice of Medicine*, states that in 125 autopsies at the Foundling Hospital in New York the bronchial glands were tuberculous in every case. Francine, in his book on *Pulmonary Tuberculosis*, contends that it is possible that after the bacillus has reached the fetus it may live dormant in the lymphatics of the newborn for six months or longer, yet the infection has been directly hereditary. Malone, of Georgia, in a recent contribution

entitled Pulmonary Tuberculosis, goes so far as to say that all cases of tuberculosis of which he has knowledge were inherited, but he does not give the number of cases, nor how he came to his conclusions (*Medical Progress,* Louisville, Ky., February 12, 1912).

Recognizing fully the possibility of direct bacillary transmission, I nevertheless assert that postnatal infection is the most frequent cause of tuberculosis in childhood.

It is of course well known that alcoholism in the adult is a very strong predisposing factor to tuberculosis. In my service at the Riverside Hospital-Sanatorium on North Brother Island a large number of patients are alcoholics and the prognosis in such cases is almost invariably unfavorable. One of my resident physicians, Dr. Arch. J. Dixon, has been good enough to compile for me the following interesting statistics. They show that chronic alcoholism should be considered one of the most important factors in an acquired predisposition to tuberculosis:

In *1908:* 349 cases, of which 259 were males and 91 females, gave the following alcoholic history:

	Small amount.	Moderate.	Excessive.
Male	6	135	51
Female	2	21	1

This is 192 out of 259 males, or 74 per cent.

In *1909:* of 901 cases; 694 males, 207 females:

	Small amount.	Moderate.	Excessive.
Male	14	311	160
Female	5	35	5

This is 485 males out of 694, or 69 per cent.

In *1910:* of 773 cases; 579 males, 147 females:

	Small amount.	Moderate.	Excessive.
Male	29	256	121
Female	12	23	2

This is 406 males out of 579, or 70 per cent.

In *1911:* of 418 cases; 297 males, 121 females:

	Small amount.	Moderate.	Excessive.
Male	9	121	71
Female	9	9	0

This is 201 out of 297 males, or 66 per cent.

The relation of eugenics to tuberculosis, when the parent has been an alcoholic, has not been as carefully studied in this country as might be desired. This is probably due to the lack of special sanatoria for tuberculous children—the only places where these statistics can be carefully compiled. France, which has the distinction of doing far more for its tuberculous children than for its tuberculous adults, has not only a great number of seaside and inland sanatoria for children afflicted with tuberculosis of all kinds, but also a special society called *L'Œuvre de préservation de l'enfance contre la tuberculose,* founded and endowed by my beloved and much regretted master, Professor Grancher. This latter society takes care of children of the tuberculous poor of great cities by placing them in good country homes under careful medical supervision. Statistics in the children's sanatoria in France have shown conclusively that twenty-five per cent. of the nontuberculous parents of these tuberculous children admitted were alcoholics to a greater or lesser degree. This shows conclusively that when we study eugenics in relation to tuberculosis we must not neglect the alcoholic parentage.

Unfortunately, I have not been able to get at any statistics concerning syphilis as an etiological factor in tuberculosis. Only in the rarest instances will parents admit a syphilitic history, particularly when they think that through this admission the physician will hold them responsible for the child's affliction. I communicated regarding this matter with Dr. Alfred F. Hess, the physician in chief of the Preventorium at Farmingdale, N. J., where none but predisposed children are received, and he assured me that it was almost impossible to get parents to admit a syphilitic history. Yet, there is no doubt in my mind that the nontreated, or not thoroughly treated syphilis in the parent will render the child, by reason of its syphilitic inheritance, also more prone to tuberculosis.

The social evil, or rather the social ill, as I prefer to call it, certainly is a predisposing factor to tuberculosis among the unfortunate women who for one reason or other have been forced to take up this life of misery and shame.

That the mentally defective child will fall more readily a prey to the germs of tuberculosis, our asylums for the feeble minded and insane prove beyond a shadow of doubt. Thus, in our studies it will not do to neglect the mentality of the parents.

After having considered these several different physiological and pathological relations of eugenics to tuberculosis, we must now speak of the last cause, which I do not know whether to classify with the pathological, the physical, or the sociological. Poverty, misery, want, and overwork we know to be productive of a soil fit for all sorts of illnesses, but particularly the invasion of the tubercle bacillus. It matters not whether this condition is produced by underfeeding or malnutrition, by a worn out system, by a depressed spirit, the inhalation of vitiated air in unsanitary workshops or overcrowded homes, or all of these factors combined, we know that the poor, overworked, and badly housed furnish a very much larger proportion of the army of the tuberculous than the well nourished and well housed, and that the relapses among the cured consumptive poor are many, many times more frequent than among the well to do.

Let us now rapidly trace some of the primary sources of tuberculous infection. First of all would have to be considered the milk of the tuberculous mother when it is not known to herself or to her physician that she is tuberculous, or, as unfortunately happens not infrequently, she gives the child the breast against the physician's advice. No statistics on this subject are available, yet, to judge from my own consultation and hospital practice, there is no doubt that tuberculosis is not infrequently thus transmitted to the infant. That the bovine type of the bacillus of tuberculosis must be considered a very important factor in primary sources of tuberculous infection has become more and more evident by recent researches in that direction.

Let me merely quote here from the admirable paper describing the work done in the research laboratory of the Department of Health of the City of New York under the able direction of Professor William H. Park and Dr. Charles Krumwiede, entitled *The Relative Importance of the Bovine and Human Types of Tubercle Bacilli in Different Forms of Human Tuberculosis:*

PERCENTAGE OF BOVINE INFECTION.[2]

Diagnosis.	Adults sixteen years and over.	Children five to sixteen years.	Children under five years.
Pulmonary tuberculosis[3]	0 per cent.	0 per cent.	0 per cent.
Tuberculous adenitis, cervical.	4 " "	37 " "	57 " "
Abdominal tuberculosis	16 " "	50 " "	68 " "
Generalized tuberculosis	3 " "	40 " "	26 " "
Tuberculous meningitis (with or without generalized lesions)	0 " "	0 " "	15 " "
Tuberculosis of bones and joints	5 " "	3 " "	0 " "

Thus you see that, while the bovine type of the tubercle bacillus as an etiological factor in pulmonary tuberculosis of the adult, may be considered a negligible factor, in children on the other hand, bovine tuberculosis is responsible for a very large percentage of cervical, alimentary, and bone and joint tuberculous affections; and since milk is the principal food for infants and young children we must hold the tuberculous cow responsible for the large percentage of tuberculosis in childhood.

The next most important primary sources of infection in childhood are obviously to be sought in the bacilliferous saliva and bacilliferous sputum of the tuberculous individual in close and prolonged contact with the child. There is the tuberculous mother's or father's kiss, conveying the bacilli to the child through the bacilliferous saliva; the tasting of the milk to judge of its temperature through the rubber nipple before inserting it into the mouth of the child; the use of the same spoon when testing other food as to temperature and taste; the use of the same drinking glass; the careless coughing over the child conveying the bacilliferous droplets during the so called dry cough; the tuberculous midwife resuscitating the stillborn; the inhalation of the bacilli laden air derived from dried tuberculous sputum; the deposit of tuberculous germs carried by the fly from uncovered sputum receptacles to milk and other food products intended for the child. I have seen other instances of likelihood of tuberculous infection such as the child putting its little fingers into the tuberculous mother's mouth and then into its own; the tuberculous mother moistening her handkerchief with her tuberculous saliva to remove a little dirt from the child's face, or kissing little scratches or abrasions on the child's hands to remove a little blood or make the child forget the little injury.

Most of what has been said of primary sources of infection in infancy holds good of course also of infection in the older child and in the adult. In school, the healthy nontuberculous child is exposed to the acquisition of a predisposition by too long hours of school work, too much home study, too little sleep, too little play, and not enough outdoor life. It can become infected by a tuberculous fellow pupil. The habit of kissing, particularly among girl pupils, of using the same drinking cup, or putting toys in the mouth, etc., are some of the methods of direct infection.

In adult life various trades and professions, particularly those involving the inhalation of mineral or vegetable dust and necessitating an indoor life, create a predisposition to tuberculosis, and the laborer or employee in factory or office is exposed to contracting the disease from a careless tuberculous fellow worker.

The well known methods of infection in adult life need not be recapitulated here. I wish to mention only a few of the rarer ones, or rather those more rarely thought of; for example, the moistening of the final leaf in making a cigar by the saliva of a tuberculous cigar maker; glass blowers using the same mouth piece. The tuberculous waiter, the tuberculous cook, and the tuberculous maid can convey the tuberculous infection in various ways. The tuberculous bookkeeper, coughing over his books, moistening his fingers to turn the leaves with his bacilliferous saliva and working, as a rule, in a badly ventilated office, has in not a few instances given tuberculosis to his successor on the ledger. I have the assurance from physicians practising among the devout Roman Catholic population in Canada that to the indiscriminate kissing of relics not a few cases of tuberculosis may be traced.

Tuberculosis has been transmitted by inoculation through the practice of tattooing, the operator having been tuberculous and dissolved the colors with his own saliva. Cases of tuberculous inoculation are also now and then reported as a result of circumcision, practised according to Jewish rites, when the operator happens to have been consumptive. The operation of circumcision, when skillfully and rapidly performed, is in itself trifling, but the sucking of the prepuce afterward makes it dangerous. The employment of a glass tube for the latter purpose and educating the operator in asepsis will suffice to overcome any possible danger of tuberculous inoculation. In many instances these operators have only a theological and no surgical training whatsoever.

Those of us who have lived and worked with the tuberculous will be able to recall many other direct or indirect means of infection. Poncet, of Paris, asserts that he has found the tubercle bacilli in the perspiration of consumptives. His experiments have not yet been corroborated sufficiently to consider this possible source of infection an absolute fact. If it really occurs, the cases in which tuberculosis is contracted from this source might be considered exceedingly rare, and in view of the existing phthisiophobia, I do not think it is best to scare the public and increase the prejudice of people by saying that the touch of the skin of the tuberculous might give rise to the disease. Ordinary cleanliness of the skin of the phthisical patient is certainly sufficient protection against this rare source of infection. In the presence of a tuberculous patient suffering with excessive hyperidrosis the nurses in attendance are instructed to wash their hands after having attended the patient and to place the soiled personal and bed linen in water until subjected to the usual steam or hot water for cleansing and disinfecting.

Let this enumeration of the more rare primary causes of infection suffice for our purpose to-day and let us rather turn our attention to what after all is the most important part of our subject: What can we do to get at the bottom of it all? What can we do to abolish the predisposing or antenatal causes and the postnatal infection responsible for the propagation of tuberculosis?

[2]Exclusive of the cases of double infections. In considering the pulmonary cases it must be remembered, however, that bovine tubercle bacilli have been isolated from the lung in cases of generalized tuberculosis in children.

[3]If one doubtful case admitted, 0.2 per cent.

Our social reformers will tell us: The first thing you physicians must do is to prevent the tuberculous from marrying. This is more easily said than done. Certainly, we know, there are a number of States in which a certificate of health is demanded before a license is issued, and recently some brave clergymen, foremost among them the Very Rev. Walter Taylor Summer, of the Protestant Episcopal Cathedral of St. Peter and Paul of Chicago, have declared that they would bar all marriages unless the couples were armed with a physician's certificate saying that they have no trace of insanity, tuberculosis, or other communicable disease. If I have the quotation correct, I would object to the wording of this declaration, for, if the reverend gentleman really means that he will not marry any one who has even a trace of tuberculosis, he will have a chance of performing the ceremony relatively rarely. What the old German *Geheimrat* said many years ago, still holds good. I refer to the often quoted words *Am Ende haben wir alle ein bischen Tuberkulose,* which might be freely translated, "taking all things into consideration, perhaps every one of us has or has had at some time or other a little tuberculosis."

A mere trace of tuberculosis should not bar any one from marrying and propagating, but with a distinctive lesion, likely to become acute at any moment, or with a very strong predisposition, marriage and procreation should be deferred until the prospective husband or wife is cured. I cannot speak for the experience of others, but as for myself in years of consultation practice, I have had occasion to prohibit marriage a good many times. Sometimes, those who had sought my advice obeyed it, more frequently they did not and I have come now to the firm conviction that neither State law, clergyman's protest, nor physician's advice will prevent people from coming together as husband and wife if they want to. I grant that there are exceptions, but these exceptions are few.

A somewhat easier task is it when we are confronted with a tuberculous married man or woman whom we desire to convince that as long as he or she is acutely ill with the affliction there must be no children. Such advice the average tuberculous patient is willing to take, but obviously failures are frequent. What are we to do? This is one of the most important phases of eugenics. We spent last year nearly $15,000,000 for the cure and prevention of tuberculosis in the United States in institutions alone, and we still lose annually 150,000 people from consumption, which represents an economic loss of $150,000,000. This will continue as long as we allow conditions to prevail as they are now almost universally.

Has the time not come for a radical and energetic policy for dealing with various phases of the tuberculosis problem, including the procreation of a tuberculous race? Beside pleading with all the earnestness I am capable of for all means to combat tuberculosis for which others and I have pleaded before, such as early diagnosis, compulsory registration, periodical examination of all school children, and of all employees in factories, workshops, and offices, the establishment of maternity sanatoria, children's sanatoria, sanitoria for early cases, hospital sanatoria for the advanced cases, dispensaries, labor bureaus for the tuberculous, agricultural and horticultural colonies, better housing, better home hygiene, better ventilation in factories, stores, offices, and workshops, supervision of food supplies, abolition of child labor, more open air schools, utilization of city roofs for playgrounds, more outdoor play for all children, and education in popular hygiene for all people, I plead with you for vasectomy for all tuberculous male patients who are willing to submit to this operation. I should make this operation obligatory for any one who is acutely tuberculous and insists upon marrying. I would advise the ligation of the Fallopian tubes for all female patients in the same situation, or similarly afflicted. I would teach even slightly affected tuberculous parents or married people, not only all the details of prophylaxis so that they may not infect each other, their children, or others, but should make it also a sacred duty to teach them how not to procreate while either one of them is acutely afflicted with the disease. To this end I should go so far as to urge that parents, even when they feel themselves apparently well and strong and recovered from a tuberculous lesion, not to decide on having a child without both submitting themselves to a careful physical examination. Only when found in really good health, as a result of a careful examination by a competent practitioner, should they feel that they have a right to procreate a race.

I know this sounds revolutionary, and to some it may be a shock; but I know that many in their heart of hearts will agree with me that after all it behooves us as true physicians to be true doctors—true teachers, and that to make the human race strong in health and vigor, sound in mind and body, free from unnecessary care and preventable disease, should be a religious duty of the physician of this age.

May I incidentally state here that in the cases on record where for one reason or another vasectomy or ligation of the tubes was performed, the recoveries were rapid and uneventful, and the general condition of the patient was much improved. In suggesting these radical prophylactic procedures I do not wish to be misunderstood. In an early or only very moderately advanced pregnancy of a tuberculous mother, I do not counsel emptying the uterus unless I am convinced that the mother's life is in certain danger, and I gladly state that I never, never assume the responsibility of counseling so grave an operation without having two colleagues—one a competent general practitioner and one a gynecologist or obstetrician, in consultation. In addition, I procure the written consent of the husband to the operation. When it is decided to let the pregnancy go on, we should environ the mother with the best possible hygiene and submit her to the most careful dietetic treatment. This can be done in the homes of the well to do, I believe, with fair success; but for the poor we must have maternity sanatoria where the mother can live several weeks before, and several weeks after confinement. The physiological poverty, invariably in-

herited from a tuberculous mother, should be treated in the child. This again cannot be done in the average home of the poor.

I have spoken before of the French society, founded by Grancher for the preservation of childhood against tuberculosis (*L'Œuvre de préservation de l'enfance contre la tuberculose*). Much as I admire this work of my beloved teacher, I do not feel that it is the ideal way of taking care of the strongly predisposed or already tuberculous child. The separation of the mother from her child has always appealed to me as something which should be resorted to only when absolutely necessary. To place not only the child but the mother as well, in fact the entire family, in hygienic environments, where they may breathe good air, have well lighted and clean rooms, perhaps so arranged that outdoor sleeping is feasible, and where there is medical supervision, would seem far superior to the separation of child ter than oppression; early marriages and small famwould receive the benefit of preventive and curative care.

While the out of town district would be ideal for such homes of tuberculous families, it seems that even a great city when it has citizens public spirited enough to devote their fortunes to such a laudable purpose, may have such a home hospital. A beautiful example of such a sanitary home for tuberculous or predisposed families exists now in the city of New York, and is known as the East River Homes, at Seventy-eighth Street and John Jay Park, which were built by the generosity of Mrs. William K. Vanderbilt, Sr. Here, a number of families with members who are strongly predisposed to tuberculosis, or have recovered from the disease, receive the advantage of almost ideal homes with every room lighted and ventilated and with all modern sanitary improvements, for a most moderate sum. To give also to such families, where the bread winner is yet an invalid or not strong enough to support a family, the advantage of such a home, the New York Association for Improving the Condition of the Poor has leased for three years an entire section of the East River Homes. This section consists of twenty-four apartments with a southeastern exposure. The trustees of the East River Homes have given the association entire control of the open stairway leading to these apartments and free access to, and partial control of the ideal roof garden. These families will be carefully supervised by physicians and nurses.

I have referred to syphilis as a factor in tuberculosis. It would be extraneous to this paper to review all the agencies proposed to overcome venereal disease, which is just as much a plague as tuberculosis itself. My own views in the matter I may sum up by saying, that when we shall have once ceased to be afraid to talk of sexual matters with our children and have instructed the parents how to teach children such matters; when we have impressed the masses with the fact that the danger of the infection from venereal disease increases when it remains hidden, undiscovered, and untreated; when we have provided special wards for the treatment of such diseases in all general hospitals, made conscious transmission of the disease by sexual or other intercourse a crime,—then may we hope to have advanced a step in the direction of combating this second great social disease of the masses.

To combat the social ill, wrongly called evil,[4] requires, first, the social readjustment of the status of woman. If she is alone she must earn enough to be able to live from her earnings decently and respectably; if she is dependent for her living on the earnings of a male member of the family (father or brother) the earnings of these male members must be adjusted so that they can support the female members of the family in respectability. Repression of the social ill I consider better than oppression; early marriages and small families must also be considered an important factor in the solution of this serious problem.

Humanity demands that we treat the mentally defective child, the feeble minded, the idiot, and the insane in closed institutions. That tuberculosis is thereby propagated is well known. The treatment of these unfortunates, when tuberculous, must be the same as for the sane tuberculous. But regarding prophylaxis from a eugenic point of view, vasectomy and the equivalent operation in the female seem to be specially indicated in these cases.

I have given as the last predisposing factors to tuberculosis, poverty, misery, want, overwork, underfeeding, a worn out system, a depressed spirit, the inhalation of vitiated air, the unsanitary workshop, and the overcrowded tenement.

The more dense the population, the greater the poverty, the more tuberculosis. My colleague, Dr. John S. Billings, Jr., director of the tuberculosis clinics of the New York health department, expresses himself regarding this subject as follows:

> Tuberculosis furnishes the best example of the harmful influence of overcrowding and its attendant evils on the morbidity rate of a community. For the past fifteen years the Department of Health of the City of New York has plotted every case of pulmonary tuberculosis occurring in the borough of Manhattan on large insurance maps showing every house in the borough. A study of these maps shows that in many of the better sections of the city not more than seven or eight cases have been reported from a given block during the whole of the fifteen year period. But, in densely crowded sections of the city where the tenements are old, filthy, and saturated with tubercle bacilli, the story is a very different one. One example is sufficient: In the so called "lung block," bounded by Catherine, Cherry, Market, and Hamilton Streets, from 1894 to 1898, 175 cases were reported; from 1899 to 1903, 111 cases were reported; and from 1904 to 1908, there were eighty-two cases reported, giving a grand total of 368. These figures call for little comment (First New York City Conference of Charities and Correction).

To describe the remedies suggested for this last factor in tuberculosis would mean to write a sociological treatise, which neither am I capable of doing nor would it be in place in a medical paper. Permit

[4] I prefer the word "ill" to "evil," for the general understanding of the word "evil" implies that the perpetrator of the act which is supposed to be an evil one is an evildoer or criminal. I believe it is neither just, humane, nor even consistent to call these offenders, male or female, criminals in every instance. I do not think it necessary to state here that there are numerous cases in which the unfortunate woman is really innocent, if not before the laws made by men, at least before the higher divine laws. That there are also instances when the other sex, the innocent and unknowing youth, has fallen a victim to the experienced, unscrupulous courtesan, often old enough to be his mother, is also too well known to need detailed mention.

When not applied to physical conditions, the word "evil" is usually understood as wicked conduct or criminal disposition, while the word "ill" or "illness" means a derangement and an unwholesome condition. By rights, we should not even call prostitution *the* social evil or ill, as it is by no means the only one, for surely alcoholic intemperance and gambling must also be considered social evils responsible for fully as much misery as prostitution.

me to express only a few thoughts on the subject. We are indebted to Professor Patten, a great authority on social questions and political economy, for the following striking aphorism: "Sin is misery, misery is poverty; the antidote to poverty is income." Adapted to the tuberculosis problem, one might say tuberculosis is often the result of congestion, want, and misery, and since all these three evils mean poverty, the antidote to all of them is also income. If not higher income to pay for higher cost of living and higher rent, let us have a lower cost of living and lower rents. When rents are reduced, the population will spread; when food is cheaper, the masses will eat better. Our statesmen and our political economists must help us in overcoming these conditions.

As one of the important factors of eugenics in tuberculosis I have mentioned alcoholism. Its prevention and cure are primarily sociological, secondarily medical, and I hope at some future time to express at length my views on the subject. To-day I wish merely to say that I consider alcoholism a disease preventable and curable, first by educational prophylactic measures, and if these do not suffice, by more drastic methods. Sanatoria for the treatment of inebriates will have to be a feature of the hospital system of any community which is in earnest to overcome alcoholism.

In conclusion, permit me to say: If this little study of primary sources of infection and their relation to eugenics and the cost of tuberculosis has taught me anything, it is a statement which I have expressed more than once in my life as a motto, namely:

"To combat consumption as a disease of the masses successfully, requires the combined action of a wise government, well trained physicians, and an intelligent people."

16 West Ninety-fifth Street.

THE EFFECTS OF SALVARSAN ON THE EYE.*

By Robert G. Reese, M. D.,
New York,

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Salvarsan has become an indispensable adjuvant in the treatment of ocular lues, and the only contraindication to its use is simple atrophy of the optic nerve. The reason for this opinion is that there are no cases of tabes dorsalis or general paresis that have been benefited by its use, and in instances of spinal atrophy of the optic nerve—which sometimes accompanies these parasyphilitic affections—the administration of salvarsan has apparently hastened the inevitable end.

One case that has come under my observation was that of a man who had locomotor ataxia seven years, and for three years his vision had gradually failed. On examination in May, 1910, he had vision, right eye, 20/50; left eye, 20/200, concentrically contracted fields, and the typical picture of tabetic atrophy of both optic nerves. At a subsequent examination, in October, he had no perception of light in either eye, gave a history of having had an injection of salvarsan in August, and stated that six weeks after the injection he was totally blind. One would naturally infer if it took three years to reduce the vision to 20/50 and 20/200 respectively, sight would not have been completely lost in five months if salvarsan had not been used. Becker (1) reports a similar case.

However, if salvarsan hastens spinal atrophy of the optic nerve, it is not alone in this action, as mercury unquestionably possesses the same fault.

Stargardt (2) contends that degeneration of the ganglion cells in the retina in tabes dorsalis is a secondary process, and both simple atrophy, and these changes are due to the direct action of the spirochetes and are not parasyphilitic in any sense. If this hypothesis is true, salvarsan should be more beneficial.

Igersheimer (3) found that repeated injections of salvarsan failed to produce in rabbits and a dog any toxic symptoms, opthalmoscopic changes, or microscopic lesions, but in cats he found marked degeneration of the ganglion cells of the retina with slight changes in the nerve. The loss of hair was marked, indicating a toxic action due to slowly evolved inorganic arsenic.

The deleterious effects in man are inconspicuous when one finds that more than 60,000 cases have received this potent arsenical compound with no authentic case of amaurosis following its use. In the hundred cases in which the fundi were examined by the writer prior to the injection of salvarsan, and reported by Fox and Trimble (4), it had no injurious effects on the eye in any way.

Let me cite the following cases, showing when I advised salvarsan and when I did not:

Two patients were sent to me for an examination of their eye grounds, prior to salvarsan injection. One, a man fifty years of age, with cervical tabes, Argyll Robertson pupils, 20/20 vision, normal patellar reflexes, aortitis, positive Wassermann reaction, no fundus changes, and normal fields for form and colors. Salvarsan was advised. The other, a man forty-eight years of age, with Argyll Robertson pupils, slightly ataxic, loss of patellar reflexes, and pallor of both optic nerve heads, somewhat accentuated by opaque nerve fibres, 20/30 vision in both eyes, with astigmatic correction, and slight contraction of color fields. Salvarsan was not advised.

My experience with the oculopupillary symptoms of general paresis is confined to two cases, both in the incipient stage. One had unequal, immobile, moderately dilated pupils, and the other had normal pupils in size and reaction. After an intravenous injection there was no improvement, and both patients are now in institutions with marked dementia and anisocoria. Dold,[1] at Rivercrest Sanatorium, has seen two similar cases, and Trowbridge (5) reports eight cases where the subcutaneous injection had no effect. Flemming (6) observed pupillary changes following the injection in ten syphilitic patients with previously normal pupils. This probably would have occurred without salvarsan, but its advent was no doubt hastened.

It is noteworthy that anisocoria is found chiefly

*Read at the annual meeting of the Medical Society of the State of New York, April 17, 1912.

[1]Personal communication.

in parasyphilitic forms, but that may be negligence on the part of the examiner, as few of the cases with secondary lesions have iritis, and the majority, therefore, would not come under the observation of ophthalmologists.

Hence, pupillary disturbances may occur at a much earlier stage of the disease. Wechselman (7) cites cases in which the rigidity of the pupils in tabes dorsalis disappeared under salvarsan treatment.

The consensus is that salvarsan is wonderfully beneficial in syphilitic iritis in both the secondary and tertiary manifestations, and iritis papulosa yields like magic to its action. In one of three cases of iritis due to tertiary lues, where the posterior synechiæ resisted the repeated instillations of a three per cent. solution of atropine, after one intravenous injection of 0.6 gramme, the iris dilated *ad maximum*. In another, where the iritis was complicated by a superficial keratitis, forty-eight hours after the injection a small ulcer appeared in the centre of the cornea of the other eye. All of these patients made rapid recoveries, and in only one was it necessary to repeat the injection. My careful observation has never disclosed any signs of old iritis in cases of tabes dorsalis or paralytic dementia.

Routine examination of the fundus in syphilitic cases, which has now become the rule, reveals the fact that mild degrees of optic neuritis are common in syphilis, even without salvarsan, and therefore the neurorécidives are due to syphilis and not to salvarsan.

Excellent results in neuroretinitis have been reported by Igersheimer (3), and a remarkable cure in sixteen days is cited by Fox and Trimble (4). Stuelp (8), in his tabulated report, says eighty-one per cent. of the cases of choked disc and neuroretinitis were cured, and sixty-three per cent. of the cases in which the syphilitic involvement was of the uveal tract. At my clinic at Cornell University Medical College, we have had good results in iritis papulosa, parenchymatous keratitis, and chorioretinitis, and it is a standing rule to refer all patients with syphilitic eye lesions—except those with simple atrophy of the optic nerve—to Doctor Edgerton, in the genitourinary department for intravenous injection of salvarsan. In none of the cases treated have we had any unpleasant symptoms.

Opinions differ greatly as to its efficacy in parenchymatous keratitis due to hereditary lues; and in unilateral disease it is only rarely possible to protect the healthy eye. Three cases, treated by Vandergrift and seen by me at the Cornell clinic, are worthy of note. The ages of the patients were fifteen, thirteen, and twenty years. All had the typical physiognomy of hereditary lues with Hutchison teeth and positive Wassermann reaction. In two, the inflammatory symptoms were marked with a distinct salmon patch in the upper margin of the cornea. All received three intramuscular injections of 0.6 gramme. The first two injections were given two weeks apart, the third after several months. The radiating lines due to the remains of the new formed vessels in the substantia propria are still present, but the vision is 20/70, 20/50, and 20/20 respectively. Good results are also reported by Cheney (9) and Duhot (10), while there was no restrictive effect in Neisser's (11) and Uhthoff's (12) cases.

Several authors have reported good results in paresis of the ocular muscles, though a like number have found it ineffectual.

De Ridder (13) cured a case of sympathetic ophthalmia in one month, and in secondary glaucoma occurring in syphilitics Morax (14) found that the tension was lowered by the injection of salvarsan.

Two patients came to the clinic at the New York Eye and Ear Infirmary and said they were made practically blind by "606." On examination one had papillitic atrophy of both optic nerves, the other had extensive chorioretinitis with the vitreous filled with opacities. Both had had two and three injections of salvarsan respectively, and the patient with chorioretinitis had a very large scar on the left arm where the second intravenous injection had caused suppuration. After treating the latter patient with mixed treatment for several months he improved very much, and had 20/100 vision with prospects for further recovery. However, these conditions were not uncommon before the introduction of salvarsan, and, in my opinion, permanent cure requires the combination with mixed treatment.

It is not fair to attribute the destruction and cicatricial changes to the effects of salvarsan, nor is it to be expected that any remedy will regenerate or reconstruct nerve tissue. Consequently, it behooves us to use this agent early to prevent the ravages of the spirochetes.

CONCLUSIONS.

1. Salvarsan is a powerful symptomatic remedy for the treatment of luetic eye lesions.
2. It certainly merits attention, especially in combination with mercury and iodine.
3. Its action is more rapid than that of mercury, but it should not replace that valuable remedy, except in selected cases.
4. It should be given intravenously for quick action and for the comfort of the patient.
5. It should not be given in simple, spinal, non-inflammatory atrophy of the optic nerve.

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147 WEST FIFTY-SEVENTH STREET.

NEOSALVARSAN.

A Preliminary Report on Ehrlich's New Preparation.

BY A. G. RYTINA, M. D.,
Baltimore, Md.

Since October, 1910, there has been given in our clinic, over 500 intravenous injections of salvarsan to between 300 and 400 patients. Following our technique, we have had no death or untoward complication, excepting an occasional abscess at the site of the injection, due to careless or accidental displacement of the needle.

While salvarsan possesses wonderful symptomatic efficiency, one injection being equivalent to at least four or five months' combined mercury and potassium iodide treatment, it is quite evident that salvarsan, as far as syphilis is concerned, has not fulfilled the early anticipations of *therapia sterilisans magna.* That this idea, however, is not chimerical or far fetched, is amply proved by its effect in curing human recurrent fever, frambesia, intermittent fever, tertian malaria, bilharzia, as well as, in one dose, certain diseases in animals and fowls.

In these affections, members of the same spirochetal family, the organisms are for the most part in the circulation and, therefore, at a point of vantage as far as attack by the salvarsan is concerned. There is no doubt in my mind that salvarsan is a specific for *Spirochæta pallida* in practically every case, but the cause for the failure of the drug to annihilate the infection is due chiefly to the pathologicoanatomical changes present in chronic syphilis, viz., the development of encapsulated spirochetal nests, often in parts of the body having a deficient blood supply. These same pathologicoanatomical changes in syphilis, according to Ehrlich and others, are responsible for the large number of nerve complications reported. On account of these considerations, I have been of the opinion for a long time, that until salvarsan or some similar drug was modified so that a more prolonged and protracted action could be obtained, we could not expect to receive a larger percentage of cures in syphilis. By the intramuscular injection of salvarsan, better results are obtained, as far as freedom from recurrences is concerned, than by the intravenous method, as reported by Doerr, Duhot, Zeissl, and others, but on account of the excruciating pain, danger of abscess formation, and coagulation necrosis, etc., it has deservedly never met with favor.

It was, therefore, with great pleasure that I received from Ehrlich a communication under date of March 12, 1912, in which he stated that he would send me some samples of a drug which it appeared might meet this requirement. The claims he makes for this preparation, briefly considered are as follows: 1. High solubility; 2, neutral reaction; 3, low toxicity; 4, as effective, if not more so, than salvarsan; 5, it does not cause reaction symptoms, e. g., diarrhea and vomiting even after large doses.

CHEMISTRY.

The preparation which will bear the name of neosalvarsan is a true derivative of salvarsan. It has the laboratory number, 914, which indicates the labor expended upon it. According to Ehrlich, it arises through a condensation of sodium formaldehydesulphoxylate [CH_2 (OH) O — SO — Na] with salvarsan.

The peculiarity of sodium formaldehydesulphoxylate to pair with different chloral hydrate bases was already known. The reaction that takes place is as follows:

$$R{-}NH_2{+}HO{-}CH_2\ O{-}SONa{=}R{-}NH{-}CH_2\ OSO{-}Na{+}H_2O.$$

As the salvarsan contains two amidogroups, following the experiment there may appear one or two formaldehydesulphoxylate residues. Neosalvarsan represents the monoproduct. As far as the genesis of the combination is concerned, Ehrlich, years ago, learned by his chemical researches with formaldehydesulphoxylate the formation of easy soluble products, which points to this condensation. About a year ago he took up anew these researches in order to produce, if possible, derivatives of salvarsan that were easily soluble and neutral. Particularly concerning formaldehyde the observation was made that this combination retards for a certain time autooxidation of the alkaline solution. Thereupon Ehrlich studied the relation of sulphoxylate with salvarsan and found that thereby an easily soluble and neutral combination could be obtained and that in animal experimentation with trypanosomiasis a more marked therapeutic action be attained, than by the old salvarsan. The bulk of neosalvarsan owing to the formaldehydesulphoxylate component, is greater than that of salvarsan, the proportion being 3.2, i. e., 0.9 gramme neosalvarsan corresponds to 0.6 gramme salvarsan. Each tube is put up and labelled in figures, showing the salvarsan equivalent. It is slightly more yellowish in color than salvarsan. The color of the powder or solution turns to a reddish color on being exposed to the air for any length of time.

TOXICOLOGY.

Kersten has shown that the tolerance dose for guineapigs is 0.2 gramme against 0.08 of salvarsan. Injection into mice also showed that the preparation is decidedly less toxic than salvarsan. At the same time it was learned the curative effects in recurrent fever exceeded those of the old preparation. Ehrlich proved the same properties for neosalvarsan in experimental trypanosomiasis.

METHOD OF PREPARATION.

This is simplicity itself. All that is necessary is to add neosalvarsan to the water, and it completely and immediately dissolves, with little or no shaking, producing a clear, transparent, light yellowish liquid, which is absolutely neutral. Vigorous shaking is not necessary or allowable, as oxidation will easily follow. The oxidation products of neosalvarsan are more toxic, according to Schreiber, than the preparation itself. The preparation should not be prepared with normal salt solution, as this makes it more toxic and causes turbidity. The temperature of the vehicle should be the same as that of the room.

The solution should be prepared and injected extemporaneously on account of the rapid oxidation. The water we use as a vehicle is made fresh on the day of injection. It is first filtered, then distilled, then sterilized, then cooled to the temperature of the room.

TECHNIQUE.

For intravenous injections we use 20 c.c. of the freshly distilled water to every 0.1 gramme neosalvarsan, e. g., 0.9 gramme neosalvarsan (corresponding to 0.6 gramme salvarsan) is dissolved in 180 c.c. of water.

For intramuscular injections the solutions are prepared in the same way, only the powder is dissolved in from five to ten c.c. of water.

The solutions thus made are absolutely neutral;

there is no need to add sodium hydroxide. A good many of the poor results of salvarsan are no doubt due to the use of concentrated acid solutions leading to precipitation in the blood, with a resultant formation of emboli, lung enfarcts, etc., or the addition of the sodium hydroxide content. Darier was the first to show that thromboses following alkaline injections are due to a too strong quality of the alkaline content. Furthermore, the alkaline solution is not easily kept sterile and numerous instances have been observed where the sodium hydroxide solution has been substituted by some other compound. The advantage, therefore, of doing away with this part of the preparation, besides the simplicity, is obvious.

PREFERENCE OF METHODS.

As the neutral solution yields itself well to intramuscular injections, and as the method is more simple, a more prolonged and protracted action is obtained and the clinical results are better, we are giving for the present, at least, the preference to the intramuscular over the intravenous injections, except in the early primary stages, where a more intensive action is required. Our method is to dissolve the powder in from five to ten c.c. of water, depending upon the size of the dose.

We have given the injections in a dilution as high as thirty c.c. of water and noted severe pain and local swelling following. The pain following the injection seems to vary in proportion to the amount of fluid used and, as a dilution of five to ten c.c. causes much less pain and local swelling, and does not increase the local or general toxic effects, we are employing that degree of concentration, and the injections are made in the gluteal or lumbar regions, usually half in each side. The part is previously sterilized by painting with tincture of iodine. We give four injections of 0.9 gramme neosalvarsan at weekly intervals.

GENERAL REACTION PHENOMENA.

These have been practically nil. In the more acute cases we have noted a slight transient nausea and a temperature of 99.4° F., but otherwise the patients have experienced no ill effects.

LOCAL REACTION PHENOMENA.

Immediately following the injection the patients experience a variable amount of pain. The injections in the intralumbar region, after the method of Meltzer, are more painful than the injection in the gluteal regions. Ordinarily, the pain lasts several hours and gradually subsides. After about twenty-four hours there develops at the site of injection an induration which usually is not tender to touch, or an edema which is painless and pits upon pressure. This lasts for a few days and gradually disappears. There is no redness, heat, or other sign of acute inflammation. To date, we have not observed any abscess formations, coagulation necrosis, sciatica, paralysis, or other complications so often seen after intramuscular injections of salvarsan. If desired, the pain can be lessened by an injection about five minutes previously of a novocain or alypin solution. Following intravenous injections in one case, accidental displacement of the needle was not followed by the pain and local disturbance that follows a similar accident while administering salvarsan.

CLINICAL RESULTS.

We have given, to date, twenty-one intravenous injections and twenty-eight intramuscular, and the immediate results are fully as good as those following salvarsan injections. The spirochetes disappear within twenty-four to forty-eight hours in chancres, mucous patches, and condylomata, and the symptoms melt away with at least the same rapidity as after salvarsan. We are making careful Wassermann tests in all our cases, but as yet we have not observed them long enough to make the report of any value at this time.

The indications, contraindications, and preliminary examinations are the same as for salvarsan.

For the present we are not, in the majority of our cases, combining with the neosalvarsan mercury and potassium iodide, not because we do not approve of this excellent plan, but merely to afford neosalvarsan an unhampered opportunity to prove its real worth and value.

CONCLUSIONS.

From our study and brief experiences, we feel justified in drawing the following conclusions:

1. Neosalvarsan is a highly soluble and absolutely neutral compound.
2. The clinical results are just as effective, if not more so than those of salvarsan.
3. Injections are free from the severe constitutional and local reactive phenomena that often follow injections of salvarsan.
4. On account of the neutral reaction, the preparation lends itself well to intramuscular injection, thereby allowing a more prolonged and protracted action.

PROFESSIONAL BUILDING.

THE USE OF OLIVE OIL TO PREVENT OR RELIEVE POSTANESTHETIC VOMITING.*

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As regards the use of olive oil to prevent or to relieve postanesthetic vomiting I have very little to say. Moreover, from a consideration of the answers of many men, in many parts of the United States, whom I have questioned on the subject I believe that at the present time not much can be said thereon.

The use of olive oil for this purpose was suggested by Dr. Evarts A. Graham, of Chicago. The idea came to him while he was experimenting with olive oil in the large intestine quickly to restore to its preanesthetic condition an opsonic index which had been depressed by anesthesia.

If it is true that the nausea and vomiting which follow and are due to the inhalation of ether or chloroform are caused by the direct action of the drug on the vomiting centre, then it seems probable that olive oil injected into the sigmoid flexure, in restoring the equilibrium of the lipoids of the nerve cells, should at the same time, by removing the cause of the irritation mitigate any nausea or prevent an

*Read by request at the meeting of the New York Society of Anesthetists, March 6, 1912.

otherwise possible vomiting. But central irritation, like any other of the numerous reasons put forth as explanatory of postanesthetic nausea, has not yet been established as the cause.

At this time, I have nothing to do with the general question of postoperative vomiting, but merely with that of olive oil in relation to it. Graham reported in summary thirty cases treated with it. He says: "They were all simple, so called 'clean' surgical cases in which the probability was strong that such nausea as might occur would be due entirely to the anesthesia."[1] He reports that he found the results striking. "In certain of the cases nausea failed to occur at any time. In a second group in which nausea had begun prior to the administration of the oil it was immediately checked by this treatment. In only one of the thirty cases was nausea observed after giving the oil."[1] The oil was administered "by mouth immediately after partial restoration of consciousness." How much oil was given Doctor Graham does not state in his report, but in a conversation I had with him on the subject, at the time, he said, if I remember aright, that each patient had from one half ounce to two ounces in tablespoonful doses as soon as he could swallow. From the time of these experiments I have kept my eyes open for any additional statistics, but have seen none. Further, several long searches, a year ago and again last week, have failed to bring to light any new reports. I have, however, had made to me verbal statements to which I shall refer below. Let me now analyze the cases of Doctor Graham so far as his report permits it.

1. There were thirty cases in all.
2. They were "clean," simple cases in which vomiting could not reasonably be expected except from the ether.
3. In some cases vomiting did not occur.
4. Some patients vomited a few times, but not after olive oil had been administered.
5. One, i. e., three and one third per cent., had prolonged intermittent vomiting.

These statistics, thus put, do not show any better results than what I am in the habit of getting in routine hospital anesthesias in unselected cases. I use the open drop method regularly, sometimes the vapor method, and the anesthesia is induced by ether. Moreover, Graham's statistics appear to be no better than those given me by many other anesthetists who use either the open drop method or a vapor anesthesia. Not over ten per cent. of such anesthesias are followed by nausea, and not all of these patients vomit, while those who do seldom vomit more than two or three times.

The outcome of Graham's experiments with olive oil is practically the same as mine. I think I have the same percentage of nauseated patients, whether I administer olive oil by mouth or do not, and my interpretation of the fragmentary verbal reports that have been made to me at different times, leads me to believe that no one has obtained results from it which are well within the limits of certainty. On the other hand, I have reason to believe that in some instances vomiting has been caused by the oil, either on account of its poor quality, or because of the intolerance of the patient's stomach for oils. No one can read Professor Edsall's article[2] on The Intolerance of Fats, without realizing that such an idiosyncrasy must present itself often to the anesthetist.

The action of oil in the stomach in preventing or mitigating nausea due to the inhalation of ether can be explained only as that of a lubricant or of a solvent, possibly only the latter. It seems beyond question that ether, during and after ether anesthesia, is to some extent excreted in the gastrointestinal tract. Two years ago, I had reported to me, by a surgeon in Pennsylvania, a case in which the large intestine was opened for carcinoma of the sigmoid flexure. At times, while the actual cautery was in use inside the gut, faint flashes were observed in the lumen of the intestine. These were supposed to be explosions of ether vapor which by excretion had gained access to the large bowel. Further, the contents of the stomach vomited after an ether anesthesia has been found frequently to contain ether, the presence of which could not be accounted for by the swallowing of liquid ether.

Oil has an affinity for ether, absorbing its vapor or dissolving it if in liquid form. Therefore it is certainly possible for olive oil in the stomach to absorb any ether that may be there, either because swallowed or as excreted vapor. The practical question is, however, of what value is such absorption? Will it prevent nausea or even mitigate it? That the presence of ether in the stomach or duodenum causes nausea or vomiting by irritating the mucosa does not seem to me to be a warrantable conclusion. The *United States Pharmacopœia* dose of pure ether is one fluid drachm, and often I have given larger doses than this, but I have never known nausea or vomiting to attend its use. Further, there are ether fiends, i. e., those who drink ether. A few are in the United States, more in England, while ether drinking is considerable in Scotland and common in Ireland. In my investigation of this matter, when in England last autumn, I learned that a novice takes usually a teaspoonful at a time; moderate drinkers take double this, while a "peg" for an accomplished drinker is one ounce and these doses are repeated several times a day; but I could not learn that nausea or vomiting ever accompanied its use. It is not to the purpose to say that these drinkers become accustomed to it, for no one could tell me that any of the postanesthetic phenomena of nausea ever accompany the inception of the habit while on the other hand the number of anesthesias a patient has had does not seem to be related to the question whether he will be nauseated at the next one or bear any ratio to the severity or extent of the vomiting. Although I have no definite statistics on this point I do not believe that during, or at any one time after an anesthesia the stomach contains a drachm of ether, and in the light of the facts just referred to I cannot believe that the presence of ether in the stomach is the cause of postanesthetic nausea. If this idea is correct, then olive oil can do no good, a fact, I think, borne out by my experience.

Supposing, however, that there were in the stom-

[1]Olive Oil for Postanesthetic Nausea, by Evarts A. Graham, M.D., Chicago, *Journal of the American Medical Association*, December 18, 1909, pp. 2094-5.

[2]Intolerance of Fats, by David L. Edsall, M.D., *Boston Medical and Surgical Journal*, clv, No. 26, December 27, 1906, pp. 763-771.

ach a certain amount of ether, and that the ether vapor in the stomach and small intestine does cause nausea and vomiting, could any amount of olive oil that would be feasible by mouth, be of any practical use in abolishing nausea? Let us suppose all the ether in the stomach to have been absorbed by this oil. What will become of it? The case is not the same as with ether absorbed by oil in the large intestine for the speedy restoration of the opsonic index. In the sigmoid flexure the oil remains as oil and the ether may be absorbed by this oil and held in suspension so long that peristalsis will be resumed, and the ether be either evacuated with some of the oil, or else, liberated slowly, will pass with the normal flatus. In the case of the oil in the stomach the facts are different. It finally becomes saponified and is absorbed as any other digested fat, possibly carrying into the system again with itself some of the ether to be reexcreted, and liberating a part to play again the rôle of irritant.

In concluding this part of my subject,[3] I wish to suggest a line of experiment which possibly may be of value if ether in the stomach does play any important part in postanesthetic vomiting. It is the administering of liquid petrolatum. This drug is inert as a therapeutic agent, unirritating, will not be saponified, cannot be absorbed, and is an excellent protective to mucous membrane. My experiments are not yet numerous enough to warrant drawing conclusions from them at this time, but my idea is that this bland, unirritating, foreign body which tends to produce easy stools, if given in sufficient quantities, will slowly but surely pass through the alimentary canal, taking with it any ether and holding it in suspension until it is evacuated at the anus. I cannot see how olive oil can be of much service in postanesthetic nausea, but if there is any truth in the theory of irritant ether I think I can see how use might be made of the *United States Pharmacopœia* petrolatum liquidum.

9 North Munn Avenue.

ALOPECIA AREATA; ITS CAUSATIVE FACTORS AND THERAPY.*

By Paul E. Bechet, M. D.,
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The causation of alopecia areata is still only a matter of conjecture. No facts as yet have definitely proved whether this dermatosis is neurotic or parasitic. There has been recently, especially in America (1), a preponderance of opinion toward the view that the disease presents two distinct varieties, the contagious or parasitic, and the noncontagious or trophoneurotic. Personally, after a careful perusal of the literature on the subject, I have come to the conclusion that the contagious variety is not a true alopecia areata, but a separate disease with an entity of its own and due to a specific bacillus allied to the seborrheic bacillus, but which is yet to be discovered, and that true alopecia areata is a trophoneurosis and not contagious. For instance, the returning hair in alopecia areata is almost always white, thin, and slender. The returning hair from any parasitic affection of the scalp is always normal as to color and consistence. Alopecia areata is sometimes associated with other conditions, neurotic in character, such as leucoderma (Besnier, Duhring, Dubreuilh, Thiberge, Feulard) (2). Eddowes, quoted by Stelwagon, reports a case of alopecia areata occurring on an area of leucoderma. Kingsbury (3) presented three cases of total alopecia areata at a meeting of the New York Dermatological Society. All three showed errors of refraction coexisting with ocular muscular insufficiency. Doctor Kingsbury thought that total alopecia areata was due to a neurosis and that eye strain might be an etiological factor. There are many reported cases in the literature in which this dermatosis occurs after sudden nervous shock, from grief, fright, accidents, etc. Stelwagon (4) reports the following case: A man while driving a wagon at night was struck down by an overhanging bough of a tree, and fell on his head. Unconsciousness followed for several hours. Within ten days, a rapidly spreading alopecia areata developed, covering almost the entire scalp. The eyebrows and eyelashes were also affected.

Malcolm Morris (5) reports a case of total alopecia areata occurring in a lady within forty-eight hours of receiving news of the death of her son. Stepp, quoted by Malcolm Morris, recorded a case of complete alopecia areata following a railroad accident. Cases showing the marked influence of nerve injuries in producing alopecia areata have been reported by Schutz (6). Boisser (7) and Bidon (8) report total alopecia areata following severe fright. I have personally been unable to trace any possible contagion in the majority of the cases seen at the New York Skin and Cancer Hospital. In all reports of the contagious variety, where the lesions were described, the patches were small, from pea to dime sized, numerous, irregular, angular, and linear in form. Such was the type of the lesions in the majority of the cases in the two epidemics occurring in an asylum for girls in this country, and reported by Bowen (9) and Putnam (10). Horand, quoted by Bowen, declares that in epidemics among soldiers many of the spots were very small and lenticular. It might be suggested by some that these cases were possibly ringworm, but Bowen is emphatic in stating that in the patients seen in the Boston epidemic the spots were smooth, with no scaling or broken hairs, and repeated microscopical examinations were negative; besides in six months practically all had recovered, a thing which could not occur in institutional ringworm. The two epidemics were remarkable because of the large number of girls affected, sixty-three out of sixty-nine in the first epidemic, and twenty-six out of forty-five in the second epidemic. The two epidemics were traced to one girl, Ethel S., aged eleven years, who was taken in a private family after the first epidemic. It was not known whether she had entirely recovered at the time. It was found later that several bald areas developed on the scalp of the husband of the woman with whom she lived not long after her coming to them. After three years Ethel

[3] The other part is olive oil to restore the opsonic power of the blood. See Surgical Anesthesia, etc., in New York Medical Journal, May 11, 1912, pp. 987-994.

*Read before the Medical Society of the State of New York, April 18, 1912.

S. was readmitted to the asylum. It was not definitely known whether hair had grown over all the spots. Four or five months after her return, twenty-six of forty-five children became affected. These are apparently the only epidemics reported in this country.

In France a number of epidemics have been reported in schools and among soldiers. French observers consider the disease practically only from its contagious aspect, and report a large number of cases in which combs, hair, and shaving brushes, towels, head rests, pillows, etc., are factors in its spread. Hallopeau and Leredde (11) report seeing, at a fifteen day interval, two attachés of a cabinet minister, who had the disease in exactly the same place on the back of the head, and who had both used the same high backed arm chair. They have also observed several instances of the transmission of the disease between husband and wife. To Sabouraud (12) we owe a debt of gratitude for his painstaking and exhaustive investigations into the parasitic nature of the disease. He considers alopecia areata to be contagious and therefore due entirely to a parasitic cause. After investigations extending over a long period of time, he has found in the upper dilated portion of the diseased follicle which he calls *l'utricule peladique*, a microbacillus which he named *le microbacille de l'utricule peladique*. This bacillus is extremely small, and is found in great numbers in the affected follicles. Although he is almost sure of its rôle in the causation of alopecia areata, it has been impossible up to the time of the publishing of his results to make successful cultures and inoculations. It was impossible to differentiate this bacillus from the acne comedo and seborrheic bacillus of Hodara, by any physical or biological means. Bacteriological investigations have also been made by Robinson, Norman Walker and Marshall Rockwell, Bazin, Crocker, Vaillard, Vincent, and others.

TREATMENT.

The question of treatment is a debatable one. Those who believe the cause to be entirely parasitic, do not care for other than local treatment, while others, who believe it to be a neurosis, depend mostly on constitutional and hygienic measures for results. Believing, as I do, that the contagious variety is a new disease of as yet unknown bacteriology, which for the lack of something better has been classed under the heading of alopecia areata, I think a judicious use of both local and constitutional methods produces the best results, as we cannot as yet definitely differentiate the two varieties of the disease. Locally the use of resorcin in 2.5 to six per cent. solutions, in combination with irritants such as cantharides and capsicum, is of value. I vary the strength of the last two ingredients in accordance with the effects produced, the indication being to cause considerable stimulation of the scalp, as evidenced by slight redness, sensation of warmth after application of the lotion, etc. The lotion is applied twice daily and well rubbed in with a circular motion. I use the resorcin for its known specific action against the bacilli asserted to cause seborrhea and which are so frequently found in cases of alopecia areata. I also hoped that it might be destructive to the microbacillus of Sabouraud which might be a possible etiological factor and which is so nearly allied to the seborrheic bacillus. Another local application of great value is ninety-five per cent. phenol. The manner of using it according to Doctor Bulkley (13), the originator of the method, is as follows:

A small swab is made by twisting some cotton at the end of a toothpick. This is then dipped in pure carbolic acid and vigorously rubbed over the bald area, the space treated not to exceed two square inches. It is best to carry the application slightly beyond the bald area, and into the apparently healthy hairs. In a large area the surface is treated in successive portions, at intervals of some days. A scab is formed over the painted area, which scales off in about a week or ten days. The same spot should not be again painted before two weeks have elapsed. I have never seen a slough follow its use, nor have I noticed any other untoward effect. Unfortunately the application is not painless, the amount of pain varying with individual susceptibility. I have never known a patient to refuse subsequent applications. There is no doubt of its capacity in promoting hair growth. I have been applying it for the past three months, alone and in combination with stimulating lotions, in about fifteen selected dispensary cases. Each case had two or more bald areas of varying sizes. As a control one or more spots were always left untreated. In the majority of the cases, the hair growth was markedly increased over the treated areas. In one case, in a treated spot about 3.5 inches in diameter, the hair is 1.5 inch long. An almost adjoining untreated bald area of the same size has hardly an appreciable fuzz.

I have had no personal experience with the high frequency current in this condition, having only one case of total alopecia areata being now under treatment by this method. It has been extolled by some and condemned as useless by others.

The eyes should be examined in all cases of extensive alopecia areata. Of six patients who consented to see an ophthalmologist, and were examined through the kindness of Dr. David Webster and his assistants at the Manhattan Eye and Ear Hospital, five were found to have various errors of refraction, and in these, some weeks after the wearing of the corrective glasses, the hair over the untreated areas began to grow in a surprising manner. I know at present of a male nurse who, with an existing error of refraction, neglected the wearing of his glasses. He is now suffering from eye strain and has an area of baldness about one inch in diameter over the right temple. He has lately, at my suggestion, faithfully used his glasses, with the result that the eye strain has disappeared and the patch is rapidly being filled in with a large number of white hairs, and this with absolutely no other treatment whatsoever either local or constitutional. These cases have proved to me that where errors of refraction or ocular insufficiency coexists with an alopecia areata, the correction of the ocular defect with the subsequent relief of the eye strain, undoubtedly is a contributing factor in the cure of the disease.

Internally, everything should be done to improve

the general health. Arsenic, quinine, iron, phosphoric acid, strychnine, hypophosphites, phosphates, alone or in various combinations, may be used to advantage. I am particularly fond of iron and quinine citrate, given in increasing doses and pushed to the point of tolerance. The bowels should be kept open, and the patient should lead as regular a life as possible, avoiding the late retiring so prevalent in our day. A certain amount of outdoor life is indispensable, and deep breathing when outdoors should be encouraged.

It must be kept in mind that there is no one specific remedy for alopecia areata and that the prognosis, with the exception of total alopecia areata, is rather favorable, especially when confined to a few spots and in younger persons. Under these circumstances we should avoid the mistake of considering any measure to be infallible, simply because we have seen a few cases end in recovery, supposedly on account of its use. In conclusion, I will reiterate that the best results occur from a combination of local and constitutional measures effected after a very minute inquiry into the physical and mental status of the individual.

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40 EAST FORTY-FIRST STREET.

A SIMPLE AND AN IMPROVED QUANTITATIVE TEST FOR INDICAN.

BY FRITZ C. ASKENSTEDT, M. D.,
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The diversity of opinion held by medical men regarding the clinical significance of indicanuria and its treatment, is largely due to the lack of a satisfactory quantitative test for indican. The influence on indicanuria of diet, medication, and mechanical treatment is usually too slight in chronic cases to be determined by qualitative tests, especially as it will be found that the variations of the indigc blue in the tests depend upon the total amount of urine excreted, rather than upon any marked differences in the twenty-four hour excretion of indican. Without some quantitative method of estimating the relative amount of indican present, and comparing it with the quantity of some other ingredient in the same specimen of urine, or of computing and comparing the absolute amounts of indican excreted each twenty-four hours, it will be impractical to make an inference as to the value of any treatment for indicanuria.

Moreover, the qualitative tests for indican now in general use are decidedly defective in details. The amount of chloroform, which is now employed in almost all tests for extraction of indigo, is usually too small, permitting too early saturation with indigo blue when in excess, and the shaking of the mixture is of too short duration to allow the chloroform, when not saturated, to extract all the indigo in formation. The chloroform extract becomes emulsified and discolored with urates, bile, indigo red, and urinary pigment, rendering a proper estimation of the blue color impossible; the temperature of the fluids during the chemical process is disregarded; and no attention is ordinarily paid to obnoxious gases in the atmosphere of the laboratory. A neglect of these details may lead to extreme errors in the estimation of indican.

A paper entitled A Practical Test for Indican in Urine, intended especially for the general practitioner, was published by the writer in the NEW YORK MEDICAL JOURNAL for October 9, 1909, and gave essentially the test herein described. This test was a modification of the Obermeyer qualitative process, so altered as to afford quantitative estimates. Although the result of considerable experimentation, this test was, as stated, "still possessing certain imperfections." Shortly after the publication of this paper, and with the advent of the colder season, irregularities not previously observed in the result of the test were found. It was soon learned that these were wholly due to variations in the temperature of the urine and of the chemicals employed. In fact, by raising the temperature of the urine above that of the body better results were always afforded than when the urine was used at a temperature of less than 100° F. The most favorable results were obtained when, after mixing the urine with the Obermeyer fluid, the temperature would register between 115° and 135° F. (chloroform boils at 143° F.). With the chemicals at ordinary room temperature, the urine need be heated only slightly above blood heat to reach the required temperature when acted on by the Obermeyer fluid. With the higher temperature, two minutes' shaking with chloroform is sufficient for extraction; with the lower, three minutes' shaking may be necessary.

The property of some urinary constituents to bind or conceal a certain amount of indican, thereby affording an unduly low estimate with the ordinary tests, was pointed out to me two years ago by Clifford Mitchell, who at that time was working on the problem of its liberation. An excellent review of the subject was published by him shortly thereafter in the *New England Medical Gazette* for October, 1910. I soon became convinced that a preliminary treatment for liberation of indican, with the precautions he recommended, was an essential part of a reliable quantitative test, and guided in further experimentation by the very helpful suggestions of this well known authority, I have adopted the simple method for preliminary clearing seen below, which affords a gain in indican of ten to fifty per cent. When this clearing is properly carried out, the chloroform does not become emulsified.

Although an emulsion free chloroform extract of indigo seems clear, the admixture with indigo red and other coloring matter will still prove too pronounced to afford satisfactory comparison with a standard solution of indigo blue. Washing out with water the supernatant urine in the test tube and dissolving the remaining chloroform extract in alcohol become necessary to eliminate undesirable pig-

ments. This alcoholic solution will have a clear, blue color, with a slight trace of green. This color fades rapidly, especially on exposure to light. In order to retard this loss of color, the solution in the test tube, when not in actual use, should be protected from the light. A small amount of corrosive sublimate in the alcohol will also considerably retard this fading process and prevent any trouble from this source, if a comparison between the solution and the standard indigo blue is immediately attempted. The corrosive mercury in the alcohol has also the advantage of destroying any indigo red present without affecting the blue, so that the urine of patients drugged with iodine compounds is not at all disqualified for the test. A few drops of a very weak solution of picric acid added to the standard blue solution, will give to this the needed trace of green.

It is necessary that all utensils used be scrupulously clean. The presence of obnoxious gases, notably formaldehyde, should be carefully excluded. Doctor Mitchell, writing in the *Medical Century* for December, 1911, confirmed this statement in my previous paper, by demonstrating that even a very faint trace of formaldehyde in the atmosphere of his laboratory was sufficient totally to inhibit an indican reaction. The bleaching action of bromine gas upon the standard indigo solution is obvious; it has proved less destructive to the alcoholic solution of the urinary indigo blue.

With ordinary care the standard blue stock solution, when kept in an amber colored bottle, will keep for years without deterioration. This stock solution is made up as follows:

Since one molecule of indigo blue ($C_{16}H_{10}N_2O_2$), molecular weight 262, represents two molecules of indican ($C_8H_7NSO_4$), molecular weight 213, 262 of the former represents 426 of indican. To render one drop of the stock solution of indigo blue equal to 0.00001 mg. of indican in 10 c. c. of urine, the quantity used (or 0.0001 per cent.), multiply the number of drops of sulphuric acid which a certain dropper—an ordinary medicine dropper selected for permanent use—will deliver to make one c. c. by 0.00615 (a typographical error occurred in the previous paper), the indican-indigo molecular coefficient. For example: If 55 drops of sulphuric acid from the dropper is required to make one c.c., multiply 55 by 0.00615, and the product, 0.33825, will indicate the amount in milligrammes of pure indigo blue (indigotin is used) required for each one c. c. of sulphuric acid, in which it is to be dissolved. To insure accuracy, a large solution should be made up. This stock solution can be furnished by any physicians' supply house.

The necessary equipment consists of urinometer, funnel, and filter paper; powdered corrosive sublimate, with a pair of small scales, or balances, or tablets holding approximately 0.1 gramme of the sublimate; two graduated test tubes, of equal diameter, with cork stoppers (two ordinary test tubes and a small graduate may be used); a solution of 0.3 or 0.4 per cent. iron perchloride in hydrochloric acid; a solution of pure indigo blue in sulphuric acid, with dropper to which it is so adjusted that each drop will hold exactly 0.00615 mg. indigo blue; a solution of picric acid in alcohol, about one to 5,000; chloroform; a solution of corrosive sublimate in alcohol, about one to 1,000 (denatured alcohol will answer).

The test is carried out as follows: For preliminary treatment, liberating indican, to 100 c. c. urine add 0.1 gramme corrosive sublimate for every degree of specific gravity above 1,000; for example, for specific gravity of 1,010, one gramme; for 1,015, 1.5 gramme; for 1,022, 2.2 grammes. Dissolve sublimate and set aside until a heavy precipitate is formed; to hasten it, when tardy, expose to cold. Remove sediment by filtering twice through double filter paper, and pour exactly ten c.c. filtrate into one of the test tubes. Warm this until the tube begins to feel hot to the hand, then add ten c. c. of the ferric chloride solution, and mix by inverting the tube once; then add quickly eight c.c. chloroform, and extract the indigo forming by shaking the tube two or three minutes, holding it in a horizontal position. After this, let the chloroform fall to the bottom of the tube, then pour off most of the supernatant fluid, fill the tube nearly full with water, invert it a few times to wash the chloroform, let this again precipitate in the tube, and pour off most of the water. Repeat this process of washing, taking care that no chloroform escapes with the wash water, and allowing not more than two or three c. c. of the last wash water to remain over the chloroform. Now add from thirteen to fifteen c. c. of the alcoholic solution of corrosive sublimate, and mix. A clear, blue fluid should result. If hazy, add one or two c.c. more of alcohol until the fluid clears up.

Keep this solution in a dark place when not in actual use. Compare the color of this fluid with an equal quantity of a standard solution of indigo blue in the second test tube by holding the two test tubes in front of a white surface, preferably a white blotter. This standard solution is made by pouring into the empty second tube, a quantity of water equal to the amount of the fluid in the first tube, and then dropping the stock solution of indigo blue into the water,[1] inverting the tube after each drop, until both solutions have the same amount of blue color. If this requires four drops of the stock solution the percentage is 0.0004; if five drops, 0.0005; if six drops, 0.0006; etc.

The indican extract will usually prove to be slightly greenish in color. By adding one or more drops of the picric acid solution to the standard solution in the test tube, this can be made to conform to the color of the extract. Urine containing 0.0025 per cent. or more of indican, or giving a blackish extract, should be diluted with an equal quantity of water and retested.

When the test is carried out in this way, the results will be reasonably accurate, requiring no addition for loss as in the former test. The scientific value of the test can easily be determined by diluting the urine several times where the indican percentage is high, and comparing the results of each dilution.

At first sight, the test may seem to require much time for its execution, but after acquiring a famil-

[1] The drop of the stock solution in forming at the opening of the pipette should hang from the rim of the opening only and not be augmented by a flow from the outside of the pipette.

iarity with the process the time consumed in actual work need not exceed ten or twelve minutes.

Because of the ease of execution and the small amount of equipment required, the test is well adapted to the limitations and requirements of the general practitioner.

1210 Fourth Avenue.

THE CARE OF THE HEALTH DURING THE MENSTRUAL PERIOD AND THE MENOPAUSE.*

By Angenette Parry, M. D.,
New York.

Most of you have doubtless heard of the man who on his return from church was asked by a friend why he went to church so regularly. He replied: "Because I always learn something. Why, I never knew until this morning that Sodom and Gomorrah were not man and wife."

I hope you can all honestly say you come here because you always learn something, and I trust as radical misunderstandings as that concerning Sodom and Gomorrah may be set right. This is the age of preventive medicine. More and more, physicians are giving themselves to the prevention of the diseases which they were formerly called upon only to cure. I am here to plead for a rational attitude toward menstruation and the menopause, one ushering in the reproductive life of woman, the other marking its close—both to be regarded in the healthy woman as physiological changes.

The expressions in regard to the menstrual period in current use, indicate the general attitude toward it—"sick time," "unwell." That is a time when a woman takes it for granted that she must be below par, and must endure more or less suffering.

We can hardly estimate the profound psychic effect of this teaching upon a girl. Think of the effect upon us if we were taught that digestion was a sickness. How we would notice and analyze every smallest discomfort until we would really have nervous indigestion. One almost feels that one must apologize if one is free from all menstrual discomfort—instead of its being normal, it is considered abnormal.

Perfect health is essential to perfect happiness. Girls have an inalienable right to happiness. They should be trained to be well and free from pain, and instead of forlornly accepting as inevitable menstrual discomfort, or using mere palliatives, they should be taught that they can and should be well at that time, and means should be used to attain that end.

One could multiply examples of girls and women whose whole lives have been changed by suitable medical care. Instead of intermenstrual dread of coming suffering, and of hideous menstrual pain, with consequent inability to work for several days each month, they are in buoyant health, eager to work and play 365 days in the year. Let us make no truce with avoidable suffering, but fight it until it is conquered.

*Prepared at request, and read under auspices of the Public Health Education Committee of the Medical Society of the County of New York, at New York Academy of Medicine, March 28, 1912.

The age at which menstruation begins in the temperate zones is thirteen to fifteen years. Occasionally a girl of ten years will begin to menstruate, while in another the period is delayed until seventeen or eighteen without any foundation for anxiety.

The beginning of menstruation is earlier in hot countries, later in cold, and varies also with the surroundings, education, nervous excitement, heredity, etc. The average interval between the beginning of one menstrual period and the next is twenty-eight days, though it may vary from three to five weeks in healthy women. The intervals may be regular from the first, or it may take several years to establish regularity. The early intervals may be several months or longer. When, however, the individual standard is finally set, the cause of repeated deviations from it should be investigated. The duration of the menstrual period may safely vary from two to eight days, other conditions being normal; three to four days is the average duration, the discharge being slight on the first day, more profuse on the second and third, and decreasing on the fourth. A profuse flow, exceeding three or four days, demands attention, as well as any marked change in duration and amount from the individual's habitual type.

Every mother should realize the sacred privilege of preparing her daughters for the coming of puberty by the simplest, clearest explanation possible of the physiology of reproduction. Those, whether teachers or others to whom the care of growing girls is intrusted, should make sure that the girls are not ignorant of the meaning of menstruation. No girl should be exposed to the shock, either mental or physical, of being unprepared for its appearance. One sensitive girl thought it was a judgment of God that had come upon her and that she must have done some wicked thing, though she did not know what it was. Poor little girl—how easily her mother might have guarded against such a nervous shock.

Some of you devoted mothers would be horrified to learn how much your supposedly ignorant and innocent young daughters know, and the sources through which that knowledge has been gained. The failure to take advantage of the opportunity to win your child's perfect confidence may be fatal. Girls are apt to be very shy and make every effort to conceal suffering, physical and mental, and may ignorantly do themselves much harm. Therefore keep in closest touch with your children; let them feel how deep and tender your sympathy is. Mothers often come to the family physician saying, "Doctor, you must talk to my daughter about these things, I cannot." Why are you, mothers, unwilling to meet this situation? Perhaps because you feel the defectiveness of your own training. Study the matter intelligently either in classes for mothers, or through suitable books recommended by your physician or other competent person, as there is a great deal of useless and misleading literature on this subject.

If for any reason you cannot do it yourself, then find the best equipped woman you can to teach your daughter, or take her yourself to your family physician.

The better the care of the child from its birth to puberty, the greater the probability of its well being in womanhood. The children who are fed on simple nourishing food, kept much in the open air and sunlight, properly clothed, having normal recreation, physical and mental, and long hours of sleep, have the best possible preparation for a healthy, happy girlhood. What the young girl is during all her life will affect the children for whom she in turn will become responsible.

Menstruation may be delayed by lack of the proper hygiene of childhood, to which we have already referred. Any cause which produces marked anemia may delay the advent of menstruation, and mental overwork and nervous strain will cause delay.

If we would show the world how divine a thing a woman may be made, let us give our wisest thought and attention to these early years. The amount of care required by girls at puberty is always an individual problem, but in general terms we may say that they should not be crowded mentally, and should be as free as possible from nervous strain.

The modern dress of children is ideal, but just at puberty, when the pelvic organs are developing, our girls are put into tight corsets, with heavy skirts dragging at their waists. They should have well fitting, comfortable waists that do not restrict the circulation. The uterus moves with the respiration, and there should be no tight belts or bands to prevent the free return of venous blood. Pushing the abdominal and pelvic organs down, stretching the ligaments, setting up a permanent irritation and congestion, should be avoided by rational dress. Their clothing should be adequate to protect them from cold and wet. They should be properly shod so that they do not get wet feet and become chilled during the menstrual period, as that drives the blood from the surface of the body to the organs already in a state of physiological congestion.

Is it being properly shod, to wear all the year round out of doors thin soled slippers and gauze stockings? Compare the foot covering of the daughters with that of the sons. The shoulders of girls are generally heaped with furs in winter to render still more uneven the body temperature. Should a girl become thoroughly wet and chilled during the menstrual period, the clothing should be changed as soon as possible, a hot mustard foot bath given, hot drinks, and a warm bed with a hot water bag.

Women who have always been in excellent condition at the menstrual period, after some severe exposure may be obliged to stay in bed enduring great pain, owing to the congestion set up. These cases usually yield readily to proper medical treatment.

It is a fallacy that certain articles of food, *per se*, affect the menstrual flow. The food should be, as always, simple, nourishing, thoroughly masticated. Young girls should avoid stimulants such as tea, coffee, and alcohol. Water drinking should be cultivated, and great care taken to have one free evacuation of the bowels daily. I am very glad that we have all had the privilege of hearing Doctor Ward's paper on constipation, and may we all, mothers and daughters, follow his valuable suggestions and advice. (See Journal for June 22d.)

The physical training of a girl up to puberty will largely determine the amount of exercise for which she is now prepared. During the intermenstrual period her muscles should have systematic daily exercise, and special exercises should be given for the abdominal muscles. They should be taught the value of correct habits of posture on the abdominal and pelvic organs because of its effect. During the period some delicate girls must be kept quiet, perhaps in bed, or on the sofa for a day or two, Exercise throughout the period continues to be governed by the personal equation. Many girls and women safely follow their regular routine in work, travel, and exercise without the slightest ill effect. That is the ideal condition to be aimed at.

Mary Putnam Jacobi once wrote: "A long series of observations proves conclusively that there is nothing in the nature of menstruation to imply the necessity or even the desirability of rest for women whose nutrition is really normal." On the contrary, such a habit may easily become injurious. Many healthy but indolent and luxurious women suffer from too much coddling at this time. As the menstrual flow is the least important part of the menstrual processes, arguments for rest should logically demand rest during half the twenty-eight days of the month, that is during the time of preparation for the flow and the subsequent processes. During the establishment of puberty, the burdens of life pressing on young shoulders should be lightened as much as possible. What a difference in the happiness of a girl, all of whose physical powers are below normal, and one who is radiant with the exhilaration of mere physical existence.

"When women exhibit mental irritability and consequent weakness at or before menstruation it is proof positive that the resistance of their nerve centres is weakened below the normal standard. In these cases rest is desirable during whatever period of the month the nervous excitement may be experienced. It has not been proved that in normal healthy women there is any decrease in mental efficiency, reliability, or endurance during menstruation. Instead of being below par some are at their very best, their minds working with especial clearness and quickness."

To relieve pain and decrease the flow, make a thorough trial of deep breathing several times a day. The position should be recumbent with the knees drawn up; the clothing should be loose. This tends to relieve the pelvic congestion. The deep breathing acts like a sort of pumping apparatus to bring the blood up out of the pelvis.

We have spoken frequently of sleep. Too often, at the age of puberty, a girl feels that she is grown up, and she is allowed to sit up late at night. At least nine hours of sleep should be taken by girls from twelve to fifteen years of age. The life of the cities especially, makes a great strain on the nervous vitality of its dwellers, and a young girl is keenly affected by it.

The question is often asked, "Is it not dangerous to bathe during the period?" Here again the individual habits determine the answer. I know a woman of eighty years who has taken a cold plunge daily throughout her long life. Many take a cold sponge, and all should take at least a daily warm

sponge bath. The greatest care should be taken as to perfect cleanliness of body and clothing.

The traditions that are handed down from some of our greatgrandmothers that one should bathe only the face and hands, and that the clothing should not be changed if one can possibly help it, should have died long ago, as one's common sense contradicts such teaching. The taking of vaginal douches at the close of the period should be discouraged; it is unnecessary for cleanliness and is better omitted.

Sometimes a young woman comes to the doctor, asking for something to hasten the period as she has a dance scheduled for the time when it would regularly appear, and wishes to have it over and done with. Girls should be taught that menstruation is not to be regarded as a nuisance, which upsets their plans, and interferes with their pleasures. On the contrary, the reproductive function is a blessed heritage, for which they should be willing to make sacrifices.

The rhythm of the menstrual life should not be interfered with by drugs. All nature is rhythmic, night and day, winter and summer, sleep and waking. Even the dwellers in the towns of the far North maintain rhythmic habits of life where in winter night is almost continuous. "Much so called menstrual suffering is not dysmenorrhea, but simply coincident—functional disturbances in other organs, induced possibly by the favoring conditions of a lowered general blood pressure occurring near or at the time of menstruation." (Mosher.)

Except under the advice of a competent physician, all drugs intended to bring on a failing menstruation should be avoided. Amenorrhea, or the non-appearance of the flow, is often a conservative attempt on the part of Nature; sometimes it is due to change of environment, as through going to college, coming from the quiet of a European peasant life across the ocean into the turmoil of city life. As long as the general health is good, there need be no cause for alarm.

Perhaps the most frequent cause of amenorrhea is anemia from one cause or another, the remedy for which lies in better hygiene, tonics, iron, fresh air, sunlight, exercise. Every now and then a patient comes in great distress because of failure to menstruate. "Doctor, I am afraid I shall run into consumption." This is putting the cart before the horse. The exhausted vitality due to tuberculosis may result in amenorrhea, but the failure to menstruate will never cause consumption, which, as you know, is due to infection by a definitely known germ, the tubercle bacillus, and is caused by nothing else.

The popular remedy for menstrual pain seems to be the free use of gin or whiskey—a most reprehensible practice. The cases of alcoholism among women are too common and too tragic to permit its use for regularly recurring pain; it is at the best only palliative, and defers the real solution of the problem. The same is truer of the practice of giving morphine. It is not unknown to find young women whose physicians have been in the habit of giving them hypodermic injections of morphine for menstrual pain, and who finally allow the patient to use the needle herself. I consider such advice to be hardly short of criminal. The wreck of your daughter's life by the morphine habit would soften your judgment as to such an apparently extreme view.

The habitual use of phenacetin and allied drugs, and still more of the patent medicines foisted upon a confiding public, is also to be deprecated. Do not take medicines prescribed for other patients by even the best of physicians. Such remedies may not be suited to your case and may even be unsafe. The action of drugs is very complex, and you do not know just what changes their repeated use may induce in the body cells.

It is always to be remembered that our girls have been taught to look for trouble at the menstrual period, that slight pains are construed by the hysterical and highly nervous patient as agonizing. One physician cites the case of a patient who had for five years vomited all the food eaten on the first day. A lady living in the same house finally told her that her husband had commented upon it. The patient determined to eat "even if it killed her." She did eat, and never again vomited her food or had any of the periodical symptoms. Another young woman known to me would go to bed for a day or two, apparently suffering very much, unless there were a theatre party or some pleasure in store, when she was able to forget herself entirely.

Our girls should be taught self control as one of the foundation stones of character and of physical well being. They should have stamina enough to endure some pain; it is demoralizing to resort to pain killers of any sort, for every little ache. After all the cure is what must be sought, not temporary relief. One must get at the root of the trouble.

THE MENOPAUSE.

The more wisely and hygienically girlhood and womanhood are spent the more undisturbed will be the menopause. Unfortunately the menopause is held up to women all through their lives as a bugaboo, a period to be dreaded, a period of inevitable horror and inevitable incapacity. I have even known nurses to tell patients years before the menopause that they would never be well until they had passed through that "critical time." Rather a gloomy outlook for an ambitious woman. Let us do some genuine missionary work by seeking to rid our sisters of these unwholesome and troublesome thoughts.

The menopause is the term given to the cessation of menstruation at the close of sexual activity, though ovulation may not cease until months or years later. The usual age is between forty and fifty-five years, but in exceptional cases it may occur much earlier or it may be deferred until the sixtieth year.

Any physician who has come into contact with large numbers of women, is accustomed to have them attribute their malaise, whether due to stomach, intestines, liver, kidney, nervous disturbance, or otherwise, to change of life. Many women begin in their thirties to attribute every ill feeling to this as a possible cause. To the normal, healthy woman, who has lived a sane, hygienic life, the cessation of menstruation should be as uneventful and natural as its beginning. It is a physiological process and should be treated as such. Many women are per-

fectly regular until the menopause, with no disturbing symptoms general or local, many have periods of irregularity for months or even years without any other symptoms, and these painless, undisturbed conditions are our ideal. Simple, more natural, less highly strung living, with faithful observance of the hygienic laws we have iterated and reiterated, would do wonders for women. Others still complain of a variety of discomforts, due to disturbance of the vasomotor system, such as the so called "flushes," sweating, palpitation, etc. These may be disagreeable, but are not in the least dangerous. Some patients become markedly neurasthenic and exaggerate every symptom. There can be no doubt that many of these patients suffer because they believe that it is foreordained, and they await the menopause with dread. The right attitude of mind in normal women would rob this period of ninety-nine one hundredths of its terrors. On the contrary, no frequent and profuse hemorrhage or even irritating discharge should simply be referred to the menopause as sufficient explanation. Every woman so afflicted should go to a physician; it should be promptly known whether the hemorrhage is not due to some diseased condition. These diseases are not due to the menopause but are coincident, being especially frequent after forty years of age. Any hemorrhage occurring after the menopause should be referred to the physician. The more promptly this is done the better. Delay may cause dangerous, if not fatal complications. Do not fail to face facts. Worry lest something serious may be the matter is useless if the condition needs local or operative treatment and causes unnecessary anxiety if no pathological condition is present.

All hygienic rules should be faithfully observed, as at every other period in life, fresh air, exercise, care as to bowels and kidneys, and the best possible environment physically and mentally. But, settling down to await unpleasant manifestations or worse, and attributing every ill feeling to the change of life, will surely appeal to you all as a sad lack of good common sense. Some believe that it would be well for every woman to place herself under the general oversight of her physician during the menopause, as she does during pregnancy. Sometimes it may be wise to get away from home anxieties and cares, and take a much needed vacation. We forget that mothers and wives often do not have a real vacation for years, although like the physician they are on twenty-four hours' duty.

In some patients the psychological aspect is very powerful; one has to admit that age is approaching, one has to accept the change and all that it includes, one may not have learned to look at life so philosophically that she understands that every period of life has its special charm, and while the mere physical beauty of youth may be fading one should be gaining the higher beauty of mental ripeness and spiritual insight.

To some, the loss of the reproductive function comes as a great relief—a gain in working time; others, in whom the maternal instinct is still very strong, relinquish reluctantly the potentiality of motherhood. Some patients seem to take a new lease of life after the menopause, to have increased health and strength, a fitness for prolonged uninterrupted labor they may never have known before.

It has been my good fortune to know intimately many women who have not only passed without any serious disturbance through the menopause, but to whom it has ushered in twenty or thirty years of mental and physical vigor and usefulness.

At sixty-two life has begun;
At seventy-three begin once more;
Fly swifter as thou nearest the sun
And brighter shine at eighty-four;
At ninety-five shouldst thou arrive,
Still wait on God, and work and thrive.

749 Madison Avenue.

A THEORY OF THE ORIGIN OF DISEASE.

Caries Cured without Scraping.

By Charles O. Linder, M. D.,
Spokane, Washington.

In early day practice all human ailments were treated by bleeding and purging. In modern times this has largely been converted into the free use of drugs and the surgeon's knife. The knife in the hands of the skillful surgeon has its field of usefulness, but its usefulness is lost if handled unnecessarily. The statement by a surgeon at the bedside of his patient that "an operation is required at once" in order that the patient may live, does not necessarily convey the proof that it is necessary. In my practice I have found numerous instances in which patients were saved and restored to health, after it had been decided by specialists that only an operation could keep them alive.

Diseases, outside those caused by accidents, have their origin, I believe, in the improper condition of the blood and nerve supply. Through deficiencies of necessary elements in the blood to repair worn out cells, or lack of proper nerve power to any organ or part of the body, or accumulated effete matters, which under slight provocation are brought to a state of fermentation, which another circumstance may turn into active corruption, finding outward expression in some one of the so called specific diseases.

Of this we find daily evidences—a cold, exposure, fatigue, mental attitudes, etc., which cause manifestations of sickness according to the predisposition to any disease. The longer the affliction is allowed to progress, the harder its eradication.

This will be found to hold true as to disease of the bones. The composition of the bones is fifty per cent. of calcium phosphate gelatin, an albuminous substance; sodium carbonate, magnesium phosphate, and sodium chloride. Since the phosphate of calcium is the predominant element in the substance of the bones, it seems to follow that deficiency of this element will predispose the system to various forms of bone disease. In addition to this, if there is suppressed nerve force from any cause, with derivatives of excretion and secretion accumulated, let some provocation occur, and we soon have a condition of some specific bone disease and a favorable field for microorganisms.

Customarily, the practice is to scrape the bone when caries or suppuration cannot be abated by ordinary methods. Since this is the practice, I wish to relate a case of bone affection which was cured without scraping. I have selected this case because

of its rarity and as a proof that disease of the bones is curable without the knife, even long after decay and suppuration have begun. I acted upon the belief that the cause lay in the blood and the nervous system. That a cure was effected seems to corroborate my belief.

CASE. Woman, aged thirty-four years; abscess of jaw seven years' standing. Origin of abscess was a pivoted tooth, which began to ache as an abscess formed at its root. The abscess was lanced by the dentist who pivoted the tooth, to free the abscess of the pus. Afterward he syringed it with various antiseptic solutions without success in stopping the discharge. After three years' treatment by this dentist, the patient consulted another dentist who extracted the painful tooth. The abscess was treated by the second dentist, through the opening left after extraction, by solutions. After several months, the discharge from the abscess was more violent. After this the patient took up treatment with various physicians and surgeons for a period of four years, which also ended in a worse condition than when she began. All had given up hope, except possible relief by scraping the bone, which meant disfigurement, yet no certainty could be entertained as to the outcome. The suppuration had developed into a greenish, ichorous, and offensive discharge, and at the end of seven years a portion of the jaw had been destroyed.

At this stage the case came under my observation, and the patient submitted herself to my treatment. I began by restoring the blood and nerve force to proper volume of strength, paying no attention to any local treatment of the abscess itself for the first two months, except directing the patient to empty the cavity of pus whenever it became filled, which she had to do several times a day in the beginning. The patient received mechanical vibratory stimulation to the cervical and dorsal nerve centres of the spinal column, every other day and occasionally I applied blue rays to the roof of the mouth. After a lapse of more than two months, I began syringing the abscess with antiseptic solutions, and used from five to eight half ounce syringe injections, one after the other each time, but I failed fully to cleanse the cavity at any time, for at the completion of the last syringeful I always could find more pus. I am informed that the physicians who tried to cleanse it by this method before me had also failed. Then it came to my mind to use a spraying process, for which purpose I secured a fine steel tube which I inserted into the cavity of the abscess through the gum. The other end I attached to a strong atomizer. The result by this mode of local treatment to the abscess was very astonishing. The smallest fractional portion of the cavity could now be entirely cleansed, and after three weeks' spraying every other day, with solutions, the discharge had entirely ceased. Six months later, new bone tissue had formed, and the jaw is now, more than a year after its cure, as strong as ever before.

This is a remarkable and surprising case to the physicians who were familiar with the history.

JAMIESON BUILDING.

Correspondence.

LETTER FROM LONDON.

Surgical Treatment of Aneurysm.—Session of the General Medical Council.—National Insurance Act.—Poll for Election of Members of Council of Royal College of Surgeons.

LONDON, *June 12, 1912.*

At a meeting of the surgical section of the Royal Society of Medicine, Mr. Gilbert Barling read a paper on the Surgical Treatment of Aneurysm. His experience was based on five cases of popliteal aneurysm, two of aneurysm of the third part of the right subclavian with dilatation of the vessels on the proximal side, and one of aneurysm of the internal carotid. Four of the popliteal aneurysms were treated by Hunter's method. Two of these were in the same patient. One of the four suffered from gangrene of the toes after ligation of the artery. The fifth popliteal case was treated by the obliteration method of Matas, the arterial openings were sutured with fine catgut, the sac obliterated, and the wound closed without drainage. Two years after the patient was quite well. The two subclavian cases were treated by ligating the first part of the axillary and the middle of the common carotid. One patient died five years later from rupture of an aneurysm of the arch of the aorta, the other five and a half years later with cerebral symptoms probably embolic as a result of aortic disease. The aneurysm of the internal carotid was excised, and the patient made a good recovery. The best ligature was catgut and the speaker preferred the stay knot of Ballance and Edmunds, which produced occlusion of the vessel without rupture of the internal coat. Dealing with the operation of endoaneurysmorrhaphy he said that Matas, after completely controlling the circulation above and below an aneurysm, opened the sac and closed the arterial orifices and the walls of the sac with catgut sutures. In the reconstructive method the walls of the artery were first reformed and then the sac was closed in a similar way. The obliteration method could be applied to any form of aneurysm, but was usually limited to the fusiform. Endoaneurysmorrhaphy had been employed in sixteen cases in the British Isles and the method was the ideal, but every case should be treated on its own merits and an open mind kept on the subject. Mr. D'Arcy Power showed an apparatus used for the insertion of wire into aneurysms. He had collected the cases in which this treatment had been carried out from 1864 to 1900: they were sixteen in number. Six of these were thoracic. Three patients were alive and well, two died, the rest lived for varying periods from a few days to five years. The insertion of wire was necessary in a few exceptional cases. Mr. Ballance said he was sure that Matas's method was not necessary for popliteal aneurysm, though his obliteration operation might possibly be used with advantage where Hunter's method could not be performed. He doubted if reconstruction ever really occurred, and thought that it would have to be proved by post mortem specimens. He did not think that Matas would improve on the results as obtained by Sir Anthony Bowlby who, in 1890, published a series of twenty-three cases of popliteal aneurysm with nineteen cures by Hunter's method.

At the ninety-fifth session of the General Medical Council, Sir Donald Macalister, president, dealt with the National Insurance Act. Important amendments had been suggested by the council and it remained to be seen whether the powers conferred on the insurance commissioners sufficed to insure that these questions would be settled in a satisfactory manner. At an early stage in their proceedings the commissioners invited the council to appoint representatives to an informal conference on the medical aspects of the scheme. It seemed to him and to the members he was able to consult that the invitation indicated some misapprehension of the functions and procedure of the council. The com-

mittee on the bill had discharged the duties remitted to it when the bill became an act. Further instructions could be given only by the executive committee or the council itself and neither was in session. It was therefore impracticable to procure the appointment of duly authorized representatives, and he informed the commissioners accordingly. The proposed conference was afterward postponed, and he was not aware that it had since been convened. The position of the medical profession under the bill is still quite uncertain. The government had up to the present done nothing at all toward meeting the legitimate demands of the profession. At the eleventh hour Mr. Lloyd George was investigating the conditions of practice and rate of remuneration in certain districts, when this should have been done before introducing the bill. Sir Robert Morant, the chairman of the insurance commissioners, invited the British Medical Association to cooperate with him on the appointment of medical members of local insurance committees for counties and county boroughs in England as required by the act. The invitation was carefully considered by the State Sickness Insurance Committee of the British Medical Association, and the commissioners were informed that the committee found it impossible to assist the commisioners in the manner desired.

The Royal College of Surgeons will hold a poll on July 4th for the election of four members of the council due to the retirement in rotation of Sir Frederick Eve, Sir Anthony Bowlby, Mr. H. Gilbert Barling, and to the death of the late president, Sir Henry Butlin. Among those offering themselves for election are Mr. D'Arcy Power, Mr. Ernest Lane, Mr. L. A. Dunn, and Mr. B. G. A. Moynihan.

Therapeutical Notes.

Neosalvarsan.—L. Queyrat and H. Bouttier, in *Bulletins et mémoires de la Société médicale des hôpitaux de Paris,* May 23, 1912, present a report concerning fourteen cases of syphilis in which were administered thirty-two intravenous injections of neosalvarsan. This product possesses the advantage over the old salvarsan of dissolving instantly in distilled water or saline solution. Its dose is one and a half that of salvarsan. Although Schreiber has advised the use of doses increasing from 0.75 to 1.2 or even 1.5 gramme, the authors gave 0.45 as the first dose, then 0.60, 0.75, and 0.90 in succession. The drug was administered in 0.4 per cent. saline solution, each 0.45 gramme being dissolved in 100 grammes of the saline, 0.60 in 140, 0.75 in 180, and 0.90 in 220. The patients received no food and were required to stay in bed on each day of injection. The drug being eliminated very quickly, injections were repeated at intervals of only three days.

Of the patients treated thirteen had chancres in various stages and one showed early secondary lesions of ulcerated, malignant type. As regards untoward effects following injections of neosalvarsan, headache was observed twice, chills three times, and sweating once. The temperature rose above 39° C. six times, in all but one instance after the first injection given. One patient showed a Herxheimer reaction resulting in phimosis after the first injection and an erythema after the second injection. As a general rule, untoward effects appeared only at the first injection.

From the standpoint of therapeutic activity, the new drug appeared to the authors distinctly more powerful, and especially more rapid in its action, than salvarsan. The spirochetes promptly disappeared from the initial lesions, and healing of both these and other ulcers occurred with remarkable rapidity. In one case an ultramicroscopical examination seven hours after the first injection disclosed only three spirochetes, practically motionless and very close together, as though agglutinated.

Treatment of Hemorrhoids.—Robin, in *Quinzaine thérapeutique* for April 25, 1912, states that in many cases the medical treatment of hemorrhoids need be directed only toward prophylaxis. Those predisposed to this condition should be required to abstain from alcohol, dark meats, game, and excitants of all sorts. The vegetable components of the diet should be increased at the expense of meats. Exercise should be taken systematically in the form of walks after meals. Small doses of castor oil may be taken to assist in establishing regular bowel functions, and the parts should be carefully washed after each act of defecation.

Where there is hyperemia of the parts, absolute rest, a milk diet, prolonged baths, and local moist applications are advisable; but if the patient cannot be induced to stay in bed, an ointment should be applied containing 2 grammes of extract of krameria and 0.5 gramme each of cocaine hydrochloride and extract of opium in 30 grammes of excipient. Orthoform, in the strength of one to ten or one to thirty may be substituted, but is often not well tolerated.

Hemorrhage, when marked, may be overcome by insufflations of antipyrin, or, if still more abundant, by means of the following ointment formulated by Unna:

℞ Chrysarobin, ...0.8 gramme;
Iodoform, ...0.3 gramme;
Extract of belladonna leaves, ...0.6 gramme;
Petrolatum, ...15.0 grammes.
M. ft. unguentum.

If the bleeding continues, the following mixture should be taken internally:

℞ Calcium chloride, ... 4 grammes;
Syrup of opium (0.2 per cent. of opium extract), ...30 grammes;
Hydrolate of lime flowers, ...120 grammes.
M. Sig.: One tablespoonful every second hour.

Copious hemorrhage calls for injections of hot water, together with the use of pills containing 0.1 gramme of the extract of capsicum annuum, or of the following combination:

℞ Ergotine (Bonjean), ...4 grammes;
Tannic acid, ...0.5-1 gramme;
Syrup of turpentine (10 per cent.), ..30 grammes;
Hydrolate of lime flowers, ...120 grammes.
M. ft. mistura.

Protrusion of inflamed internal hemorrhoids should be treated with a bath of forty-five minutes' duration and the internal administration of two grammes of potassium bromide.

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THE CARNEGIE FOUNDATION AND AMERICAN MEDICAL SCHOOLS.

Another criticism[1] of the medical schools of the United States and Canada has been issued, under the auspices of the Carnegie Foundation, based upon an inspection by Mr. Abraham Flexner, of the medical schools of Germany, Austria, France, England, and Scotland. Certain newspapers have been treating their readers to sensational details, which, without the qualifications that the original text must doubtless contain, misrepresent the whole situation. It is to be feared that quacks of all kinds will find therein substantial help to advertise their wares and prosper, while the multitude of self sacrificing, underpaid physicians of our country will be made increasingly to suffer. It is for the medical profession itself to judge of the merits of the Carnegie Foundation and its methods, and we would venture to suggest that the Council of Education of the American Medical Association and many State boards have accomplished much—everything in fact that has been done so far—to rid the country of its defective schools.

Many of our schools do not compare unfavorably with foreign institutions of the first class. Those of us who have studied in Europe know full well the existing laxity in the attendance at lectures—a defect which does not exist here—and the many hours borrowed from the first two years of curriculum work for questionable pleasures; they know that compends are used freely in Europe; they know that laboratory instruction is very deficient in many foreign schools, and that certain studies, experimental pharmacology as practised by the student himself, for example, are unknown quantities in all but few European institutions. Even the clinical teaching is in some European schools a perfunctory affair, either mere amphitheatre instruction to hundreds of students, or a march through the wards with a short stop here and there, in no way comparable in actual practical value with the ward instruction given in many of our own institutions. The report will doubtless prove the correctness of these assertions.

The crucial point of the question, however, is available in the relative showing of European and American graduates before our State boards. Here foreign schools do not stand on even terms with the forty-seven American colleges which have less than ten per cent. of failures, nor even with the twenty-one which have between ten and twenty per cent., but they *do* stand with those having over twenty per cent. of failures, our third class. It is futile to urge ignorance of the language as a plea for this poor showing; every candidate knows well enough that he must be able to understand written questions, while the great similarity of technical terms in the various languages and also of all the branches as taught in the various countries, places him fully on a par with his American colleague—the most devoted and painstaking of all students.

Some of our colleagues of the lay press defend our schools. "In considering the reports," states a lay editorial writer, "it must be remembered that many of the ideas from abroad that appealed so forcibly to the investigator are being adopted in this country as rapidly as circumstances will permit. Notably is this true in the matter of clinical study. Medical schools are coming more and more to maintain close relations with great hospitals, higher standards for admission are being established, the curriculum is being made more practical. Instances in proof could be cited if necessary. It is well to have the facts regarding present day medical education in Europe set before us, but it should be kept in mind that the conclusions presented are those of a single investigator, that they possess no weight of official authority, and that there are many defects in the European system which might be disclosed under a more rigid and less sympathetic scrutiny."

That the report itself will prove of great value, we have no doubt. As soon as a careful study of

[1] See also editorial article on the first report (Bulletin iv, 1910) in our issue for June 25, 1910.

its contents will permit, we shall give a summary of its suggestive features for the benefit of those of our readers who are interested in the development of medical education in our country.

THE PROPER TEACHING OF OPHTHALMOLOGY IN MEDICAL SCHOOLS.

A matter which was brought up in the House of Delegates at Atlantic City, and was also the subject of an address by Dr. Edward Jackson, deserves careful consideration. More suitable provision should be made for the proper teaching of ophthalmology in our medical schools. Our ophthalmologists are self taught. They delve in textbooks, attend clinics, some have hospital service, but their study is and has been without guidance, and like other men they are apt to follow the line of their own least mental resistance, and the best among them have shortcomings that might have been avoided if they had had systematic training at first. Even the fortunate young men who secure positions on the house staffs of ophthalmic hospitals enter with no preliminary training and are apt to be guided by the immature and inadequate teaching of the other members, who are only a little in advance in their education and are likely to hand down errors in much the same way as in general medicine under the old preceptorial system. It is true that the individual devotion to the study brings about a refined skill in particular branches of the subject, but the need of the community and of the medical profession in general is for a more rounded type of specialist, one who has been as carefully trained as the practitioners of other branches of medicine. The present system has resulted in specialism run to an extreme; the intimate relation of the eye to other organs of the body has been largely lost sight of.

It is a small part of the duty of an ophthalmologist to fit glasses, or to correct muscular imbalance; the detection of disease of other organs in time for treatment to be of avail is much more important. Many patients who come simply for glasses exhibit minute changes in the retinal bloodvessels which are premonitory signs of renal disease before the most skillful general practitioner can detect its presence, or a reflex immobility of the pupil which reveals the onset of locomotor ataxia, or chorioiditic changes that may direct attention to the gastrointestinal tract, or an imbalance of the muscles indicative of organic derangement. We need masters of this subject to cooperate with us in the timely recognition of disease of the human body, and to obtain masters we must begin by having the student properly trained while he is still young enough to have a plastic mind. The provision of sixty hours of instruction now made by the best medical schools is certainly better than the lack of instruction of the men who are now our leaders, but it is inadequate. Three or four times that number of hours are given to obstetrics, from 600 to 800 hours are given to general surgery, and yet we know that this suffices only to guide the student into the right way in which he is to pursue his life study. Sixty hours can furnish simply a bare outline, and even that only to bright students who are already equipped with a good fundamental knowledge. As matters are at present it is difficult for either the community or the profession at large to distinguish between the conscientious student of ophthalmology and the practitioner who asserts he is such after a six weeks' course of instruction, for which he has paid the fees, which he may or may not have attended, but for which he has received a certificate —of attendance, not of proficiency. We have nobody empowered to inquire into and decide upon the attainments of those who wish to call themselves ophthalmologists. These are a few of the reasons why we hope that the medical schools of this country will seriously consider the proposal to add a supplementary, perhaps postgraduate, course in ophthalmology of sufficient length to equip students as well as they are equipped in other branches of medicine, and which will lead, after examination, to the awarding of a special certificate that will guarantee proficiency.

A SINISTER LETTER.

The letter reproduced here is not a tasteless joke, nor does it represent the maundering of a drunken ghoul. It is a genuine epistle on the letter paper of an undertaking establishment, of some standing apparently, addressed to a practising physician in New York, and forwarded by him to this office. It would be interesting to learn if the writer has any acquaintance with physicians of a certain sort, or whether he was inspired merely by the attacks of various interested enemies of the profession, taking their venomous outpourings for truth. Perhaps he belongs to a numerous class too ignorant to know of a professional cast of mind and may have indited his vampiric address as one business man to another. There are such people. We remember a city clerk who told us with a leer that his town paid its physicians twenty-five cents for each birth registered, but was not ready to pay for a similar record of deaths; his implication was clear.

Dr. .....

New York.

Dear Sir—No doubt there may be a time when you will

be asked to suggest a reliable undertaker; anticipating such a request we desire to place our name before you feeling that you will be glad to know us, and our extensive facilities and equipment, to quote a prominent physician who writes: "In recommending ....., I am doing the family a service."

We solicit your recommendation in turn.

In the future, calls from you personally, will be subject to special offset or discount in your favor to be forwarded you or deducted from bill of family should you desire.

Thanking you for favors received in the past, we are

Very truly yours,

(*Signed.*)

If the "prominent physician" is not a myth, as we believe, we shall be glad to publish any explanation he may care to offer. We think this precious document is one of the most outrageous insults ever hurled at our profession, unless indeed we were right in attributing to the writer a low grade of intelligence, in which case the letter is not without a certain grisly humor.

VANADIUM.

It is very unfortunate for the future of what promises apparently to be a valuable and unique therapeutic agent, the metal vanadium, that an article in the *Journal of the American Medical Association* for June 22d, exposing an obesity "cure," should have involved a person who has become identified to a considerable extent with the manufacture of a line of proprietary remedies avowedly based upon the oxidizing properties of the curious metal. We hope to show shortly that vanadium, especially when combined with selenium, has remarkable properties hitherto totally unsuspected, and perchance may take a place in the professional armamentarium alongside its chemical brother, arsenic, and even share with mercury and quinine their indispensability to the prescriber. It is true that we may be too hopeful in our attitude toward this singular agent, but we ask of our readers an open mind, unprejudiced by anything they may have read concerning its exploitation, when we produce the preliminary evidence, along lines which no proprietary house has yet ventured to explore. What has been wanting so far is a standard solution or other preparation of vanadium which may be used by any pharmacist to prepare the extemporaneous prescription of the physician, and we have some reason to think that this will soon be ready. In the JOURNAL for June 10, 1911, we published an editorial article on The Possible Therapeutic Value of Vanadium, basing our conclusion upon certain reports we had read of its poisonous effects, and we are beginning to feel a little pride in that forecast.

DIPHTHERIA IN MANILA.

Dr. Carroll Fox gives a statistical review of the prevalence of diphtheria for the last twelve years in Manila, in *Public Health Reports* for June 21, 1912. It may be seen that diphtheria shows an almost steady increase in the number of cases and deaths reported. Thus, in 1900, one case and one death were reported; in 1902, four cases and four deaths; in 1907, fifteen cases and thirteen deaths; in 1908, eighteen cases and nine deaths; in 1911, twenty-five cases and sixteen deaths; and from June 30, 1911, to April 2, 1912, thirty-nine cases and twelve deaths, with a total mortality of 30.77 per cent. Doctor Fox remarks that previous to the American occupation there were no records kept, but that physicians state that they knew of very few cases during Spanish times. The writer thinks, therefore, that diphtheria was undoubtedly present, and that in addition to this original infection it has been introduced from time to time from the outside. Besides, it is possible that the physicians of the city are making more accurate diagnoses.

As has been shown, the case fatality during the given period was 30.77 per cent., a rate which is too high, considering that antitoxine was used in all but two cases, which were reported only after death. The character and severity of the symptoms do not differ from those found in the United States and the types have been mostly pharyngeal.

PRELIMINARY EDUCATION OF THE MEDICAL STUDENT IN GREAT BRITAIN.

It is interesting to note in connection with our remarks on the report of the Carnegie Foundation what the *Lancet* for June 15th has to say regarding the preliminary examination of medical students in Great Britain. Discussing a report of the Education Committee of the General Medical Council, the *Lancet* writes editorially of the "deplorable illiteracy" that prevails among medical students at the present day. "But," it continues, "surely this is rather a reproach that should be levelled at the condition of secondary education in England generally, and to remedy the admitted defaults in secondary education is hardly the business of the General Medical Council." The *Lancet*, however, agrees with Sir Clifford Allbutt that many young men await intellectual awakening until they have reached the stage of technical education, with the result that certain defects in their form of literary accomplishment may remain without detracting from the value of their professional work. The hope of the Education Committee, as expressed in the report referred to, is to make the preliminary examination bring out the thinking powers of the candidate, if he has any, and to make it a proof that he has "learned how to go on learning."

PLAGUE IN PORTO RICO.

As may be seen from *Public Health Reports*, June 14 and June 21 (see JOURNAL for June 22d, p. 1347, and June 29th, p. 1490), plague is prevalent in Porto Rico. It is of the bubonic type and

cases occur in Porto Ricans only. The first suspected case was reported on June 14th. There appeared to be two foci of the disease and the source was probably infected rats, although this has not as yet been determined. As rigid maritime quarantine is observed at San Juan against all vessels arriving from ports known to be plague infected, the source of introduction seems to be very doubtful. But active measures have been taken to prevent the spread of the disease, and no unnecessary uneasiness is to be felt about its introduction into the southern and eastern parts of our country.

Medical Law.

VIII. CIVIL MALPRACTICE.

A verdict of $1,250 was sustained in the case of Evans & Munro, 43 Atlantic Rep. 82. In this case the patient had been operated upon for the removal of a tumor from the breast. The drain placed by the surgeon in the opening slipped into and remained in the wound, which then healed by first intention. The result was inflammation, necessitating another operation and the removal of the breast.

The Supreme Court of Rhode Island held that permitting a drain to remain within the body after the wound had healed not being good surgery, the circumstance imposed upon the defendant the burden of explaining that the presence of the drain there was not due to his negligence; that under all of the circumstances the judgment was proper and that the amount awarded was not so large as to shock the conscience of the court, or to indicate that the jury was actuated by passion, prejudice, or other improper motive.

X. THE PHYSICIAN AS WITNESS.

In the case of Gill & Erie R.R. Co., 135 N. Y., Supp. 355, an action brought to recover damages for physical injuries sustained in a railroad accident, plaintiff's counsel introduced a medical expert whom he asked: "From the examination you made and what you learned of this injury and the condition you found him in, are you able to state, with reasonable certainty, as to what was the trouble with him at that time?"

This was objected to on the ground that in the question the witness was asked to form his opinion upon something not in evidence. The objection was overruled and the witness answered that plaintiff was suffering from nervous exhaustion following concussion of the brain, technically known as traumatic neurasthenia. Upon appeal this question was held to be improper, in that the witness did not disclose to the jury the facts upon which his opinion was based, "and," said Mr. Justice Spring, "the error was prejudicial, requiring a new trial unless the vice is eliminated by other facts in the record."

Upon examining these "other facts" the Justice concluded that the vice was eliminated. The "other facts" can probably be best stated in the words of the justice:

> Subsequent to the time adverted to by the witness in the foregoing testimony, he made other examinations of the plaintiff and described with considerable detail his condition, and stated that he was suffering from traumatic neurasthenia, which existed in a chronic state at the time of the trial, and this conclusion, which he stated with reasonable certainty, apparently was based on his observation and personal examination of the plaintiff.
>
> Doctor Neefus, another expert, described the condition of the plaintiff and his appearance, discovering "tremor in his hand and in his face," indicating "exhausted nervous condition"; that his face "was markedly flushed," denoting "irritable weakness of the upper part of the spinal cord affecting the nerves." . . . "I noticed nothing else in my examination. It is based mostly on what he told me. He told me about this accident." He was asked by the plaintiff's counsel:
>
> "After the examination of him, and in the examination you made after that, are you able to state from what he was suffering at the time? A. I am.
>
> "Q. Tell us what ailed him at that time?
>
> "Mr. Matson: I object, that no foundation is made, except information given him by the patient. (Overruled. Exception.)
>
> "What do you say ailed him at that time?" (Objected to, upon the same ground, and that his opinion is based upon hearsay. (Overruled. Exception.) "A. My conclusion was that he was suffering nervous exhaustion following a period of concussion of the brain as the result of an accident."
>
> He designated this condition as "traumatic neurasthenia." A motion was made by the defendant's counsel to strike out this testimony immediately after its reception and also at the close of the plaintiff's case, suitably assigning the grounds, which motion was denied. This witness was recalled, and testified that he was present at the examination of the plaintiff in October, 1909, which was had at the instance of the defendant by physicians on its behalf. The witness said that at that time he discovered evidences of the existence of traumatic neurasthenia in him, describing what he observed.
>
> I think in its final analysis it is a reasonable deduction from the evidence that these physicians based their opinions as to the plaintiff's condition upon their examinations of him, and not upon facts disclosed to them by the plaintiff. Naturally they heard his statement of the manner in which he was injured and the changes in his physical condition since the accident. A careful physician might very properly regard the history of the case in some measure important in aiding in the examination he makes. His final diagnosis, however, would still be based upon what he discovered in the patient.
>
> The physicians on the part of the defendant were not sworn. They had twice made extended physical examinations of him, supplemented by long oral examinations before the referee involving the history of the case from the time of the accident. If there was any controversy over his physical condition or the severity of his injuries, we would expect the disagreement emphasized on the trial by the presence on the witness stand of these medical witnesses. The defendant was apparently satisfied with the opinions given by the medical witnesses testifying for the plaintiff.

XI. PRIVILEGED COMMUNICATIONS.

In the case of Studebaker & Faylor, 98 Northeastern Rep. 319, the court aptly states the reason for extending the privilege of professional secrecy to communications between physician and patient in the following words:

> The reason for this statute is that communications may be made in the relation of physician and patient which a due regard for the privacies and decencies of life should protect from being exposed to the public. This privilege may be waived, and when the matters have been once published to the world, no reason remains to hold the privilege in force. The statute was not enacted to enable persons to avoid liability or to win a suit by making it difficult to obtain evidence, but was made in order to allow them to prevent certain private affairs from becoming public property. So it has been held in this and other States that, when a witness has been permitted without objection in a former trial to testify to privileged communications, the bar of privilege is waived, and the testimony cannot be excluded on that ground at a subsequent trial.

News Items.

Smallpox in Philadelphia.—Seven cases of smallpox have been reported in Philadelphia, having been due, it is said, to the failure of the ship surgeons to report a death from this disease on board the *Haverford*, which arrived in Philadelphia on June 4th, and 21,500 persons have been vaccinated as a result of the scare.

The Association of Military Surgeons of the State of New Jersey has elected the following officers to serve for the ensuing year: President, Lieutenant-Colonel Henry Allers, of Harrison; first vice-president, Lieutenant-Colonel William G. Schauffler, of Lakewood; second vice-president, Captain Joel P. Fithian, of Camden; secretary, Captain Arthur P. Hasking, of Jersey City; treasurer, Major S. H. Baldwin, of Newark.

Vital Statistics of Philadelphia.—During the week ending June 8, 1912, the total deaths from all causes reported to the Department of Health numbered 432, corresponding to an annual death rate of 13.99 in a thousand of population, as compared with 407 for the preceding week, with a death rate of 13.18 in a thousand of population. There were 93 deaths of children under two years of age, of which 26 were due to diarrheal diseases.

Jamestown Medical Society.—At the annual meeting of this society, held on the evening of June 14th, at the home of Dr. Austin A. Becker, the retiring president. Doctor Becker read the paper of the evening, and officers for the ensuing year were elected as follows: President, Dr. George F. Smith, of Falconer; vice-president, Dr. H. F. Hunt, of Jamestown; secretary and treasurer, Dr. William M. Sill, of Bemus Point; trustee for three years, Dr. Morris N. Bemus.

Camp for Officers of the Medical Corps.—A camp for officers of the Medical Corps of the United States Army was opened at Peekskill, N. Y., and was held during the past week, closing on Saturday evening. Out of 106 medical officers in the State, 86 were present. Lieutenant Colonel William G. Le Boutillier, chief surgeon on the staff of Major General O'Ryan, was in charge. The school was held to prepare the officers for duty with troops at army and National Guard maneuvers in August.

Congress on Comparative Pathology.—The first international congress on comparative pathology will be held at the Faculty of Medicine, University of Paris, from October 17th to 23d, under the presidency of Professor Roger. This congress will bring together men of science who are interested in pathology, and all scientists in the United States who are interested are invited to attend and participate in the discussions. Communications should be addressed to the secretary general of the congress, at Paris.

A Low Birth Rate in New York.—The number of births recorded in New York city during the first five months of 1912 numbered 56,258 against 56,082 for the corresponding period in 1911, indicating a decrease of 1.10 in a thousand of population. It is not believed that this decline is due to natural causes, but rather to the failure of physicians and midwives to register births, and the department wishes to make clear that such negligence will be prosecuted in the future to the fullest extent of the law.

The Rockefeller Institute for Medical Research.—The Board of Scientific Directors announce the following appointments and promotions: Dr. Alexis Carrel (experimental surgery) has been promoted to the rank of Member of the Institute. The following associates have been made associate members for a term of three years: Peyton Rous (pathology and bacteriology), Donald Dexter Van Slyke (chemistry), Walter Abraham Jacobs (chemistry), and Frank Watts Bancroft (experimental biology). The following new appointments are announced: Harold Lindsay Amoss, assistant in pathology; Clarence J. West, assistant in chemistry; Wolfgang Ewald, fellow in experimental biology; Francis Richard Fraser, assistant resident physician and assistant in medicine; Frederic Moir Hanes, assistant resident physician and assistant in medicine. The following assistants have been made associates: Paul Franklin Clark (pathology and bacteriology), Richard Vanderhorst Lamar (pathology and bacteriology), and Hardolph Wasteneys (experimental biology).

The Northern Tri-State Medical Association.—This association, composed of physicians from Michigan, Ohio, and Indiana, will hold its thirty-ninth annual convention in Detroit, on July 2d. Its officers are: President, Dr. Charles N. Smith, of Toledo; vice-president, Dr. Victor C. Vaughan, of Ann Arbor; secretary, Dr. George W. Spohn, of Elkhart; treasurer, Dr. J. A. Witz, of Montpelier.

Vital Statistics of New York.—During the week ending June 1, 1912, the total deaths from all causes reported to the Department of Health numbered 1,275, corresponding to an annual death rate of 12.86 in a thousand of population, as compared with a rate of 13.97 for the corresponding week in 1911; 577 marriages and 2,338 births were reported and 144 stillbirths. During the week ending June 8th the deaths numbered 1,338, corresponding to an annual death rate of 13.49. There were 1,742 births and 1,294 marriages reported, and the stillbirths numbered 134.

Medical Faculty of University of Alabama Enlarged.—Acting on the suggestion of Dr. Eugene Bondurant, dean of the faculty, the trustees of the University of Alabama have added twenty-six instructors and lecturers to the faculty of the School of Medicine of that institution. Several of the newly appointed lecturers and instructors will take courses in Europe this summer better to equip themselves for their new positions. Another important step in the advancement of the school was taken recently when an appropriation of $50,000 was made by the city to be used in improving clinical facilities of the city hospital.

Infectious Diseases in New York.—During the two weeks ending June 8, 1912, the following cases of communicable diseases, with the deaths therefrom, were reported to the Department of Health of the city of New York:

	—June 1st—		—June 8th—	
	Cases.	Deaths.	Cases.	Deaths.
Pulmonary tuberculosis	368	136	349	182
Diphtheria and croup	242	15	241	15
Measles	1,396	22	1,233	21
Scarlet fever	305	21	261	15
Chickenpox	216	..	229	..
Typhoid fever	41	4	48	9
Whooping cough	53	6	44	3
Cerebrospinal meningitis	7	7	13	3
Total	2,628	211	2,618	248

New Jersey State Medical Society.—At the 146th annual meeting of the Medical Society of New Jersey, held at Spring Lake on June 11th, 12th, and 13th, the following officers were elected to serve for the ensuing year: President, Dr. Norton L. Wilson, of Elizabeth; first vice-president, Dr. Enoch Hollingshead, of Pemberton; second vice-president, Dr. Frank D. Gray, of Jersey City; third vice-president, Dr. William J. Chandler, of South Orange; corresponding secretary, Dr. Harry A. Stout, of Wenonah, reelected; treasurer, Dr. Archibald Mercer, of Newark, reelected; recording secretary, Dr. Thomas N. Gray, of East Orange.

Infectious Diseases in Chicago.—During the week ending June 15th the following cases of communicable diseases and deaths therefrom were reported: Typhoid fever, 21 cases, 3 deaths; smallpox, 1 case, 0 death; chickenpox, 28 cases, 0 death; measles, 302 cases, 5 deaths; German measles, 5 cases, 0 death; scarlet fever, 220 cases, 15 deaths; whooping cough, 90 cases, 5 deaths; diphtheria, 114 cases, 17 deaths; tuberculosis, 132 cases, 74 deaths; cerebrospinal fever, 1 case, 3 deaths; pneumonia, 23 cases, 69 deaths. The total deaths from all causes, exclusive of stillbirths, numbered 588, corresponding to an annual death rate of 13.3 in a thousand of population.

Personal.—Dr. M. Neustaedter has been appointed instructor in neurology at the New York University and Bellevue Hospital Medical College.

The degree of doctor of laws was conferred upon Colonel Gorgas by Johns Hopkins University, at the annual commencement exercises held on June 11th.

The Board of Scientific Directors of the Rockefeller Institute for Medical Research announces the appointment of Dr. Homer Fordyce Swift as chief resident physician at the hospital, which is conducted by the institution in connection with its experimental work.

At the eighty-first annual commencement of Wesleyan University at Middletown, Conn., held on June 10th, the degree of doctor of laws was conferred upon Dr. Amos J. Givens, of Stamford, Conn.

Pith of Progressive Literature.

BOSTON MEDICAL AND SURGICAL JOURNAL.

June 13, 1912.

1. J. COLLINS WARREN: Address.
2. H. B. HOWARD: Peter Bent Brigham Hospital.
3. FRANCIS G. BENEDICT: Carnegie Nutrition Laboratory.
4. HOWARD T. KARSNER: Function of Experimental Method in Course of Pathology.
5. ROBERT W. LOVETT: New Children's Hospital.
6. E. E. SOUTHARD: New Psychopathic Department of Boston State Hospital.
7. M. J. ROSENAU: Department of Preventive Medicine and Hygiene and New Degree of Doctor of Public Health.
8. E. E. TYZZER and THOMAS ORDWAY: Huntington Hospital and Scope of Its Work.
9. A. MACKENZIE FORBES: Anterior Metatarsalgia and Morton's Disease.
10. E. A. CODMAN: Abduction of Shoulder, in Connection with Subacromial Bursitis and Rupture of Tendon of Supraspinatus.
11. JOHN STAIGE DAVIS: Hastening Wound Healing by Skin Grafting and Use of Certain Organic Coloring Matters.

11. The Hastening of Wound Healing.—Davis concludes with the statement that scarlet red and amidoazotoluol will not heal every granulating wound, but in the majority of cases, when applied with the proper technique, they will cause epithelial stimulation in the edges of the most sluggish wounds and give a rapid healing which is stable and resistant, and which has the macroscopic and microscopic appearance of the normal skin. There is no tendency to subsequent contraction and the skin becomes movable on the underlying tissues in a reasonable time. The statement that skin grafting can be largely done away with is too broad, but there is no doubt that wounds can be healed by these dyestuffs which could not otherwise be closed satisfactorily except by grafting.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

June 15, 1912.

1. GEORGE E. SHAMBAUGH: Specialist in Medicine.
2. W. B. CANNON: Animal Experimentation; Benefits to Mankind.
3. M. W. GLOVER: Hookworm among Oriental Immigrants.
4. PEYTON ROUS, JAMES B. MURPHY and W. H. TYTLER: Relation between a Chicken Sarcoma's Behavior and the Growth's Filterable Cause.
5. H. W. LYALL: Blood Cultures in Pneumonia.
6. WILLIAM H. CRISP: Essay on Health and Long Life, Published A.D., 1725.
7. DAVID RIESMAN: Peculiar State of Asthenia of Short Duration, Ending in Recovery.
8. JOSEPH A. CAPPS and JOSEPH L. MILLER: Chicago Epidemic of Streptococcus Sore Throat and Relation to the Milk Supply.
9. DAVID J. DAVIS: Bacteriological Study of Streptococci in Milk in Relation to Epidemic Sore Throat.
10. C. C. WHOLEY: Morphinism in Less Commonly Noted Aspects.
11. WILLIAM S. EHRICH: Simple Device for Holding Retention Catheter.
12. H. A. SHARPE: Acranial Monster with Encephalocele and Polyhydramnios.

1. Specialist in Medicine.—See this JOURNAL for June 8th, page 1228.

2. Animal Experimentation and Its Benefits to Mankind.—Cannon, in this paper, summarizes evidence which has been given in detail in pamphlets published by the Bureau for the Protection of Medical Research of the Council on Health and Public Instruction of the A. M. A. The value of this method in studying various diseases (tuberculosis, bubonic plague, diphtheria, epidemic cerebrospinal meningitis, puerperal fever, pus infections, and syphilis-salvarsan) is set forth, and the results in the way of improved methods of diagnosis and treatment. The author concludes with a stirring plea for vivisection under humane conditions.

3. Hookworm among Oriental Immigrants.—Glover records the fact that at Angel Island the stools of 2,255 aliens were examined microscopically for the ova of the hookworm. Of this number 1,077 were found to contain the eggs of either *Necator americanus* or *Ankylostoma duodenale*. Of the Hindus examined sixty-three per cent. were found to be infected with hookworm, but the stools of the Hindus were remarkably free from the eggs of other animal parasites. Thirty-five per cent. of the stools were negative (no ova of any variety present). Ova of both varieties of hookworm were found in the stools of Chinese and Japanese (not infrequently both in one stool), but the Hindu stool yielded only ankylostomata. The greater prevalence of hookworm among Japanese women as compared with Chinese was noted, the Japanese being country girls who had been working barefooted in the fields, while the Chinese women were the wives and daughters of merchants and mostly housewomen. Of fifty-two Japanese coolies examined, forty-eight harbored uncinarias in their intestinal tracts. In concluding, attention is called to the influence of Oriental immigration on the medical history of our country, not only in the matter of hookworm and other intestinal parasites, but of many tropical diseases. Filariasis, amebiasis, and malarial infection are found among Oriental immigrants. The migration of these Orientals in search of employment tends to spread the infection over wide areas and will render the elimination of the diseases more difficult in the future.

8. The Chicago Epidemic of Streptococcus Sore Throat and Its Relation to the Milk Supply.—See this JOURNAL for April 27th, pp. 889 and 890, and for June 8th, p. 1225.

MEDICAL RECORD.

June 15, 1912.

1. EUGENE FULLER: Management of Gonorrheal Rheumatism.
2. HERMANN HILLE: Facts of Modern Science and Their Value in the Prevention and Cure of Disease.
3. D. M. KAPLAN: Practical Value of Wassermann Reaction.
4. WALTER S. REYNOLDS: Mercury in Syphilis.
5. MARK I. KNAPP: Myositis Traumatica.
6. JOHN R. HICKS: What Should General Practitioner Know about Disturbances of Motility of Eye?
7. M. B. GORDON: Exophthalmic Goitre.

1. The Management of Gonorrheal Rheumatism.—Fuller considers the term, gonorrheal rheumatism, an unfortunate one, as he suspects strongly that the rôle of the gonococcus in this disease is secondary, and further, from a clinical standpoint, the term handicaps and embarrasses the surgeon, especially in dealing with the chronic forms of the disease. For the latter cases he uses the term "absorptive" or "toxic" rheumatism, believing that the systemic symptoms depend upon the absorption of a toxic element originating from a septic focus, the elimination of which will insure a cure of the rheumatism. From long experience he has found this focus in the seminal vesicles which when opened and drained has been followed by a disappearance of pain from the joints and all attendant swelling. The use of antigonorrheal serums and of the usual antirrheumatic remedies are valueless. So also is electricity. Seminal vesiculotomy yields the best results.

2. Value of Facts of Modern Science in Prevention and Cure of Disease.—Hille says, no vital process or activity is possible without the presence of mineral constituents, as these elements and salts are generators of energy, and are of equal

importance with proteins, carbohydrates, fats, oxygen, and water. The human organism cannot exist without mineral elements and salts in true organic form as they are indispensable foods. Mineral starvation causes disease and death, and death in a shorter time than does complete starvation. The lack, or altered metabolism, of more than one mineral is the cause of most diseases. Mineral elements are found in all natural foods and in mineral waters; in some as many as twenty-six elements, for the most part in organic form. From these facts the author deduces the following conclusions: From a purely physical standpoint mineral starvation is usually the primary cause of disease; organic minerals are more easily utilized than inorganic forms; loss of mineral bodies impairs the food value of foodstuffs, and, moreover, tends to make them poisonous; mineral starvation is followed by disturbance in the vital processes and activities of the human organism, a reduced supply of vital energy, a pollution of the blood, body juices, and tissues, and the preparation of a soil in which parasites thrive and multiply without hindrance. Applying these facts and conclusions we find that the food minerals can no longer be ignored; a rational scientific estimation of the value of foodstuffs must include the mineral bodies; rational scientific therapeutics can no longer ignore the mineral bodies, and one of the most important duties of chemistry is a rational differentiation between inorganic and organic forms of matter.

3. **Practical Value of the Wassermann Reaction.**—Kaplan, in a consideration of this question, tries to explain the apparent incompatibility of certain practical facts with some of the fundamental laws that govern the Wassermann reaction, and finds, experimentally and otherwise, that the extracts from syphilitic organs that serve for want of something better as specific antigens, will cause the same phenomenon of deviation of complement with three or four diseases other than syphilis, e. g., sleeping sickness, leprosy, scleroderma, certain jaundices, etc. It is not necessary to work with extracts from syphilitic human organs, as the writer has used extracts from beef livers and hearts and extracts from guineapig hearts with satisfactory results. In old syphilis no obtainable extract will give more than sixty to seventy per cent. of positive results with the Wassermann test. The reaction, considered from the standpoint of a specific antibody or antigen, is therefore not specific. Extreme care in the interpretation of end reactions is important when the patient denies infection and the physician is unable to find any signs of lues. The results of tests in these cases must be critically read. An advantage in the Noguchi modification is the greater stability of the amboceptor, but this reaction often gives positive results in nonluetic patients (chancroids and other clinical states), and negative results in luetic patients. The author concludes that the Wassermann reaction, from a theoretical standpoint, has very little in common with the side chain theory of Ehrlich. Unquestionably positive results should be considered by the laboratory and the clinician, and a Wassermann reaction should not be considered without obtaining a good history and a thorough physical examination.

4. **Mercury in Syphilis.**—Reynolds, while allowing the remarkable effect which salvarsan produces in causing a very rapid defervescence of some of the manifestations of syphilis, reminds us that mercury may act with equal promptness in some instances. In those cases where salvarsan is contraindicated, and where a prompt resolution of the lesions is important, mercury when properly administered will seldom fail us. In these cases, if rapid action is desired, the dose must be sufficiently large and the method best adapted to the case must be considered. The various methods of using mercury are discussed as to technique and efficiency. Positive early diagnosis is now possible, and hence early treatment based thereon; better and more scientific results may be looked for in the treatment of luetic infection.

5. **Myositis Traumatica.**—Knapp calls attention to a class of patients who suffer pain, even agony, some time after they have gone to sleep, and after arising in the morning the pain becomes easier as the day advances, so that they feel fairly comfortable, only to go to bed to renewed misery. This pain may be located in the back, shoulder, nape of the neck, or muscles of some other part. The condition is most frequently diagnosticated as muscular rheumatism. Internal medication is useless. The explanation of the pain is that it is caused by hyperextension, or by prolonged extension, or by both, of the muscles severally involved, produced by faulty posture in bed, faulty arrangement of pillows, sagging down of a cheap bed spring, etc.; a myositis results. The treatment is to correct the specific faulty posture. The author reports a patient who had gone the rounds in this country and abroad who was well four days after he had slept on the floor instead of in bed, a mattress, naturally, being used. For moral effect he suggests the use of some local application (anything); this psychical adjuvant he considers of great importance.

BRITISH MEDICAL JOURNAL.

June 8, 1912.

1. R. Hutchinson: Chronic Diarrhea in Adult.
2. H. Gilford: Relations of Biology to Pathology.
3. J. H. Evans: Ulcerous Lesions of Tongue.
4. J. E. R. McDonagh: Action of Salvarsan and its Neurological Wassermann Reaction.
5. W. H. Hooton: X Ray Treatment of Graves's Disease.
6. R. Ollerenshaw: Dermoids of Tongue.
7. B. F. Pendred: Viper Bite.
8. H. Balme: Enormous Parotid Tumor in Chinese Woman.
9. W. Washbourn: Perforated Enteric Ulcer; Operation; Recovery.
10. E. A. Cooper: Bactericidal Action of Cresols and Allied Bodies.

2. **Relations of Biology to Pathology.**—Gilford makes the rather startling assertion that the work of such men as Lister and Pasteur has had a retarding effect on the progress of medical science. After supporting this statement he suggests that biology is the means by which we are to counteract this influence. In spite of the great advances in the realm of bacteriology there still remains a large group of diseases of the nature of the pathology of which we are yet in almost as great ignorance as we were in the sixties. Bacteriology has even done much to obscure our knowledge of

these, for we have been led to apply high sounding bacteriological terms to processes about which we know little or nothing, and these names have been passed on as meaningless terms which continue to cloak our ignorance. Such diseases as Bright's disease, Hodgkin's disease, arthritis deformans, cirrhosis of the liver, pernicious anemia, and a host of others fall within Gilford's class of ailments which are to be explained as dependent, more or less directly, upon biological variation and not upon bacterial causes. We may quote a paragraph verbatim which outlines the biological facts to be used as a basis for explanation of disease. "These materials are the common biological facts of variation, heredity, adaptation to circumstances, correlation, interwoven in their proper order with the fleeting changes of age, or with the peculiarities incidental to sex. The doctrines of reversion and of the recapitulation of character, the facts of comparative anatomy, of anthropology, of paleontology, must be liberally drawn upon, and adequate allowance must be made for the different effects of similar circumstances upon single cells, upon cell communities or organs, and upon the man as a whole." In the class of diseases which he discusses Gilford remarks that they are of prehistoric origin, whereas the diseases of microbial nature are contemporary. Biological variations may be divided into two classes—those which consist in numerical changes, and those which consist in an alteration in constitution. It is the latter with which we are concerned in the diseases under consideration. This form of variation is never hereditary and it is amenable to the influence of environment. Hence it depends for its existence partly upon intrinsic and partly upon extrinsic causes. This is called fluctuation or continuous variation. Environment may properly be made to include food and other factors which act upon the tissues from within or without. There are disorders which are not to be included under such causes as the outline given above covers. These are such as apparently spring up spontaneously, are sporadic, and are apt to occur hereditarily. Such include achondroplasia, sporadic cretinism, and a number of others. These correspond to the major or discontinuous variations and are biological mutations which are become pathological by having been carried to an extreme. The diseases falling within the realm of the first class are in fact likewise nothing but biological variations which have been carried to the extreme, but in this case they remain latent under ordinary circumstances and spring into being only in response to some alteration in the environment. Such pathological biological variations may be either progressive or regressive.

4. **Salvarsan and Neosalvarsan.**—McDonagh has made some hundreds of tests of the blood for the Wassermann reaction at different intervals after the administration of one or the other of these two drugs. He finds that there is a fallacy in the fourteen day limit of taking the Wassermann reaction as now practised, for cases of latent syphilis, especially after the first injection of arsenic, may give a negative reaction and not appear positive on the fourteenth day until after a second injection. Further, cases of primary syphilis and cases nearing the end of treatment may frequently give a positive reaction between the seventeenth hour and the fifth day after an injection and still be negative if tested on the fourteenth day. He finds that a permanent negative reaction is best obtained by continuous treatment with salvarsan, that is injections repeated at very short intervals, and when mercury is given simultaneously. He concludes that, considering all stages of the disease, from three to seven injections of arsenic are necessary for a cure. Neosalvarsan is capable of curing many cases in the third stage which salvarsan had failed to cure. Alterations in the Wassermann reaction are most constant as the result of treatment, and if tests are made at short intervals these alterations form the best guide for the regulation of treatment. McDonagh believes that it is well to give patients a provocative injection of neosalvarsan six months or a year after they have been discharged and test the blood forty-eight hours, the seventh, fourteenth, twenty-first, and twenty-eighth days afterward.

10. **Cresols and Their Allies.**—Cooper continues the presentation of the results of his studies, the first part of which we abstracted in the last issue of the Journal. Working with the dioxybenzenes and trioxybenzenes he finds that high germicidal power is not to be sought in the phenols containing numerous hydroxyl groups. Quinone was tested and found to have a germicidal power ten times that of phenol. As the quinone derivatives are not soluble in water attempts were made to find a means of emulsifying them, but this was not successful. Distillation of the crude phenols permits of the separation of several fractions having different boiling points. These are termed the tar acids. It is found that these increase in their germicidal powers as the boiling point rises and this fact is taken advantage of in a number of the proprietaries. It is found that emulsification of these tar acids yields a higher bactericidal power than does their solution. Cooper explains this as being due to the fact that in emulsion the bacteria can appropriate the individual particles of the acid and thus become surrounded therewith in a very high concentration, while in solution the concentration remains uniform throughout the fluid, and the bacteria are subjected to a far less intense action. Particulate organic matter, such as dried feces, reduces the bactericidal activity of these emulsions in much greater proportion than it does the solutions of the same substances. This is explained by the fact that from the emulsion the organic matter can appropriate a larger proportion of the germicidal agent than from the solution. Dried pus is found to exert a similar effect to that of dried feces in lowering the bactericidal powers of the emulsified tar acids. Tap water was tested in comparison with distilled water and was found to cause some slight depreciation in the activity of emulsions which had been allowed to stand for a few days. The same strength emulsions made with distilled water and allowed to stand the same length of time showed less loss of activity though there was a slight diminution due to precipitation.

LANCET.

June 8, 1912.

1. W. G. Ball: Acute Infective Processes Due to Streptococcus. Vaccines and Serums in Treatment.
2. E. M. Brockbank: Blood Plates.
3. C. F. Coombs: Is There a Directly Rheumatic Form of Ulcerative Endocarditis?
4. R. O. Moon: Congenital Stenosis of Aorta.
5. W. F. Jones: Splenectomy for Rupture of the Spleen; Recovery.
6. E. B. Gunson: Hemopericardium of Traumatic Origin.
7. M. J. Bernstein: Dermatitis Caused by Dinitrochlorbenzole.
8. E. W. Roughton: Bilateral Operation for Inguinal Hernia.

1. Streptococcus Infections.—Ball cites the results which he has obtained in the treatment of a very considerable series of acute infections by one or other of the various forms of this organism, and infections involving widely different portions of the body. In many there was a positive culture of the coccus to be obtained from the blood. He concludes that there is quite enough evidence to warrant the statement that vaccines do exert some favorable influence on the course of the fever in such cases, provided that the local lesion has been properly cared for surgically. This latter condition is an essential of treatment in all cases. That the virulence of the infecting organism plays a very important part in the potency of the vaccine, and on account of this the size of the initial dose must of necessity vary with each case. There is abundant evidence that vaccines frequently prevent the appearance of the recurrences so often seen in these infections. In those cases of his series in which there was recovery, in the majority, the change for the better was dependent upon the institution of vaccine treatment. As far as serums are concerned Ball finds that in the majority of the cases in which they were used they proved disappointing. Of the dose of vaccine, Ball thinks that the more acute and generalized the lesion, the smaller the initial dose. This should then be gradually increased until the desired effects are obtained.

3. Ulcerative Endocarditis.—Coombs has made careful histological analyses of the hearts in seven cases of ulcerative endocarditis due to the streptococcus, with a view to finding whether rheumatic infection is directly causative. In all seven he found the histological features to be essentially the same, in spite of wide clinical difference in virulence and relation to previous rheumatism. He found no histological evidence of a directly rheumatic origin, even in cases in which the rheumatic factor was clinically most in evidence. As these histological findings cast doubt upon the direct causation of ulcerative endocarditis by rheumatism, conclusions regarding its bacteriology which are drawn from cases of ulcerative endocarditis are to be deprecated.

6. Hemopericardium.—Gunson reports the case of a little girl who fell and drove half of a needle through her chest wall into the pericardial sac with the production of an infected hemopericardium. This was aspirated twice with some relief, but it was deemed best to do an open operation. This was done over the base of the heart, removing the second, third, and fourth costal cartilages, and through the wound 300 c.c. of bloodstained fluid was allowed to escape. The point of the needle was to be felt projecting within the pericardium and it was removed from within. The wound was closed with a drain and so far as the surgical phase of the case was concerned all went favorably. Bronchopneumonia developed fourteen days after the operation and resulted fatally in two weeks more.

8. Operation for Inguinal Hernia.—Roughton believes that all oblique inguinal hernial sacs in children and young adults are the remains of a portion of the funicular process of peritoneum and that such hernias are really never "acquired" in the true sense of the word. It is therefore a possibility that a person who has a hernia on one side has a potential one on the other. This is often shown to have been the case by the return of the patient for a second operation, on the opposite side. Acting on this hypothesis, Roughton has recently made a practice of searching for a sac on the opposite side in all cases of operation for the cure of inguinal hernia in children and young adults. In eighteen cases he has found a sac varying in length from one half inch to two or three inches. The finding of the small sacs is not an easy matter unless the search is systematic and thorough, with a free exposure of the cremasteric layer clear to the internal ring. This (the cremaster) is then split as in herniotomy and the sac, if present, will be found here; sometimes it is quite obvious, at other times it is concealed by a plug of fat in the canal. After the usual treatment the wound is closed and recovery progresses. This saves the patient both the dangers and the inconveniences of a second hernia and a second operation, and adds virtually nothing to the risk or severity of the initial operation.

BULLETIN DE L'ACADÉMIE DE MÉDECINE.

May 28, 1912.

1. E. Bodin and A. Netter: One Year's Practical Experience with Intravenous Injections of Salvarsan in Treatment of Syphilis.
2. Hallion, Bauer, and F. Balzer: Advisability, in Diagnosis of Syphilis, of Performing, in Conjunction with Wassermann Reaction Proper, Identical Test with Serum Not Heated.

1. Value of Salvarsan.—Netter reports concerning a series of 156 cases of syphilis, including all stages, treated by Bodin with 500 intravenous injections of salvarsan. The conclusions reached by Bodin were very favorable to salvarsan, which he considers superior to mercury both in rapidity and constancy of effect. Complete eradication of syphilis is possible provided the treatment is given before the fifteenth day succeeding the appearance of the chancre. After this period abortion of the disease is no longer compatible with a safe salvarsan treatment. The drug will, however, keep the patient symptomless if given in courses of two to four injections repeated at intervals. Only observation of a large series of cases covering a number of years will permit of definitely stating the duration of treatment required before a patient can consider himself cured. Bodin advises the use of a small initial dose (0.1 to 0.2 gramme), to test the susceptibility of the individual; 0.3 gramme should then be the standard dose, to be given at intervals of six to eight days, in the adult of medium weight. Salvarsan treatment is not dangerous, provided due attention is paid to renal, hepatic, circulatory, and nervous contraindicating conditions, that the injection be given aseptically, and that an alkaline solution, with the precise quantity of sodium necessary for saturation, be used. More or less marked reactions to the injections appeared in sixty-five per cent. of the author's cases. No visual or auditory

disturbances were witnessed, though in one patient facial paralysis developed, but yielded to a continuation of the treatment.

2. Supplementary Wassermann Test with Unheated Serum.—Balzer refers to the salient points presented in a paper by Hallion and Bauer, who, after a critical study of the Hecht reaction, found that the essential feature distinguishing it from the Wassermann test consists in not heating the serum, and advise that, in conjunction with every Wassermann reaction, an exactly similar test, but without previous heating of the serum, be carried out. Cases in which the Wassermann reaction is positive are divided into three classes, according to the extent to which hemolysis is hindered, while in those in which it is negative, the second test is useful in showing the degree of probability existing that syphilis may yet be present, notwithstanding the negative Wassermann reaction. The extent of response in the second test by cases negative to the first leads to the separation of three classes of cases: 1. Subpositive, in which the presence of syphilis is almost certain, in spite of the negative Wassermann reaction. 2. Negative but suspicious, in which the chances of the presence of syphilis correspond to about ninety in 100. 3. Entirely negative, in which syphilis is either absent or has been so influenced by treatment as to lose the specific reaction. The results of tests, classified as described, in 500 cases, proved to be entirely parallel with the clinical manifestations. The advantage of the supplementary test consists in broadening the range of the Wassermann reaction by the addition of the sensitiveness of the Hecht and Noguchi methods, thus allowing a distinction to be made between cases in which the presence of syphilis is uncertain, but probable, and those in which the disease is absent.

JOURNAL DE MÉDECINE DE PARIS.

June 8, 1912.

Milhit: Treatment of Typhoid Fever.

Treatment of Typhoid Fever.—Milhit gives attention mainly to baths, or in their absence, cold sheet wrappings, etc. Other antipyretics are pyramidon, cryogenin, antipyrine, and quinine hydrochloride, which is much liked by some physicians for use with children. Repeated purgation is inadvisable. The routine use of hexamethylenamine is becoming popular. With the idea of antisepsis ointments of collargol or injections of electrargol or sodium nucleinate are used. The mouth should be kept as clean as possible, also the skin, and bedsores should be guarded against. If it is necessary to catheterize, remember the Eberth bacillus may start up a violent cystitis. The bladder may be washed out with weak solutions of potassium permanganate. It is sometimes difficult to induce a typhoid patient to drink enough, and beverages should be made tempting. Diet is usually confined to milk, but some authorities feed heavily, with soup, hashed meat, etc. If milk is not tolerated, recourse may be had to kefir, kumyss, buttermilk, vegetable purees, or meat juice. Care must be taken during convalescence not to gratify too freely the enormous appetite.

PARIS MÉDICAL.

June 8, 1912.

1. Zimmern: Electrodiagnosis in Brachial Paralyses.
2. Paul Camus and Baufle: So Called Essential Gastric Crises.
3. Lévy-Bing and Louis Durœux: Are Accidents Following the Intravenous Use of Salvarsan Avoidable?

3. Accidents Following Use of Salvarsan.—Lévy-Bing and Durœux, although they have heard of fatalities after the use of salvarsan, have given over 600 injections without even a serious accident. Such phenomena as inflammation of the cellular tissue may be avoided by care and by using a preliminary injection of serum to see if the syringe is really introduced well into the vein. A venous thrombosis is more difficult to avoid. The congestion of the face, swelling of the lips, lacrymation, formication in the legs, etc., are due to hypertension and vasodilatation. Chills and vomiting are sometimes late sequelæ, with fever and headache, herpetiform eruptions, pains in the joints, and other unpleasant manifestations. The authors have found it best to give small doses and to administer them in the morning with the patient fasting. Their entire outfit for injection is contained in a nickel box and is sterilized before use in the autoclave. They use only freshly distilled water, submitted for half an hour just before use to a temperature of 120° C.

PRESSE MÉDICALE.

June 5, 1912.

1. Jacques Bertillon: Statistics of Meningitis.

June 8, 1912.

2. Maurice Chevassu: Percentage of Blood Urea and Uremic Constant in Surgical Genitourinary Cases.
3. H. Carrion and Ch. Ovide Guillaumin: Ambard's Urosecretory Constant from Clinical Viewpoint.
4. Coville: Uselessness of Dressings after Certain Aseptic Operations, Especially in the Child.

1. Statistics of Meningitis.—Bertillon's researches lead him to propound certain questions: 1. Why is meningitis commoner in Spring than in the Fall? 2. Why does it attack boys rather than girls? 3. Why is it rapidly diminishing in frequency, at least in towns? 4. Why is it much commoner in towns than in the country? 5. Why does it attack the poor oftener than the rich? 6. Why does its frequency vary considerably among the towns of a given district? 7. Why is it commoner in Brittany, the north of France, and on the border of the Mediterranean, than in Normandy, the middle of France, and in Gascony?

4. Dressing Surgical Wounds in the Child.—Coville's attention was drawn to the uselessness of dressings after careful operation in children by the difficulty he experienced in the after treatment of operations for hernia, owing to the shortness of the penis in boys and the proximity of the vulva in girls, which caused his dressings to be speedily soiled by urine. He had also noticed the rapidity of healing of wounds of the face and prepuce without dressings. Now he puts nothing over a hernia wound, but clothes the child simply in a shirt sterilized in the autoclave, fixing it with a safety pin between the thighs. Coville wears rubber gloves and disinfects with tincture of iodine. There is no danger of the child meddling with the wound. By this simple method excellent cicatrices are obtained with a healthy condition of the surrounding integument. Among the operations so treated have been laparotomies, all kinds of work on the prepuce, hernias,

and resections of the elbow joint. Dressings are, however, necessary after operations on the neck, hands, and legs, but these may be soon removed. Success has followed the same procedure in some adults.

CORRESPONDENZ-BLATT FÜR SCHWEIZER AERZTE

May 10, 1912.

1. Siegrist: Choked Disc (*Stauungspapille*) and Palliative Treatment (*To be concluded*).
2. Paul Hüssy: Spontaneous Infection in Obstetrics.

May 20, 1912.

3. E. Tschudi: Severing of Sensitive Nerve Roots of Spinal Cord.
4. Siegrist: Choked Disc (*Stauungspapille*) and Palliative Treatment (*Concluded*).

2. Spontaneous Infection in Obstetrics.—Hüssy speaks of the normal presence of streptococci in the vagina in childbirth, but the body is usually able to protect itself against the noxious hemolyzing toxines. If this is not the case a spontaneous infection will be produced through these endogenous vaginal spores, thus the ahemolytic streptococci will change into hemolytic. But Hüssy does not follow this reasoning. He does not believe that hemolysis and virulence go hand in hand. He thinks that spontaneous infection will occur only very rarely, and is therefore the exception and not the rule, and believes that the infections in obstetrical cases are usually introduced from the outside.

PRAGER MEDIZINISCHE WOCHENSCHRIFT

May 9, 1912.

1. To Theodor Petrina's Seventieth Birthday.
2. Gottlieb Pick: Lifetime Spent in Sociological Medical Labor.
3. Viktor Lieblein: Tumors in Lesser Curvature and Posterior Wall of Stomach.

May 16, 1912.

4. M. Weber: Huntington's Chorea (*To be continued*).
5. Oskar Klauber: Forty-first Congress of German Surgeons.

May 23, 1912.

6. Egmund Münzer: Uremia and Proportion of Uric Acid in the Blood.
7. Bacher: Importance and Present Status of Radiology in Reference to Medicine Especially in Diseases of Stomach.
8. M. Weber: Huntington's Chorea (*Continued*).

May 30, 1912.

9. Wilhelm Wiechowski: Purin Metabolism in Monkeys.
10. Alois Strasser: Basis for Hydrotherapeutics in Internal Diseases.
11. M. Weber: Huntington's Chorea (*Concluded*).

1 and 2. To Theodor Petrina's Seventieth Birthday.—In these two articles is given a review of the life and achievements of a leading physician of Bohemia, who may well be taken as a representative of the medical practitioners of that country.

4, 8, and 11. Huntington's Chorea. — Weber gives a very thorough review of the literature and of our knowledge of Huntington's chorea, especially of the psychic disturbances found therein. He remarks that derangement of metabolism is the cause, depending upon a diseased nervous system. He reports three cases; in two of these he was able to follow up the disease through four generations. He concludes his valuable paper with Huntington's statement: "I have never seen a cure or an improvement of the symptoms in this form of chorea; once started it will lead without fail to a fatal ending."

7. The Importance and the Present Status of Radiology in Reference to Medicine, Especially in Diseases of the Stomach.—Bacher states that röntgenology plays an important rôle in the diagnosis of cancer of the stomach. We know that about fifty per cent. of all chronic stomach ulcers will finally develop into cancer. An early and correct diagnosis, followed by the necessary operation, is therefore of great importance, and here radiology will be of much assistance.

WIENER KLINISCHE WOCHENSCHRIFT

May 9, 1912.

1. Marianne Plehn: Tumors in Amphibia.
2. M. Weiss: Biochemical Basis of Special Disposition of Lung Tissue to Tuberculous Disease.
3. Desider Natonek: Bacillus of Paradysentery.
4. Friedrich M. Hartstock: Typhoid Fever Vaccine.
5. Milivoj H. Kostic: Vessel Suture and Its Clinical Importance

1. Tumors of the Amphibia.—Plehn speaks first of the tumor of the thyroid of the salmonides. This cancer was described about ten years ago and has since then received special attention by the investigators. Epidemics of this disease are found all over Europe, as for example near Grenoble, Lake of Geneva, and in Scotland, but they are also found in South Africa, Australia, and the United States. The disease has been especially studied in the United States, where it was found that a benign goitre corresponds to the goitre of the mammals, and that it precedes malignant carcinoma. Plehn gives a good description of this fish cancer microscopically. She then takes up pustules of the carps and a thickening of the epithelium of the gills in salmonides. As fish play an important rôle among the foodstuffs for man the study of these tumors is of great interest, theoretically as well as practically, and might help to solve the question of hereditary predisposition. Although the cancer of man and cancer of fish differ, there are many points in the construction and development which are very similar.

2. Disposition of the Lung Tissue to Tuberculous Disease.—Weiss remarks that the peculiar disposition in man as well as in animal of the lung tissue to tuberculosis is based upon a biochemical peculiarity of this tissue. It has been shown that it is very poor in oxydases, and the tubercle bacillus finds a favorable soil in such tissue which has a lowered oxydase power, as the fight between the tubercle bacillus and its toxine against the cell takes place in the nucleus.

4. Typhoid Fever Vaccine.—Hartstock gives a historical review of the development of typhoid vaccination and the result produced in the army of the United States. He concludes that typhoid vaccination is therefore valuable and should be used on all persons in epidemics, in armies, in the personnel of hospital, in travelers, and in young persons.

ZENTRALBLATT FÜR GYNÄKOLOGIE.

May 11, 1912.

1. Lichtenstein: History of Statistics of Eclampsia.
2. E. Liebich: Cleidotomy.
3. S. von Toth: Answer to the Remarks of Dr. L. Aubert in No. 11, 1912, of this Journal.

May 18, 1912.

4. H. Fuchs: Ventrovesical Fixation of Uterus, with Its Importance in Prophylaxis of Intestinal Strangulation and Otherwise.
5. L. Prochownick: Pelvic Thermotherapeutics.
6. F. Ritter: Hematoma of Umbilical Cord.
7. S. Bauer: Tampon Treatment with Sulphoform Oil.

May 25, 1912.

8. C. Grabowiecki: Rectovaginal Rupture in Spontaneous Labor.
9. S. Boxer: Technique of Uterus Tampon.
10. A. Rieck: Answer to Remarks of C. Fleischmann in No. 9 of this *Journal*.

ARCHIVES OF DIAGNOSIS.

April, 1912.

1. Frank Smithies: Diagnostic Significance of Paravertebral Triangle of Percussion Dulness (Grocco's Sign).
2. Glentworth R. Butler: Diagnosis of Lobar Pneumonia.
3. Robert Abrahams: Delineation of Heart by New Method.
4. H. Z. Giffin and Alexander Archibald: Sacrococcygeal Sinus (Postanal Dermoid): Review of Thirty-one Cases.
5. Benjamin T. Tilton: Early Diagnosis of Perforation of Gastric and Duodenal Ulcer and Operative Treatment.
6. Robert T. Morris: Determining Importance of Loose Kidney.
7. Samuel W. Bandler: Unfailing Procedure for Diagnosticating or Excluding Existence of Ectopic Gestation.
8. Sidney D. Jacobson: Diagnosis of Pathological Conditions in Pelvis of Fat Women.
9. A. L. Benedict: Indicanuria.
10. Harold Barclay: Intestinal Indigestion: Some Considerations of Diagnosis.
11. M. Neustaedter: Neuropathic Constitution, Etiological Factor in Poliomyelitis.
12. Jacolyn Van Vliet Manning: Prognosis in Acute Epidemic Poliomyelitis as to Life, Disability, and Mentality.

1. Paravertebral Triangle of Percussion Dulness.—Smithies remarks that the determination of the lower thoracic abdominal boundaries, posteriorly, has been greatly neglected in routine examination, and states his belief that Grocco's paravertebral triangle, which appears to be of value in making this determination, will stimulate endeavors in this direction. While paravertebral dulness is frequently associated with auscultatory findings similar to those present in connection with pleural exudate, it may be the result of physical or pathological conditions other than pleural effusion. These may be endothoracic or exothoracic. In endothoracic disease, as pneumonia, mediastinal tumor, lung abscess, etc., dulness on the opposite side of the spine may be definitely determined. This dulness usually does not satisfy either the physical phenomena or the clinical requirements associated with paravertebral dulness due to free fluid in the pleural sac. The same may be said of paravertebral dulness associated with exothoracic conditions, e. g., ascites, subphrenic abscess, abdominal tumor, etc. Experience with the sign and skill in thoracic percussion is requisite for its determination. Even where more than common skill is available, the presence of thick parietes, fibroid pleura, or improper position of the patient, may mask the area of paravertebral dulness.

3. Delineation of the Heart.—Abrahams advises that in all conditions of the heart, before outlining its dimensions by one or several methods, the normal topography of the organ should be drawn on the chest. He points out the disadvantages of palpatory and auscultatory percussion, and describes a method of outlining the heart purely by auscultation which he has found valuable. After drawing the outline of the normal heart, the stethoscope is placed two or more inches beyond the cardiac border, preferably in the interspaces on either side of the precordial area, and the patient ordered to repeat "one, two, three," or "99." As long as one is listening to lung tissue, the sounds which the patient repeats will be heard coming from the lungs. As the stethoscope approaches the border of the heart the voice grows less distinct, and when it is finally reached, instead of hearing the voice coming from the lungs one hears it more coming from the lips. Wherever the ear or the stethoscope reveals a change in the voice, a mark is made; upon joining the marks later, a line is formed which constitutes the border of the heart. The whispered sound furnishes the same information as the spoken voice. It is well to employ both so that one may control the other. The superficial area of the heart is outlined by the same method. The stethoscope is carried from the superficial to the deep area while the patient is repeating the conventional figures. As long as the instrument traverses over heart covered by lung, lip sound will predominate over lung sound, but when uncovered heart is touched, all previous sound disappears, the voice and whisper becoming completely exostethoscopical. This method can be advantageously employed in ascertaining the presence of fluid in the pericardial cavity. When the quantity of fluid is moderate the patient should be placed in the recumbent position. Failure of the method is encountered in young children, either because the thorax in the young is a good sounding board or because some children cannot or will not repeat the conventional figures; nor is it very successful in those with emaciated chests. In obese or very muscular people, however, the method of auscultation far exceeds percussion in value.

4. Sacrococcygeal Sinus.—Giffin and Archibald report a series of thirty-one cases which presented this condition as a result of postanal dermoid. Excision and drainage was performed in each instance; in fifteen of the twenty patients later heard from, satisfactory healing had taken place. It is essential in operating that all the lining membrane be removed. As regards diagnosis, the condition is often mistaken for anal fistula, but probing the sinus in the latter case will usually show clearly any relationship to the rectum, and the probe can be felt by the finger introduced into the bowel. The blind sinus of an ischiorectal abscess will run deeper into the tissues of the pelvic outlet. A tuberculous sinus is more apt to show sluggish gray granulations, and there may be evidence of tuberculosis elsewhere. An unruptured postanal dermoid may be more difficult of diagnosis, especially if a secondary abscess has formed. Ischiorectal abscesses resulting from infection from the bowel will usually extend deeper. A history of intermittent swelling and pain over a period of years, and the superficial location of the tumor, will generally permit of differentiation.

5. Perforation of Gastric and Duodenal Ulcer.—Tilton, emphasizing the importance of early diagnosis in these conditions if good results by operation are to be obtained, reports that of fourteen cases which have come under his observation, eight were operated in within twelve hours after perforation, with five recoveries, a mortality of 37.5 per cent., while of the other six cases, coming to operation later, only two ended in recovery, a mortality of sixty-six per cent.

6. Loose Kidney.—Morris believes that in neurasthenic patients operation for loose kidney has often been performed where the patient was not suffering from that condition in particular; the patient was consequently not benefited, and may have been harmed. The operation has, therefore, partly fallen into disrepute, because the patients who are not benefited are the ones who remain persistently in evidence in the offices of clinicians, while those benefited respond so quickly that they soon pass out of observation. As a diagnostic sign by

which one may instantly suspect that a loose kidney is really the precipitating factor, a contributing factor, or the dominating factor in cases of parenchymatous nephritis, of gastric hyperacidity, or of congestive appendicitis, the author puts forward the finding of a condition of "splint belly"—rigidity of the muscles of the abdominal wall,—which shows that nature is trying to put a splint on the kidney to keep it from moving about and making trouble. The symptom seems to vary in degree in proportion to the disturbance caused by the loose kidney. In patients with diastasis of the recti and visceral ptosis, nature cannot place such a splint, and one is deprived of the diagnostic sign; but practically this group of cases is one in which loose kidney seems to be the least important, because general relaxation of all abdominal structures allows of general readjustment.

7. **Diagnosis of Ectopic Gestation.**—Bandler finds that in doubtful cases of this disorder errors may be avoided and days and weeks of observation spared by a posterior or anterior colpoceliotomy, preferably the latter. The uterus is examined with the sound, perhaps by curettement, and the annexa are also investigated bimanually; then the peritoneum is exposed or the peritoneal cavity entered, and the uterus, tubes, and ovaries are brought into view. If ectopic gestation is found, operation may be completed by the vaginal path, or, if for any reason this seems inadvisable, the vaginal incision closed and the operation completed by the abdominal route. In the vast majority of instances, save in a few extremely early cases, as soon as the bladder is separated and the vesicouterine fold of peritoneum exposed, one gets the dark blue shimmer typifying the presence of ectopic gestation. In thirteen cases of ectopic gestation Bandler used this procedure five times, with success in each case. There are two methods of incision; one is the transverse, with blunt dissection of the bladder from the anterior wall of the cervix, after which a narrow retractor is introduced beneath the bladder and the vesicouterine fold of peritoneum comes into view. This method is sufficient in mothers, but in women who have had no children the cervix is generally narrow, the vaginal mucosa thin, and the separation of the bladder not so easy; the retractor introduced underneath the bladder exposes the vesicouterine fold of peritoneum less distinctly. In these cases, as well as in some of the multiparous patients, a longitudinal incision is added to the transverse, and the bladder is separated from the anterior wall of the vagina as well as from the anterior wall of the cervix and uterus.

8. **Diagnosis of Pelvic Conditions in Fat Women.**—Jacobson does not believe that raising the patient's head and shoulders, as is often recommended, to relax the abdominal wall and facilitate bimanual examination, serves the purpose intended. The function of the abdominal muscles being to keep up the intraabdominal pressure, their tonicity is maintained and they become thicker as they are made shorter, and they thus defeat the object sought. Besides, raising the upper part of the body forces the abdominal contents down toward the pelvis, rendering the examination still more difficult. Instead of this maneuvre, Jacobson places the patient in the modified Trendelenburg posture, raising the pelvis and lowering the shoulders more or less according to the degree of obesity. The abdominal contents, including the excessively developed omental tissues, thus slide down toward the diaphragm, while the pelvic organs, anchored by their attachments in the pelvis, cannot follow. Even the fat abdominal wall, especially if pendulous, moves away toward the epigastrium, and bimanual palpation now becomes comparatively easy. Where it is important to make an especially careful palpation, the perineum may be depressed, when air will rush into the vagina and balloon it out, giving material aid. The maneuvre is of great assistance in measuring the internal diameters of the pelvis.

11. **Neuropathic Constitution an Etiological Factor in Poliomyelitis.**—Neustaedter, in a careful study of the histories of twenty-five patients with poliomyelitis, found nineteen with a hereditary neuropathic taint, and believes that transmitted low resistance in the cerebrospinal system figures as a predisposing factor in the origin of the disease.

INTERNATIONAL JOURNAL OF SURGERY.

April, 1912.

1. Noah E. Aronstam: Various Ulcerations of Male Genitalia.
2. J. Prescott Grant: Operations on Duodenum.
3. Bernhard F. Shea: Closure of Cleft Palate by Gradual Pressure.
4. George S. Foster: Radical Treatment of Tuberculous Enteritis.
5. Julius T. Rose: Treatment of Ulcer of Leg.
6. Earl Conner: Treatment of Cataract.

1. **Various Ulcers of Male Genitalia.**—Aronstam asserts that there are thirteen varieties of ulcer of the male genitalia, not generally recognized because the textbooks mention only three or four classes. The inability of one man to recognize an epithelioma of the penis was the cause of the organ being amputated.

2. **Operations on Duodenum.**—Grant says that in experimental work on dogs the operations on the duodenum were exceedingly fatal, as the post mortem examinations showed fat necrosis in the omentum and other structures, blood stained peritoneum, and the pancreas swollen and very soft. The operations cause pancreatitis frequently. Bile in the pancreas also causes pancreatitis.

3. **Closure of Cleft Palate by Pressure.**—Shea traces this operation back to 1776, when Lemonier, a French dentist, performed it. There have been many methods introduced since then, but Shea has a new method in which he uses a bar made of gold and platinum wire, 18 gauge. It has threaded ends with nuts attached thereto, and by screwing them up a little each day they close the cleft by constant and gradual pressure, all soft parts of the mouth being thoroughly protected by gutta percha.

4. **Radical Treatment of Tuberculous Enteritis.**—Foster says tuberculous enteritis demands surgical interference rather than strictly medical treatment. The cause coming from one of three sources, oviducts, appendix, or cecum. Since the last two are in the majority, he looks more to the intestinal tract. He says to prevent the spreading of this condition, remove the appendix and treat the cecum locally.

5. **Ulcers of the Leg.**—Rose, in treatment of ulcers of the leg, says the trouble is with the circulation, and by strapping the leg with adhesive plas-

ter—zinc oxide he thinks the best—the ulcer will get well; the strapping drives the blood into the deep vessels, thereby giving the surface vessels a rest and time for granulations to form. Hence the cure.

6. Some Cases of Cataract.—Conner says, there is no remedy for an opaque lens. Operation in carefully selected cases yields results in from 90 to 95 per cent. The nature of this operation depends upon whether the cataract is hard or soft. In soft cataracts the operation is discission or solution. In hard ones it is extraction or removal.

PROCEEDINGS OF THE ROYAL SOCIETY OF MEDICINE

March, 1912.

1. A. L. M. Muskens: After Effects of Chloroform.
2. R. S. Frew: Significance of Acetonuria in Childhood.
3. F. J. Steward: Excision of Epithelioma of Lower End of Pharynx.
4. Eugen Unna: Practical Use of Eucerin as Ointment Basis.
5. Francis Hernaman-Johnson: Secondary X Radiations: Uses and Possibilities in Medicine.
6. W. Hampson: Reducing Excessive Frequency of the Heart Beat by Means of Rhythmical Muscle Contractions Electrically Provoked.
7. G. T. Western: Treatment of Puerperal Septichemia by Bacterial Vaccines.
8. Edward C. Hort and W. J. Penfold: Relation of Salvarsan Fever to Other Forms of Injection Fever.
9. Arthur Latham: Uses of Tuberculin in Pulmonary Tuberculosis.

(Titles of the sixty-two other contributions in this periodical cannot be given because of space limitations.)

1. After Effects of Chloroform.—Muskens reports an experimental study of the late effects of chloroform on the liver, kidneys, and myocardium of rabbits. Of twenty-five animals anesthetized,—inhalation by the drop method, lasting from one to two hours—eight died of after effects of the drug (one in three hours, six in twenty-two to forty-five hours, and one in 100 hours). Eight others were killed at different periods to study the various pathological changes. In most of the animals which died as a result of anesthesia, microscopical examination of the liver gave nearly uniform results, viz., necrobiosis in the centres of the lobules, with marked deposition of fat droplets, and similar but less pronounced changes as one proceeded to the peripheral zone of the lobules, which was almost normal. Preparations from the kidney and myocardium showed marked differences, in contrast with the uniformity of the liver preparations. Changes were most constant in the tubuli contorti of the kidneys; the nuclei here were for the most part paler than normal, and the cells contained fat droplets. In the heart, changes were even less conspicuous, degeneration being in general confined to increased clearness of the longitudinal striæ. In the rabbits killed at progressively increasing intervals, similar but less advanced changes were noted. While fat appeared early in the endothelia, it was in those animals which were killed after a delay of twenty-four to forty-eight hours that degenerative changes were most prominent. These tests strongly suggested that the hepatic changes are the chief factor in the after effects of chloroform. With regard to acid intoxication the author again emphasizes the importance of the rôle played by the liver, referring to the experiments of Van Embden and Kalberlah, who found this to be the only organ which formed acetone when blood was allowed to flow through it immediately after death. From a study of the process of reelimination of chloroform after its distribution to various tissues, Muskens is inclined to believe that the after effects of this agent should be considered as the results of an acute affection of the liver consequent upon its absorbing chloroform laden fatty substances from the blood.

2. Acetonuria in Childhood.—Frew, from observations on the urine of 662 children, concludes that in the vast majority of cases acetonuria following anesthesia in children is quite independent of it, and is the result of a temporary inability on the part of the digestive functions to prepare certain carbohydrates for absorption. This is dependent upon the change of diet when the child is brought to the hospital and prepared for operation, with consequent temporary carbohydrate starvation. The acetonuria appeared usually twelve hours after admission, attained its maximum in thirty-six hours, and then gradually diminished, all traces being generally gone by the fourth day. The younger the child, the greater the incidence, the percentage of cases in which the symptom appeared rising almost uniformly from 46 per cent. in children between eleven and twelve years of age to 100 per cent. in infants below one year. The condition may be remedied by administering dextrose, a carbohydrate which is readily absorbed without preliminary preparation. When dextrose was given to children in whom acetonuria was already present, the symptom disappeared completely within twelve hours.

3. Excision of Epithelioma of Pharynx.—Steward, reporting a case in which this operation was performed through an incision in the neck, calls attention to the extreme importance of not closing the external wound after operations upon the pharynx, the danger of secondary hemorrhage and infection of the air passages being thus reduced to a minimum. Anesthesia through a tube inserted into the cocainized upper opening of the larynx proved very useful in the case referred to, avoiding the risks associated with a tracheotomy opening. In the treatment of the stricture which followed the operation the upper end of the esophagus was reopened through the neck, and a tube for feeding passed in. The pharynx above the stricture was then allowed to dilate through the agency of the continual swallowing movements. A bougie was next forced through the stricture, and a rubber tube passed through it from the nose and left *in situ* for ten days, after which it was kept dilated with bougies. The extra amount of mucous membrane formed by allowing the lower end of the pharynx to dilate evidently sufficed to bridge the gap caused by the operation, as there was no further difficulty.

4. Eucerin as an Ointment Basis.—Unna mentions eucerin as being the actual water binding constituent of lanolin. The latter when deprived of eucerin loses its power for binding water, while pure eucerin can absorb up to 700 per cent. of water. It is odorless and not sticky, can be sterilized and kept permanently, and is as easily rubbed in as lard. An ointment can be made which contains 400 per cent. of glycerin. Eucerin may be applied equally to the skin and mucous membranes, and is also used in subcutaneous injections with salvarsan and mercury salicylate. Combined with liquor aluminis, liquor plumbi, witch hazel, or chamomile, it acts well in moist affections of the

skin, while in dry diseases it is used pure, or in a glycerin ointment. Anhydrous eucerin should be distinguished from eucerin containing water. The latter can be mixed with all common drugs—zinc, bismuth, iodine, lead, etc.,—while anhydrous eucerin is best employed as a basis for reducing agents—e. g., ichthyol, resorcin, pyrogallol. Pure eucerin may be used in the treatment of ichthyosis.

5. Secondary X Radiations. — Hernaman-Johnson refers to the fact that the x ray treatment of deep seated disease is most unsatisfactory; even though rays be generated which will reach the lesion, they are comparatively feeble therapeutically. In secondary radiation we have an agent which, employed either as an aid to ordinary x ray treatment or as a substitute for it, promises to afford a means of escape from many difficulties. Elements occupying a place in the periodical system between calcium and cerium give off under the influence of the x rays a powerful nonparticulate or x radiation, which is important in that it bears a definite and constant relationship to the atomic weight of the emitting substance. For each element there is a homogeneous radiation, the penetrating power of which remains the same whatever be the quality of the exciting beam, and to which the author applies the term "specific." Each element thus has a definite "effective therapeutic range," that of zinc, e. g., being about one half a millimetre, while that of silver is twenty times as great. These rays may be used either to intensify the effects of the ordinary x rays or for their own action alone. By means of secondary rays acting in a direction opposite to that of the primary beam, i. e., "anadrastic" rays, it is possible to obtain a greater physiological action on deep lying tissues than upon the skin itself. In the nose, mouth, and urethra metal plates may be used as intensifiers; elsewhere the injection of precipitated silver in suspension in some viscid fluid, or of collargol, is resorted to. Or, again, the silver is taken by mouth—in the treatment of tumors of the alimentary tract. An ulcer which is at a standstill under ordinary radiotherapy may sometimes be stimulated to heal by the introduction of precipitated silver beneath its base. The author lays stress on the harmlessness of this form of silver, one of his patients having taken in all 500 grammes in six months, without suggestion of evil result. In malignant tumors of the alimentary tract, the healing of the ulcers, with removal of the attending symptoms, is believed to have occurred in some cases, though metastasis and death were probably not delayed. Both these rays and several other varieties, including those produced by the action of radium upon metals are discussed. From experimentation in thirty-five cases, mostly by some form of intensification of the x rays, the results are such as to encourage further trial.

6. Rhythmical Muscle Contractions Electrically Provoked as a Method of Reducing Excessive Frequency of the Heart Beat.—Hampson found that by inducing intermittent widespread muscle contractions by means of electrical stimuli, repeated at intervals slightly longer than those intervening between the heart beats, the latter will, if the disparity of frequency be not too great, be brought into conformity with the latter, so that the initial pulse rate is lowered. When time has been allowed for the new rate to be established the interruptions may be further slowed and the pulse rate lowered. Cases are mentioned in which the rate was lowered, respectively, from 90 or 110 to 80, from 84 to 72, and from 92 to 72. The pulse was as much improved in strength and regularity as it was reduced in frequency, and the patients were relieved of distressing sensations present. In cases of weak and rapid heart action the treatment appears to give benefit by improving the circulation beyond what the unaided heart is capable of maintaining, and relieves the heart of a part of its work. The smallest muscular contractions are sufficient to accelerate the movement of the blood in the veins, and in feeble cases must alone be employed, in order not to set up activities of metabolism which would in turn stimulate the heart to excessive action. The method is useful in those numerous patients with dilated, weak, and irritable hearts who cannot go to Nauheim or have been disappointed in the results from imitation Nauheim treatment at home.

7. Bacterial Vaccines in Puerperal Septichemia.—Western, after an experience with 100 cases, of which fifty-six received vaccines, concludes that the mortality among those cases of puerperal septichemia in which there is conclusive evidence of bacteria in the blood stream is from 85 to 95 per cent. This may be reduced by inoculation with autogenous vaccines to about 55 per cent. The mortality among all notified cases of puerperal fever is about 60 per cent., which may by inoculation with appropriate vaccines be reduced to about 33 per cent. In cases of puerperal sepsis, if it is desired to explore the uterine cavity, the opportunity of obtaining a culture at the same time should not be lost. "Stock" vaccines give inferior results in the treatment, and should be used only when an autogenous vaccine cannot be obtained.

8. Salvarsan Fever.—Hort and Penfold state that there is at present no evidence that salvarsan fever is necessarily due to injection of organisms grown on water or saline. The presence in water or saline of a filter passing pyrogenetic substance, which may or may not be a product of bacterial protein, is an important factor in the production of salvarsan fever and of many other types of injection fever. It is necessary, in using freshly distilled water for injection purposes, to collect this water in a tank which has been emptied and cleaned before use. If water is used immediately after distillation from a glass retort and thus collected, fever will not follow the injection of salvarsan in saline made from it. If storage is desired, the water distilled should be at once collected in sterile vessels, which should then be immediately hermetically sealed and autoclaved. Samples of water thus prepared did not produce fever on examination several weeks later. If water when placed in storage tanks already contains the pyrogenetic substance, or if delay occurs between distillation and autoclaving, the latter, instead of being useful, is a distinct disadvantage, because the extraction by the water of toxic degradation products from the noxious material present appears to be then facilitated.

9. **Tuberculin in Pulmonary Tuberculosis.**—Latham reviews in detail the technique of tuberculin therapy, and states that its careful use gives valuable therapeutic results.

REVUE DE MÉDECINE.

April, 1912.

1. J. Tinel and P. Gastinel: Meningeal Conditions in Tuberculous.
2. Henri Labbé: Effects of Removing Pancreas. I. Changes in General Nutrition in Dog Subjected to Partial Pancreatectomy.
3. Alec Cramer: Value of Lactose as Diuretic.
4. M. Lafforgue: Paramyoclonus, Result of Mumps.
5. Raoul Dupuy: Retarded Growth in Children and Opotherapy.

1. **Meningeal Conditions in the Tuberculous.**—Tinel and Gastinel discuss certain variable manifestations of meningeal disturbance occurring in tuberculous patients and characterized, in general, by short duration and complete recovery. Many patients were observed to present symptoms indicative of a slight meningeal irritation, consisting usually of persistent headache, especially frontoparietal and worse in the evening, to which was sometimes added, after weeks or months, slight rigidity of the neck, temporary Kernig sign, and a tendency to vomiting of the meningitic type. Lumbar puncture brought prompt relief in these cases, especially of the headache—a fact which leads one to assimilate the meningeal condition to that observed in various fevers and designated as serous meningitis. While a cytological examination was usually negative, certain cases showed a slight degree of lymphocytosis—not due to syphilis, as there were no evidences of it and the Wassermann test was negative. Some patients, fifteen months or two years after presenting symptoms such as those mentioned, returned to the hospital with fresh nervous phenomena, such as sciatica, radiculitis, or neuritis, apparently related, as regards etiology, with the earlier disturbances. In certain other patients symptoms developed practically identical with those of classic tuberculous meningitis, and suggesting a like prognosis; yet, in a few days, these symptoms cleared up completely, sometimes after a series of recurrences progressively diminishing in violence. The cause of the meningeal manifestations varies in the different cases. In the first class of cases, the direct action of the tubercle bacillus may be demonstrated, and the condition therefore be considered as representing a true, attenuated, ephemeral meningitis. In one instance a tubercle undergoing sclerosis was actually found in the sheath of the left third lumbar nerve root, while in another case injection of cerebrospinal fluid into a guineapig caused tuberculosis. The second class of cases, where, notwithstanding pronounced meningeal symptoms, no lymphocytosis was present, were less readily accounted for. Pathologically, no evidences of recent sclerosis or recent lymphocytic infiltration could be found, but instead, a pronounced long standing sclerosis, which could have occurred only a long time previously; yet there was no indication of any former meningitic condition in the clinical history of the patients. The conclusion thus seems inevitable that the tuberculous, like cases of lead poisoning, alcoholism, or syphilis, can be and often are subject to sclerosis of the meninges, without necessarily showing any symptoms as a result. While very often only a diffuse sclerosis is found, in certain cases sclerosis appears as nodular formations, sometimes presenting exactly the appearance of healed miliary tubercles. In one case, a diffuse meningeal reaction consisting of recent sclerosis and lymphocytic infiltration, with one tubercle bacillus visible, was found, though the patient had never shown any definite symptom of meningeal irritation. Apparently in some cases the meninges possess a high degree of tolerance for tubercle bacilli or their toxines, while in others manifestations of intense meningeal irritation are easily provoked.

2. **Results of Partial Pancreatectomy.**—Labbé studied the effects on general nutrition of removing six sevenths of the pancreas in a dog. Among other results, it was found that while the splitting of fats ingested was little influenced, their absorption became defective. Acidity of the feces to the ordinary indicators was almost constantly lost. Stercobilinogen was absent, and stercobilin present in but small amount. Continued artificial acid intoxication with hydrochloric acid showed the animal to be capable of an increased production of ammonia, as in the normal animal. The hepatic function was apparently only partially affected by the pancreatectomy. Urea production was practically normal.

3. **Lactose as a Diuretic.**—Cramer found that powdered lactose taken by the mouth caused diuresis only in cases with hepatic insufficiency. The amount given was 100 grammes per diem, which in many instances induced nausea, diarrhea, and abdominal discomfort.

5. **Opotherapy for Retarded Growth in Children.**—See the Journal for May 18, 1912, p. 1049.

REVUE MÉDICALE DE LA SUISSE ROMANDE.

April, 1912.

1. Rollier and G. Borel: Heliotherapy in Primary Tuberculosis of the Conjunctiva.
2. A. Machard: Correction of Inveterate Rhachitic Deformities of Upper and Lower Extremities by Osteotomy and Osteosynthesis with Lambotte's Clamp.
3. M. Roch: Some Exceptional Cases of Hepatic Disorder.
4. Buscarlet: Fracture of the Neck of the Femur with Rapid Recovery.
5. F. Doret: Neuroparalytic Keratitis.
6. L. de Campos Moura: Appendicitis and Perforating Ulcer of the Duodenum.

1. **Heliotherapy in Primary Conjunctival Tuberculosis.**—Rollier and Borel call attention to the fact that enlargement of the preauricular or submaxillary lymphatic glands is a characteristic accompaniment of primary tuberculosis of the conjunctiva, whereas in the secondary type of the disease it is very rare. The symptoms consist of a slight feeling of local discomfort, as though a foreign body was present, occasionally with slight pain, especially on pressure. The diagnosis rests upon the slow course of the disease, the objective examination, experimental inoculation, and the tuberculin reaction. In the treatment, excision, curettage, cauterization with the electric needle or silver nitrate, freezing with ethyl chloride, injection of one to 500 or one to 1,000 formaldehyde solution, or of tuberculin, and x ray treatment, have all been recommended. The authors report the case of a medical student who, while dissecting the cadaver of a tuberculous subject, received a sudden jet of pus from a cavity in the diseased lung, and in whom conjunctival tuberculosis developed subsequently. The treatment applied consisted in having the pa-

tient turn the diseased upper lid daily to expose it to the direct rays of the sun for periods gradually increased from three minutes to an hour and a quarter. No untoward effect of any kind was noted, and after three months' treatment (including also heliotherapy of the body as a whole), the disease had completely disappeared, leaving only a few small transparent areas at the inner angle of the superior palpebral conjunctiva. The enlarged lymphatics in the neck also retrogressed, and a few months later all signs of the disturbance were gone, with entire absence of scarring. The perfect tolerance of the palpebral conjunctiva for the sun's rays seemed particularly noteworthy.

2. Osteotomy and Osteosynthesis in Marked Rhachitic Deformity of the Limbs.—Machard performed osteotomy, followed by the use of a modified form of Lambotte's bone clamp, in eleven cases of marked rhachitic curvature of the extremities. The apparatus was constructed of aluminum, so as to weigh but 100 grammes. It was applied to the femur six times, to the tibia three times, and to the radius twice, and was left in position for eighteen to twenty-six days before removal. Motion of the operated limbs was allowed on the fourth to the sixth day after operation. The anatomical and functional results were very satisfactory, and were attained more easily and promptly than could have been the case with an exclusively external supporting apparatus such as a plaster cast. Unpleasant sequelæ occurred in only one instance, in which a week after operation osteomyelitis developed near the seat of fracture; the apparatus was at once removed and recovery took place under appropriate treatment. The advantages of the procedure are stated by the author to be: Firm maintenance of the corrected position secured by osteotomy; ready maintenance of correction of deviations due to torsion,—a result attained only with difficulty by indirect fixation; prompt healing with minimal callus formation, as shown by radiographs; and early return of function, owing to prompt mobilization. The chief disadvantage is the danger of infection of the bone, avoidable only by the strictest asepsis. Notwithstanding the excellent results obtained, Machard considers the procedure suitable only for cases of marked, persistent, bony curvature, in which complete loss of function is present and which cannot, or only with difficulty, can be successfully treated by ordinary methods.

Proceedings of Societies.

AMERICAN ACADEMY OF MEDICINE.

Annual Meeting, Held at Lehigh University, South Bethlehem, Pa., April 3 and 4, 1912.

The President, Dr. ALEXANDER R. CRAIG, of Chicago, in the Chair.

(*Concluded from page* 1344.)

Teaching Hygiene for Better Parenthood.—Dr. THOMAS D. WOOD, of New York, pointed out that the teaching of hygiene could further no interest so important as that which related to the supreme privilege and obligation of life,—parenthood. For practical eugenics it was essential that the romantic, the affectional basis of marriage should be preserved, but the sentimental and emotional elements should be supported and guided by intelligent appreciation of all the factors necessary for parenthood which would protect the biological values. When human beings and families rationally subordinated their own interests as perfectly to the welfare of future generations as did animals under the control of instinct, the world would have a more enduring type of family life, a more perfect type of parentcraft than existed at present. This could be accomplished only by the development of controlling ideals which were supported, not only by reason and intelligence, but by ethical impulse and religious motive. The teaching of hygiene might contribute much to better parenthood if it was a broad and comprehensive hygiene, taking account of the psychic, social, and moral, as well as the physical nature of the young; striving to inculcate habits of thought and action sufficient for the present and adequate for the future needs of the child; to inspire ideals and establish standards of life which should provide for racial and future as well as present and personal needs and obligations. Certain positive reasons presented themselves in support of the proposition that appropriate education with reference to reproduction and parenthood was vitally necessary in the development of every young person. The most natural and logical teacher of sex and parenthood to the child was the parent. It was the speaker's conviction that class room or group instruction with reference to direct human sex teaching in the public school could not be given until enlightened public opinion recognized sufficiently the necessity for such instruction, and exhibited confidence in the ability of the teachers to give the instruction needed; and teachers were intelligent, wise, and tactful enough to give such instruction and guidance successfully. Comparatively few teachers to-day were capable of meeting the obligations involved in sex education. Such instruction should be given in universities, colleges, normal, and private schools. With reference to the individual teaching of the child, it was important that the simple, natural, and relatively unconscious attitude of the typical child should be preserved, not by withholding knowledge, but by giving all the instruction needed in the most satisfactory manner. The child up to adolescence would be best taught, first by the carrying over of the applications from Nature study, and from the study of life in general; and, second, by the satisfying answers to the freely asked questions of the child. For the young child, however, the problem was more psychological than hygienic or moral. The basis of successful sex teaching was companionship and confidence between the child and the parent. When class or group instruction was to be given to adolescents, it was important that the primary emphasis should be given to the presentation of facts and values, biological, hygienic, sociological, ethical, and economic. More important than the knowledge of sex hygiene were the motives which would control thought and action. In this connection might be appreciated the significance of title of Doctor Cabot's paper on sex education which he had called The Consecration of the Affections.

Dr. Helen C. Putnam, of Providence, R. I., said that life was a trust from fathers and mothers beginning before history; to be guarded and bettered in one's turn; and passed along to children's children. Educators were finding that well directed correlation of human life with phenomena of growing things in school gardens and nature studies developed a wholesome mental attitude. Since tens of millions of our population had only fractions of primary schooling, there was where the teaching must begin. The strategic years for making education for parenthood most effective were from sixteen to twenty-four. We had 15,000,000 young people of these ages in no schools, and eligible for instruction. All State boards of education were recently petitioned by the American Association for Study and Prevention of Infant Mortality to urge the appointment of commissions on Continuation Schools of Home Making, to investigate conditions and needs in their respective States, and to report plans for meeting them effectively through such continuation schools or classes.

Indirect Methods of Teaching Hygiene.— Dr. C. E. Ehinger, of West Chester, Pa., thought that the fact that athletic success depended largely upon physical fitness, must be the keynote of hygienic teaching among young people, and this would be both the opportunity and the means by which the physical director should meet the needs of his charges. That much, and perhaps most of the best teaching would be by indirect methods was his conviction. He believed it was possible for the modern physical trainer to create a veritable atmosphere of health that would far exceed in value the results of the ordinary direct method of learning mere facts. The indirect hygienic instruction given to him on the football and baseball field, on the track, in the crew, and at the training table constituted a body of useful information that might be drawn upon throughout life. All aids which made their appeal through avenues of recognized interest with a minimum of emphasis with the utilitarian aspects deserved to be developed. It should be understood that this did not contemplate the doing away with direct or formal method. It might be said in conclusion that indirect methods of teaching this branch had a distinct and important place in the educational curriculum and should be used to supplement and apply the facts acquired through the ordinary methods. They met a need which formal teaching failed to supply.

Medical Inspection of Schools.—Dr. Thomas A. Storey, of New York, said that, from the standpoint of education, there were four great reasons for medical inspection. The first was concerned with communicable diseases; the second with remediable incapacitating physical defects; the third with irremediable physical defects; the fourth with the development of hygienic habits in the school child, and through the child, in the community. Three essential factors in the success of such a system might be cited: 1. The physical examination should uncover the anatomical, physiological, and hygienic conditions. It should be medical rather than anthropological. 2. Every piece of advice given to a pupil that could be followed up, should be followed up and the result recorded. 3. No system of medical inspection in schools could be complete and permanently successful which did not eventually educate the parent and child to a sympathetic and cooperative relationship with the system.

Prevention of Respiratory Infection in the Schools.—Dr. William Charles White, of Pittsburgh, pointed out that among the prominent sources of loss among those being educated, were the respiratory diseases which caused so much sickness and death. Most of these diseases were the result of low resistance in children caused by poor food and poor air in addition to the sources of infection spread by coughing, sneezing, and spitting. The laws of prevention were expressed simply by more food and constant fresh air. Among the reasons for our slow progress in securing desired results in this field he would place: 1. Our politically appointed, generally inefficient health officers. 2. The political status of our school boards. 3. The lack of cooperation of the efforts of administrators of health laws, physicians, and educators.

If he were allowed to make one change which would, he thought, accomplish the greatest good, it would be the appointment of the highest type of medical man as health officer, under no political trammels, and to trust him to work out a local autonomy with tact and education which would accomplish the conservation we desired in every territory.

Dr. Watson L. Savage, of Pittsburgh, asserted that statistics told us that more than one half of all sickness was due to ignorance. It was not enough in our medical inspection to note defects. It should be possible to force correction; if need be, making laws to this effect. From observations at the Carnegie Technical Schools it was the belief that the medical inspection of school children was not adequately done under the board of health; that it could be accomplished only by the education of the pupil, the parents, and the public; and, further, that the proper department in which this work should be carried on was that of physical training where the teacher gave the whole time to the work. Men and women in this department must be trained not only in gymnastics, but also in hygiene, diagnosis, student and school inspection, sanitation, and preventive medicine. This department met all the students in every grade and got closer to the individual than any other, following them from year to year in their work as well as play hours, hence here the greatest influence might be exercised. Such department must, however, be headed by a physician of the highest standing, and sufficiently well compensated to enable him to devote his bent energies to the work.

Mrs. John L. Stewart, of South Bethlehem, Pa., felt that we should regard the school from the standpoint of the playground rather than from that of the book. We knew that we could not produce the best individual physically, mentally, or morally, if we shut him up in a building four, five, or six hours a day. She thought we should study the system of schools emphasizing the play element with the view of introducing it in all of our own towns.

Doctor Kuntz, of Lansford, believed that we

made a mistake in allowing children to go to school at the minimum age of six years, and that it would be better were this age raised at least a year, or we had half day sessions only, with the provision that the child be under the care of the parent for the other half day. A few years ago in his district he had the opportunity of having half of the school in the forenoon and the other half in the afternoon. The result was a better standing in his primary grades at the end of the year than before or since. The greatest difficulty in this plan, however, was the desire of parents to be rid of their children during school hours.

Dr. SENECA EGBERT, of Philadelphia, believed that in the further work of medical inspection we should have more emphasis put upon the need of additional play ground facilities.

Dr. HELEN C. PUTNAM recalled that it had been in the minds of members of the medical profession for a good many years that a better plan than erecting schools upon expensive land in the middle of cities, would be to build them in the suburbs and, if necessary, give free transportation to the children. If any one resolution was passed at this conference she thought it should be one approving such a plan. In addition to ample playgrounds, opportunity for nature study, and for physical exercise the children would have a glance at life which was entirely cut off from the majority of children of these days, for it was a common occurrence in the cities to find children who had never been out of the ward in which they were born until they were up in their teens.

Dr. WALTER S. CORNELL, of Philadelphia, could not see the practicability of having public schools in the suburbs, but he thought they would do well to build school houses beside the public squares.

School Lunches in Elementary and Secondary Schools.—Dr. IRA S. WILE, of New York, pointed out that intellectual and physical development were interdependent. Available school lunches, not free lunches, were necessary in large cities. Lunches in the secondary schools were merely matters of convenience and not a health question. Elementary school lunches existed in the educational systems of almost all civilized countries, except the United States. To accomplish the greatest good for the greatest number, the stress must be placed upon the growth and development during the prepubertal period, the years that formed the time given to work in the elementary schools. The dietetic factor in education required attention. Available school lunches were more essential in the elementary schools than in the secondary schools.

Letters to the Editor.

CONCERNING INSURANCE COMPANIES.

SOLDIER, IOWA, *June 12, 1912.*

To the Editor:

Just a word in answer to Dr. T. J. Dunn's communication in the NEW YORK MEDICAL JOURNAL for June 8th. He is right in bringing out the impositions of at least some insurance organizations, but there are always two sides to a question. If one guaranteed certain results for a patient and that patient deliberately disobeyed instructions, one should not be held to one's part of the contract, as results promised were obtainable only by observing the laws of health; neither should an organization for the protection of life be held if the insured deliberately defied laws of health. It is not fair. However, there are plenty of old line life insurance companies whose policies are incontestable, and we, in the interests of the people we can influence, ought to talk in favor of such companies.

In producing arguments or discussing this paper pro or con, it would be well to keep in mind that, while insurance companies solicit business actively the head medical examiner would reject at least one third of the applications if the questions asked in them were truthfully answered. They are out for business, but they want men, not hypocrites.

E. C. JUNGER, M. D.

Book Reviews.

[We publish full lists of books received, but we acknowledge no obligation to review them all. Nevertheless, so far as space permits, we review those in which we think our readers are likely to be interested.]

Compendium of Diseases of the Skin. Based on an Analysis of Thirty Thousand Consecutive Cases with a Therapeutic Formulary. By L. DUNCAN BULKLEY, A. M., M. D., Physician to the New York Skin and Cancer Hospital, Consulting Physician to the New York Hospital, Consulting Dermatologist to the Randall's Island Hospital, etc. Fifth Revised Edition of the *Manual of Diseases of the Skin.* New York: Paul B. Hoeber, 1912. Pp. xi-286. (Price, $2.)

In this revision of the manual the attempt to present the essential facts of the symptoms, etiology, diagnosis, and treatment of the many affections in the domain of dermatology and syphilis in clear form and with readable type has been made with as much success as its comparatively small size of 280 pages permits. It will be useful as a book of reference for those entirely unfamiliar with this branch of medicine. The author is still under the influence of the old humoral pathology, as the references to struma and nervous diseases or states shows; and the treatment of furunculosis and carbuncle with an ergot ointment locally, and sulphur preparations internally, is hardly in accord with modern dermatotherapeusis. One would expect, also, under the heading of the treatment of the syphilodermata, to find explicit directions for the employment of salvarsan, which, with all its drawbacks, has made a permanent place for itself as an antisyphilitic remedy; the drug is dismissed, however, with deprecating mention only. The formulary that is appended to the volume is quite full and contains most of the standard and some of the less usual combinations.

Krankheit und soziale Lage. Bearbeit von Prof. Dr. ALFR. BLASCHKO, Dr. W. FISCHER, Schularzt Dr. M. FÜRST, Stadtrat Dr. med. Ad. [illegible] Prof. Dr. [illegible] HIRSCHFELD, et al. Herausgegeben von Professor Dr. M. MOSSE, Berlin, und Dr. med. G. TUGENDREICH, Berlin. 1 Lieferung. München: J. F. [illegible], 1912. Pp. 232.

The first part of this voluminous work opens with an introduction by the editors in which its general basis is outlined, followed by an article by Silbergleit on the bases of morbidity and mortality statistics in general, more especially of those published by municipal and State authorities in various parts of the world, and by hospitals and sanatoria. Then follows a division on the social etiology of disease, beginning with an elaborate and valuable article by Wernicke on the dwelling house in its influence on disease and mortality, in which all the phases of this question with regard to infectious and endemic diseases, together with the influence of this factor on general health

conditions are discussed. The influence of nutrition both in private life and in institutions is considered by Hirschfeld, the section on the influence of the food in prisons and penitentiaries being of especial interest. This first part of the work is concluded by a brochure on the rôle of occupation in morbidity and mortality by Koelsch, at the conclusion of which he finds that, apart from the special influence of certain notoriously unhealthy occupations, there are two chief occupational factors that exercise an unfavorable influence as regards disease and the death rate. The first of these is fatigue, and the author makes a plea for lessened working hours for all monotonous occupations, and incidentally for the eight hour day as a maximum; the second is night work, which under any pretext he holds should be entirely prohibited; and the third is the absence of vacations in one form or another. He believes vacations to be absolutely necessary under our present organization of industrial life.

Two similar volumes are to follow, in which the other phases of the general question are to be considered. Those herein detailed are discussed with great thoroughness; and the fairly extensive bibliography that follows each article will be of great assistance to those who want information on special points. The work is to be highly recommended to the general medical public as well as to sanitarians, since it presents in accessible and readable form the gist of a large and widely scattered material.

On the Physiology of the Semicircular Canals and Their Relation to Seasickness. By Joseph Byrne, A. M., M. D., LL. B. New York: J. T. Dougherty; London: H. K. Lewis, 1912. Pp. ix-569.

The nature of the text in the volume presented shows an exhaustive study and the performance of many experiments under rather trying circumstances. The author devotes the first part of his book to general anatomical and physiological considerations, while the second part takes up the physiology of the semicircular canals. Under this heading is considered the effect of rotation, aural irrigations, and galvanism. In the same section are also considered the relations of the semicircular canals to the eighth nerve. Part three is devoted entirely to studies in seasickness. It includes the history, etiology, general conclusions, and outlines of treatment of this distressing disturbance, and its effect and relation to diseased conditions.

The extensive experiments of the author in which he used rotations, aural irrigations, stimulation of the retina by strong light, galvanism applied to the mastoid area, etc., in order to determine whether by such means phenomena resembling those of seasickness could be experimentally reproduced, should make his conclusions, as outlined in his book, of decided value. An extensive bibliography is appended.

Abhandlungen über Salvarsan. Gesammelt und mit einem Vorwort und Schlussbemerkungen herausgegeben. Von Prof. Paul Ehrlich, Wirkl. Geh. Rat, Direktor des Instituts für experimentelle Therapie. Band II. Mit 4 Tafeln und 29 Figuren im Text. München: J. F. Lehmann, 1912. Pp. viii-609.

In this second volume of over 600 closely printed pages there are reproduced fifty-nine articles by almost as many writers, most of which have appeared in the *Münchener medizinische Wochenschrift.* Careful limitations of space have rendered it necessary to summarize some of the papers, especially those dealing with the technique of the intravenous administration of the drug. It is impossible even to mention the titles of these papers and the names of their authors here. Ehrlich's introduction and conclusions occupy over 40 pages. In the former Professor Ehrlich points to the new fields of efficacy that have been opened to salvarsan during the past year, typhus recurrens, frambesia, and tertian malaria, as well as its employment in diseases of the mouth and teeth. Attention is then called to the importance of the water employed for solution of the remedy; Ehrlich asserts that most of the bad effects ascribed to the method have been due to improper water thus employed, and not to the drug itself. The neurorecedives, so called, after salvarsan, which have attracted so much attention lately, are ascribed by the author entirely to the syphilis and not to the remedy. Nothing is said, of course, about a *sterilisatio magna,* but Ehrlich contends that an abortive treatment is always a possibility by means of salvarsan and mercury combined. If, to use Arning's expression, we succeed in closing both the point of entrance and of exit of the virus by these means, we have a right to expect a diminution of syphilis even in a few years in those places where they have been most energetically employed.

The section devoted to by effects and deaths due to the drug is of especial interest. It includes articles on the late exanthems observed after intravenous injections, on jaundice, nephritis, bilateral deafness, spastic spinal disease, sciatic paralysis with degeneration and severe collapse, deaths from encephalitis hæmorrhagica and other causes, etc., after intravenous or subcutaneous administration of the drug. In spite of the special pleading that is used in almost all cases to explain away these occurrences, or perhaps because of it, the impression remains that the medication is certainly not, in its present stage of development, to be advocated for universal use and in all hands. It is a powerful antisyphilitic remedy, and its employment gives us an additional and potent weapon to combat the disease. It stands side by side with mercury, however, in its therapeutic action, and both drugs should be employed with judgment and discrimination.

NEW PUBLICATIONS.

Schäfer, Edward Albert.—Microscopic Anatomy. Part I, Volume II, Quain's Elements of Anatomy, Eleventh Edition. With 1,001 Engravings and 21 Colored Plates. London, New York, Bombay, and Calcutta: Longmans, Green, & Co., 1912. Pp. xi-739. (Price, $7.50.)

Bruce, George H.—Lawyers, Doctors, and Preachers. A Satirical Survey of the Three Learned Professions. New York: The Irvington Publishing Company, 1912. Pp. 107. (Price, $1.)

Official Register of Legally Qualified Physicians in Illinois. Springfield: Illinois State Board of Health, 1912. Pp. xvi-156.

Summer Charities of the Children's Aid Society, New York. Pp. 24.

Webster, Ralph W.—Diagnostic Methods. Chemical, Bacteriological, and Microscopical. A Textbook for Students and Practitioners. Second Edition, Revised and Enlarged, with Thirty-seven Colored Plates and 164 Other Illustrations. Philadelphia: P. Blakiston's Son & Co., 1912. Pp. xxxv-682. (Price, $4.50.)

Ostrom, Kurre W.—Massage and the Original Swedish Movements. Their Application to Various Diseases of the Body. Lectures before the Training School for Nurses Connected with the Hospital of the University of Pennsylvania, the German Hospital, Woman's Hospital, etc. Seventh Edition, Revised and Enlarged. With One Hundred and Fifteen Illustrations. Philadlphia: P. Blakiston's Son & Co., 1912. Pp. xiv-202. (Price, $1.)

Grube, Karl, und Graff, Henry.—Die Gallensteinkrankheit und ihre Behandlung vom Standpunkt des inneren Mediziners und Chirurgen. Mit 3 lithographischen Tafeln und 20 Textfiguren. Jena: Gustav Fischer, 1912. Pp. vi-172.

Ruge, Reinhold.—Tropenkrankheiten und Tropenhygiene. Mit 8 Karten und 201 Abbildungen im Text. Leipzig: Dr. Werner Klinkhardt, 1912. Pp. viii-463.

Boruttau, H., und Mann, L.—Handbuch der gesamten medizinischen Anwendungen der Elektrizität einschliesslich der Röntgenlehre. In drei Bänden bearbeitet von Prof. Dr. A. Alexander in Berlin, Privatdozent Dr. F. Battelli in Genf, Prof. Dr. J. Gergonié in Bordeaux, et al. Mitherausgeber für den Röntgenband: Prof. Dr. med. M. Levy-Dorn, Leitender Arzt am Rudolf-Virchow-Krankenhause in Berlin, und Prof. Dr. med. P. Krause, Direktor der medizinischen Universitätspoliklinik in Bonn. Zweiter Band, zweite Hälfte. Leipzig: Dr. Werner Klinkhardt, 1912. Pp. viii-411 to 1102.

Bernays, Thekla.—Augustus Charles Bernays. A Memoir. St. Louis: C. V. Mosby Company, 1912. Pp. 309. (Price, $2.)

Miscellany.

Advanced Requirements of Preliminary Education.—A medical student desiring to enter into practice in a certain State, says a recent *Bulletin* of the Illinois State Board of Health, would do well to see if his chosen college is fully recognized in that State.

The several States named below have enacted requirements of preliminary training in excess of those generally called for. In these a high school education is no longer accepted as a qualification for admission to a medical school. Instead, and in addition, there is demanded evidence of one year's or more attendance in a college or university of arts and sciences.

Colorado now requires that a student who was matriculated in 1908-09, and graduated in 1912, shall have had one year of college work as preliminary training. This requirement is increased to two years in the case of students matriculated in 1910-11, and graduated in 1914.

The Colorado requirement, however, will not be imposed on those students, or practitioners, who take the examination of the Colorado State Board of Medical Examiners. It applies only to those receiving their licenses on credentials from other States.

The other States exacting one or more years of college work are as follows:

State	Years	In force	Affecting graduates of
Connecticut	1	1910	1914
Indiana	1	1910	1913
Indiana	2	1911	1914
Iowa	2	1911	1915
Kansas	1	1910	1914
Minnesota	2	1908	1912
North Dakota	2	1908	1912
South Dakota	2	1907	1911
Utah	1	1913	1917

In Utah the advance requirements are specifically provided for by law. In the other States mentioned they have been prescribed by the rules of the State medical board.

More detailed information concerning the requirements in the States mentioned may be obtained from the respective secretaries, as follows:

Colorado: Dr. David A. Strickler, Secretary State Board of Medical Examiners, Denver.

Connecticut: Dr. Charles A. Tuttle, Secretary Medical Examining Board representing Connecticut Medical Society, New Haven.

Indiana: Dr. W. T. Gott, Secretary State Board of Medical Registration and Examination, Indianapolis.

Iowa: Dr. Guilford H. Sumner, Secretary State Board of Medical Examiners, Des Moines.

Kansas: Dr. Henry A. Dykes, Secretary State Board of Medical Registration and Examination, Lebanon.

Minnesota: Dr. W. S Fullerton, Secretary State Board of Medical Examiners, St. Paul.

North Dakota: Dr. G. M. Williamson, Secretary North Dakota State Board of Medical Examiners, Grand Forks.

South Dakota: Dr. L. G. Hill, Secretary State Board of Medical Examiners, Watertown.

Utah: Dr. George F. Harding, Secretary State Board of Medical Examiners, Salt Lake City.

While it is doubtful that any one of the States, Utah possibly excepted, will put the rules rigidly in force in the year stated, it will be better for prospective practitioners to consider the rules to be in effect, and govern themselves accordingly.

Official News.

Public Health and Marine Hospital Service Health Reports:

The following cases of and deaths from cholera, yellow fever, plague, and smallpox were reported to the surgeon general of the United States Public Health and Marine Hospital Service during the week ending June 21, 1912:

CHOLERA—FOREIGN: *Dutch East Indies* (Sumatra), April [illegible], present; *India*, April 21-May 11, 27 cases, 34 deaths; (Madras Presidency), March 1-31, 2,153 cases, 1,344 deaths. *Turkey* (Antioch), March 25-April 16, 11 cases, 6 deaths; (along the line of railway construction) March 18-May 7, 53 cases, 31 deaths.

YELLOW FEVER—FOREIGN: *Brazil* (Manaos), May 12-25, 4 deaths; *Chile*, May 7, present; (Tocopilla) Jan. 28-April 30, 570 cases, 179 deaths; *Mexico*, June 16, 2 cases; *Venezuela*, May 1-30, 1 case, 1 death.

PLAGUE—INSULAR: *Porto Rico* (San Juan), June 14-20, 12 cases, 5 deaths.

PLAGUE—FOREIGN: *German East Africa*, March 15-April 10, 65 pneumonic cases, 3 bubonic cases; *India*, May 5-11, 185 cases, 155 deaths; *Java*, April 28-May 4, 5 cases, 4 deaths; *Mauritius*, April 5-11, 4 cases, 3 deaths; *Peru*, May 23-29, 1 case, 1 death; *Straits Settlements*, April 21-27, 1 case, 1 death; *Trinidad*, June 13, 3 deaths.

SMALLPOX—UNITED STATES: *Connecticut*, May 1-30, 72 cases; *Florida*, May 27-June 2, 12 cases; *Iowa*, May 1-31, 44 cases; *Louisiana* (New Orleans), June 2-8, 4 cases; *Massachusetts*, May 1-31, 13 cases; *Michigan*, May 1-31, 22 cases; *Nebraska* (Omaha), June 2-8, 1 case; *North Dakota*, May 1-31, 6 cases; *Ohio*, May 1-31, 33 cases; *South Carolina*, May 1-31, 6 cases; *Tennessee* (Chattanooga), June 2-8, 1 case; *Virginia*, May 1-31, 60 cases; *Wisconsin* (additional), Jan. 1-March 31, 35 cases.

SMALLPOX—FOREIGN: *Canada*, May 26-June 8, 11 cases; *Egypt* (Cairo), May 1-6, 1 case, 1 death; *Germany*, May 19-25, 6 cases; *India*, May 5-11, 63 cases, 40 deaths; *Java*, May 1-6, 2 cases; *Mexico*, May 21-June 1, 1 case, 2 deaths; *Portugal* (Lisbon), May 19-25, 4 cases; *Russia*, April 1-May 25, 27 cases, 10 deaths; *Siberia*, April 22-28, 1 case; *Spain* (Barcelona), May 19-June 1, 4 deaths; *Straits Settlements*, April 21-27, 1 case, 1 death; *Turkey* (Constantinople), May 22-28, 16 cases; *Uruguay* (Montevideo), March 1-31, 1 case.

Public Health and Marine Hospital Service:

Official list of changes in the stations and duties of commissioned and other officers of the United States Public Health and Marine Hospital Service for the seven days ending June 19, 1912:

Alvino, G., Acting Assistant Surgeon. Granted twelve days' leave of absence from June 19, 1912. **Austin,** H. W., Surgeon. Granted two days' leave of absence from June 14, 1912, under paragraph 189, Service Regulations. **Barclay,** James, Acting Assistant Surgeon. Granted eight days' extension of annual leave, on account of sickness. **Burkhalter,** J. T., Passed Assistant Surgeon. Granted one month's leave of absence from July 12, 1912. **Herring,** R. A., Passed Assistant Surgeon. Granted one month's leave of absence from June 18, 1912. **Heterick,** R. H., Assistant Surgeon. Directed to proceed to Port Townsend, Wash., and report to the commanding officer of the revenue cutter *Rush* for temporary duty. **Kearny,** R. A., Assistant Surgeon. Relieved from duty on the revenue cutter *Rush*, and directed to report to the bureau for temporary duty. **Kerr,** J. W., Assistant Surgeon General. Granted twenty-seven days' leave of absence from July 1, 1912. **Kolb,** L., Assistant Surgeon. Granted three days' leave of absence from June 9, 1912, under paragraph 191, Service Regulations. **McKay,** W. W., Acting Assistant Surgeon. Granted thirty days' extension of annual leave on account of sickness from April 4, 1912: granted thirty days' leave of absence from June 24, 1912. **Nelson,** A. Jefferson, Acting Assistant Surgeon. Granted twelve days' leave of absence on account of sickness, from May 22, 1912. **Oakley,** J. H., Surgeon. Granted seven days' leave of absence from June 24, 1912. **Rush,** J. O., Acting Assistant Surgeon. Granted one day's leave of absence, June 9, 1912, under paragraph 210, Service Regulations. **Ridlon,** J. R., Assistant Surgeon. Granted three days' leave of absence from June 11, 1912. **Von Ezdorf,** R. H., Passed Assistant Surgeon. Granted fourteen days' leave of absence, on account of sickness, from June 6, 1912.

Army Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Army for the week ending June 22, 1912:

Bailey, Howard H., Captain, Medical Corps. Ordered to duty with the First Squadron, 15th Cavalry,

from Fort Myer, Va., to Camp of Instruction, Mount Gretna, Pa., from July 5 to August 3, 1912. **Baker,** Carroll R., First Lieutenant, Medical Reserve Corps. Granted thirty days' leave of absence on surgeon's certificate of disability. **Boerner,** Morris H., First Lieutenant, Medical Reserve Corps. Resignation accepted on June 20, 1912. **Brown,** O. G., Captain. Left from detached duty with troops to Fort Bliss, Texas, on thirty days' leave of absence. **Buck,** Carrol D., Major, Medical Corps. Relieved from duty at the Pacific Branch, U. S. Military Prison, Alcatraz Island, California, and ordered to Fort Mackenzie, Wyo., for duty. **Chilton,** Frank N., Lieutenant, Medical Corps. Ordered to duty with Battery E, 3rd Field Artillery, from Fort Myer, Va., to Camp of Instruction, Mt. Gretna, Pa., from July 5 to August 3, 1912. **Ezwurzel,** George M., Major, Medical Corps. Relieved from duty at Fort Mackenzie, Wyo., and ordered to Fort Andrews, Mass., for duty. **Ford,** Harry G., Lieutenant, Medical Corps. Relieved from temporary duty at Vancouver Barracks, Wash., and will return to Presidio of Monterey, Cal., his proper station. **Foucar, F. H.,** Lieutenant, Medical Corps. Left Fort Du Pont, Del., on detached duty to Puerto Rico. **Greenleaf,** Henry S., Major, Medical Corps. Relieved from duty at Madison Barracks, N. Y., and ordered to the Pacific Branch, U. S. Military Prison, Alcatraz Island, Cal., for duty. **Mabee,** James I., Captain, Medical Corps. Granted leave of absence for one month with permission to apply for an extension of one month. **Rukke,** Guy V., Captain, Medical Corps. Granted two months' leave of absence. **Shockley,** M. A. W., Major, Medical Corps. Ordered to duty with Second Battalion, 29th Infantry, from Fort Niagara, N. Y., to Camp of Instruction, Mt. Gretna, Pa., from July 5 to August 3, 1912. **Stephenson,** William, Colonel, Medical Corps. Left Fort Wadsworth, N. Y., on fourteen days' leave of absence. **Straub,** Paul F., Major, Medical Corps. Granted two months' leave of absence. **Trinder,** John H. First Lieutenant, Medical Reserve Corps. Ordered to Jefferson Barracks, Mo., for temporary duty.

Navy Intelligence:

Official list of changes in the stations and duties of officers serving in the Medical Corps of the United States Navy for the week ending June 22, 1912:

Allen, D. G., Assistant Surgeon. Detached from the *Buffalo*, and ordered home to await orders. **Boland,** Micajah, Passed Assistant Surgeon. Detached from the Naval Recruiting Station, Dallas, Texas and ordered to the *Iris*. **Brown,** H. L., Passed Assistant Surgeon. Detached from the Naval Hospital, Norfolk, Va., and ordered to the disciplinary barracks, Port Royal, S. C. **Cuthbertson,** Roy, Passed Assistant Surgeon. Detached from the *St. Louis* and ordered home to await orders. **Dragoo,** C. H., Assistant Surgeon. Ordered to the receiving ship, Navy Yard, New York. **Edgar,** J. M., Medical Director. Detached from the Naval Hospital, Boston, Mass., and granted leave of absence until September 1, 1912; transferred to the retired list from September 1, 1912, upon his own application, after thirty years' service. **Garrison,** H. A., Passed Assistant Surgeon. Detached from the Naval Recruiting Station, Cincinnati, Ohio, and ordered to the *Maryland*. **Giltner,** H. A., Passed Assistant Surgeon. Detached from the *Iris* and ordered home to await orders. **Hayward,** A. B., Passed Assistant Surgeon. Detached from the *Maryland* and ordered home to await orders. **Lane,** H. H., Passed Assistant Surgeon. Detached from the *Villalobos* and ordered home to await orders. **Lanning,** R. H., Assistant Surgeon. Detached from the *Elcano* and ordered to the *Quiros*. **Little,** J. C., Acting Assistant Surgeon. Ordered to the Navy Recruiting Station, Cincinnati, Ohio. **Manchester,** J. D., Passed Assistant Surgeon. Detached from the Naval Training Station, North Chicago, Ill., and ordered to the *Maryland*. **O'Malley,** J. J., Assistant Surgeon. Detached from the *Quiros* and ordered to the *Elcano*. **Phelps,** J. R., Passed Assistant Surgeon. Detached from the Naval Hospital, Boston, Mass., and ordered to the Naval Hospital, Puget Sound, Wash.; orders revoked. **Pollard,** J. B., Assistant Surgeon. Ordered to the Naval Recruiting Station, Dallas, Texas. **Pugh,** W. S., Passed Assistant Surgeon. Detached from the Naval Hospital, Puget Sound, Wash., and ordered to the *Buffalo*. **Riker,** G. A., Assistant Surgeon. Ordered to the Naval Hospital, Boston, Mass.; order revoked. **Sinclair,** J. A. B., Assistant Surgeon. Ordered to the *Dixie*. **Smith,** C. W., Assistant Surgeon. Ordered to the receiving ship, Navy Yard, Mare Island, Cal. **Stoops,** R. E., Passed Assistant Surgeon. Detached from the disciplinary barracks, Port Royal, S. C., and ordered to the Naval Training Station, Chicago, Ill. **Wilson,** G. B., Medical Inspector. Detached from the receiving ship at Boston, Mass., and ordered to command the Naval Hospital. **Wood,** C. C., Assistant Surgeon. Ordered to Naval Hospital, Norfolk, Va.

Births, Marriages, and Deaths.

Married.

Herndon—Howell.—In Covington, Ohio, on Wednesday, June 12th, Dr. Robert H. Herndon, of Ludlow, Ky., and Miss Mary G. Howell, of Portland, Me. **McKay—Russell.**—In Cleveland, Ohio, on Monday, June 17th, Dr. Walter McKay, of Sharon, Pa., and Miss Marie Russell. **McMillan—Garrison.**—In Burgess Store, Va., on Thursday, June 13th, Dr. R. D. McMillan, of Red Springs, N. C., and Miss Gertrude A. Garrison. **Melhorn—Andrews.**—In Philadelphia, on Wednesday, June 19th, Dr. Kent C. Melhorn, of Newport, R. I., and Miss Jennie J. Andrews. **Roper—Sibley.**—In Augusta, Ga., on Wednesday, June 12th, Dr. Ralph Wilbur Roper and Miss Leila Estella Sibley. **Scanlon—Hardesty.**—In Winchester, Va., on Wednesday, June 12th, Dr. Franklin Taylor Scanlon and Miss Helen Schollay Hardesty. **Silleck—Burpee.**—In Waterbury, Conn., on Wednesday, June 12th, Dr. Walter Manville Silleck, of New York, and Miss Helen Burpee. **Vanamee—Wright.**—In Portland, Me., on Wednesday, June 12th, Dr. Talcott Ostrom Vanamee, of Newburgh, N. Y., and Miss Eleanor Louise Wright. **Whitlock.—Fowlkes.**—In Amelia, Va., on Tuesday, June 11th, Dr. Ottis Hillsman Whitlock and Miss Emma Fowlkes.

Died.

Burns.—In Atlantic City, N. J., on Saturday, June 15th, Dr. R. Bruce Burns, of Philadelphia, aged sixty-two years. **Cornish.**—In Jacksonville, Ill., on Sunday, June 16th, Dr. James V. Cornish, of Quincy, aged sixty-three years. **Dittrich.**—In New York, on Sunday, June 16th, Dr. Eberhard William Dittrich, aged fifty-one years. **Doxey.**—In Clifton, Tenn., on Thursday, June 20th, Dr. Loren Bisco Doxey, of Savannah, Tenn., aged fifty-four years. **Early.**—In Columbus, Ohio, on Thursday, June 13th, Dr. Louis M. Early, aged fifty-two years. **Hendrick.**—In Henry, Ill., on Thursday, June 13th, Dr. Stephen O. Hendrick, aged fifty-eight years. **Hitchcock.**—In Greenwich, Conn., on Thursday, June 20th, Dr. Henry Martin Hitchcock, aged seventy-two years. **Johnson.**—In Lebanon Junction, Ky., on Friday, June 14th, Dr. John Elias Johnson, aged sixty-eight years. **Lane.**—In Mallorytown, Ontario, Canada, on Saturday, June 8th, Dr. Joseph W. Lane. **Ricketts.**—In Cincinnati, Ohio, on Thursday, June 13th, Dr. Edwin Saunders Ricketts, aged fifty-nine years. **Roedel.**—In Reading, Pa., on Friday, June 14th, Dr. Henry H. Roedel, aged eighty years. **Smith.**—In Fountaintown, Ind., on Sunday, June 9th, Dr. J. Robert Smith, of Philadelphia. **Snyder.**—In Altoona, Pa., on Thursday, June 13th, Dr. Samuel G. M. Snyder, aged forty-nine years. **Thompson.**—In Hinsdale, Ill., on Tuesday, June 11th, Dr. James F. Thompson, aged eighty-five years. **Trumbrower.**—In Norristown, Pa., on Monday, June 17th, Dr. Lewis T. Trumbrower, aged seventy-five years. **Turner.**—In Stephens City, Va., on Saturday, June 15th, Dr. William S. Turner, aged thirty-five years. **Voorhees.**—In Amherst, Va., on Friday, June 14th, Dr. Francis Farrar Voorhees, aged eighty years. **Ward.**—In Newark, N. J., on Tuesday, June 18th, Dr. Edwin M. Ward, aged seventy-two years. **Walter.**—In Nazareth, Del., on Monday, June 10th, Dr. Philip S. P. Walter, aged seventy-nine years.

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